

2021

## GVSU Undergraduate and Graduate Catalog, 2021-2022

Grand Valley State University

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# 2021-2022 Undergraduate & Graduate Catalog

[gvsu.edu/catalog](https://gvsu.edu/catalog)

## Welcome to Grand Valley State University

We're so glad you have decided to join our community of Lakers for a Lifetime.

There is a spirit at Grand Valley that bonds students, faculty members, staff members, and alumni. You'll discover it in our campus traditions. You'll find it in our classrooms and corridors. You'll carry it with you as you go through life. It is this bond, this spirit, that makes you a Laker for a Lifetime.

If you ask our alumni what it means to be a Laker, you'll consistently hear that all Lakers share traits, such as a diverse perspective and a willingness to embrace new ideas. They also have a curiosity and passion for learning, which is often inspired by working closely with a professor who became a personal mentor. You'll also hear about the value of service to others and giving back, learned as much outside the classroom as in it, through the West Michigan community, clubs or organizations, study abroad experiences, or simply engaging in campus life.

The roots of this spirit run deep, back to our founding in 1960. Grand Valley was started by visionary entrepreneurs and West Michigan citizens who wanted to make a difference in the community. Our first students were educational pioneers, willing to take a chance on a different type of college so that they could make a difference in the world.

Now it's your turn to contribute to our campus with your talents and your passions, to be fully engaged in your communities, and to care for those around you, your Laker family.

Then when it is time for you to graduate and give back, you'll be prepared to carry the torch for the students who will follow you. You'll lead by example, so that they can look to you and say, "That's what it means to be a Laker."

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Thank you for choosing to be a Laker and for your commitment to being a Laker for a Lifetime.

## **About Grand Valley**

A strong liberal education serves as the foundation for Grand Valley's wide array of undergraduate and graduate programs, fostering critical thinking, creative problem solving, and cultural understanding that prepares students for responsibility as local, national, and global citizens. Through personalized learning enhanced by active scholarship, we accomplish our mission of educating students to shape their lives, their professions, and their societies.

## **Mission**

Grand Valley State University educates students to shape their lives, their professions, and their societies. The university contributes to the enrichment of society through excellent teaching, active scholarship, and public service.

## **Vision**

Grand Valley State University demonstrates its commitment to providing an inclusive learning environment where all students can explore new directions, find their niches, and develop skills for life and productive careers. Grand Valley is known for increasingly innovative and outstanding teaching, recognized scholarship, significant community engagement, and excellent stewardship of its resources. Our university inspires and equips students to be active lifelong learners and global citizens. Grand Valley strives to be a model public university shaping leaders for success.

## **Values**

At Grand Valley State University, the primary focus is on the success of students. To that end, the principles of liberal education permeate all programs and areas of study. This broad educational perspective provides students with the general knowledge and transferable skills necessary to positively influence their communities, their professions, and the broader world. The institution is characterized by and known for its superior student-centered teaching and learning. Students acquire new knowledge and explore its application through artistic expression, scholarly activity, and active engagement in a variety of communities. To students, we are a big university with a small-college feel. Our mission, vision, and strategic outcomes reflect the seven core values that define students, faculty, and staff members. These core values provide a foundation and framework for all of Grand Valley's decision-making processes. We

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use them as touchstones in developing the strategies and tactics that lead to the attainment of the institutional outcomes and strategic priority areas and objectives of our strategic plan. We translate our values into actions institution wide; they are reflected in the policies, practices, and assessments we implement every day. These core values are described as follows:

### **Excellence**

Grand Valley State University values excellence in all aspects of its enterprise. Our students' levels of performance in learning, scholarship, and community service; our stewardship of resources; our regular assessment and refinement of instructional and operational processes; and our shared dedication to excellence compel us to strive for exemplary and responsible outcomes in all that we do. Within our academic community, we individually and collectively celebrate our successes and the difference our commitment to excellence makes to individuals and communities in West Michigan, the state, the nation, and the world.

### **Integrity**

Grand Valley State University values honesty, fairness, and openness in its actions, transactions, and communications. Our emphasis on integrity compels us to respect and teach the fundamental tenets of a liberal education that remain central to our identity and reputation. We moreover value the incorporation of ethics into critical thinking and decision making institution wide. The value we place on integrity underscores our intention to be trustworthy, dependable, and adhere to legal and regulatory requirements; we aspire to set an example for others in our words and actions. Our stakeholders and the public can count on Grand Valley to make wise decisions and carry them out transparently and with fidelity to the university's mission and vision for its future. As members of the Grand Valley community, we hold ourselves accountable to each other, the institution, and the broader public that we serve.

### **Inquiry**

Grand Valley State University values inquiry, which encourages the lifelong pursuit of knowledge to improve the human condition and expand our understanding of the world. Consistent with our historical commitment to liberal education, we invest our resources to promote intellectual growth, creativity, scholarship, and critical thinking in our students, our faculty and staff, and the communities we serve. We promote global education and an internationalization of our curriculum that celebrates and encourages intellectual exploration, open discourse, and the unfettered expression that characterizes the academy. We celebrate and promote freedom of speech as foundational to the creation and dissemination of knowledge in every discipline. We are committed to learning as a means of preparing individuals for academic success, meaningful careers, and exemplary community service.

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## **Inclusiveness**

Grand Valley State University values all identities, perspectives, and backgrounds and is dedicated to incorporating multiple voices and experiences into every aspect of its operations. We believe that diversity competencies are an intellectual asset and that a range of thoughtful perspectives and a commitment to open inquiry strengthens our liberal education tradition. We recognize that the long-term viability of the institution depends upon anticipating and meeting the needs of emerging constituent groups, especially our changing student body. Therefore, the institution seeks to include, engage, and support diverse groups of students, faculty and staff members, as well as community members. Grand Valley is committed to strengthening our living, learning, and working environment by recognizing and removing the barriers to full participation and providing a safe, inclusive, vibrant community for all.

## **Community**

Grand Valley State University values its connections to, participation with, and responsibility to local communities, West Michigan, the state, the nation, and the world. We value the collaboration of faculty members, staff members, and students with external partners in addressing mutual interests and community needs. The university offers the communities it serves resources and inspiration in their own lifelong pursuit of knowledge. Faculty and staff members are encouraged to contribute their expertise and service working in partnership with communities. Students are encouraged to take part in various service learning and volunteer opportunities in their communities and abroad. To foster and expand these community connections, the institution and its members promote, value, and honor diverse perspectives.

## **Sustainability**

Grand Valley State University values the guiding principles of sustainability in helping to meet the current needs of our faculty members, staff members, and students without compromising the needs and resources of future generations. We are committed to working with our community partners to create a sustainable future for our university, our community, our region, our state, our nation, and the world. We model applied sustainability best practices in our campus operations and administration, education for sustainable development, student involvement, and community engagement by promoting social responsibility, practicing fiscal responsibility, and encouraging environmental stewardship. We provide our students with excellence in education for sustainable development by imbedding theory, systems-oriented thinking, and service learning into our curricular and extracurricular programs.

## **Innovation**

Grand Valley State University encourages and appreciates innovation. We value entrepreneurship and integrative interdisciplinary collaboration that solves local,

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regional, and global problems and advances the common good. We strive for the development of innovative products, systems, and services that contribute to improvements in the well-being of individuals and our world. We trust that scholarship and the new knowledge it produces are worthy of our investments in their creation and proliferation. We manage our resources and structure our university to encourage new ideas, creativity in all its forms, and novel approaches to answering the most important and challenging questions of our time.

**Affirmative Action:** Grand Valley State University does not discriminate against students, faculty, or staff in any of its employment practices or in its educational programs or activities. Grand Valley State University is guided by values for inclusiveness and community, which are integral to our mission to educate students to shape their lives, their professions, and their societies, and to enrich the community through excellent teaching, active scholarship, and public service. The university is an affirmative action, equal opportunity institution. It encourages diversity and provides equal opportunity in education, employment, all of its programs, and the use of its facilities. Members of the university community, including candidates for employment or admissions, and visitors or guests, have the right to be free from acts of harassment and discrimination, which are prohibited if they discriminate or harass on the basis of age, color, disability, familial status, height, marital status, national origin, political affiliation, race, religion, veteran or active duty military status, or weight. In addition, Grand Valley is required by Title IX of the Education Amendments of 1972 to ensure that none of its education programs and activities discriminate on the basis of sex/gender. Sex includes sex stereotypes, gender identity, gender expression, sexual orientation, and pregnancy or parenting status. The Office for Title IX and Institutional Equity serves as a resource for the GVSU community and assists individuals who may have been impacted by discrimination or harassment in connecting with resources, imposes measures that protect or support access to programs and activities, and oversees the university's grievance process for allegations of discrimination and harassment. Inquiries regarding the application of Title IX may be referred to the Title IX coordinator, 4015 Zumberge Hall, [titleix@gvsu.edu](mailto:titleix@gvsu.edu), (616) 331-9530.

**Notice: All material in this catalog applies to the 2021-2022 academic year and reflects information available on the publication date. Grand Valley State University reserves the right to revise all announcements contained in this publication and, at its discretion, to make reasonable changes in requirements to improve or upgrade academic and nonacademic programs.**

## **Academic Excellence**

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The university's highest priority is to offer outstanding teaching grounded in the liberal tradition in all of its undergraduate and graduate programs and vigorous engagement of students in the classroom and other learning environments. Grand Valley is known for excellence in student-centered teaching and learning. Ninety-four percent of regular faculty members have earned doctoral degrees or other appropriate terminal degrees. They are supported by a high-quality nonteaching professional staff and Grand Valley's exceptionally fine teaching facilities. The quality of instruction is enhanced further by small class size, individual student advising, and career counseling.

Our instructional offerings encompass more than 300 areas of study, including 96 undergraduate and 46 graduate programs.

## **Accreditation**

Grand Valley is accredited by the Higher Learning Commission ([hlcommission.org](http://hlcommission.org)), a regional accreditation agency recognized by the U.S. Department of Education.

Other accreditations and approvals include:

### **Charter Schools Office**

Cognia

### **College of Community and Public Service**

Health Administration (M.H.A.) Candidacy Accreditation

Commission on Accreditation of Healthcare Management Education (CAHME)

Legal Studies (B.A., B.S.)

American Bar Association

Police Academy

Michigan Commission on Law Enforcement Standards (MCOLES)

Public Administration (M.P.A.)

Network of Schools of Public Policy, Affairs, and Administration (NASPAA)

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Social Work (B.S.W., M.S.W.)

Council on Social Work Education (CSWE)

### **College of Education**

Initial Teacher Preparation and Advanced Teacher Preparation Levels

Council for the Accreditation of Educator Preparation (CAEP)

Michigan Department of Education

### **College of Health Professions**

Applied Food and Nutrition (B.S.)

Accreditation Council for Education in Nutrition and Dietetics (ACEND)

Audiology (Au.D.)

Candidate for Accreditation by the Council on Academic Accreditation in  
Audiology and Speech-Language Pathology (CAA)

Clinical Dietetics (M.S.)

Accreditation Council for Education in Nutrition and Dietetics (ACEND)

Cardiovascular Sonography (B.S.)

Commission on Accreditation of Allied Health Education Programs  
(CAAHEP)/Joint Review Committee on Education in Cardiovascular  
Technology (JRC-CVT)

Diagnostic Medical Sonography (B.S.)

Commission on Accreditation of Allied Health Education Programs  
(CAAHEP)/Joint Review Committee on Education in Diagnostic Medical  
Sonography (JRC-DMS)

Health Information Management (B.S.)

Commission on Accreditation for Health Informatics and Information  
Management Education (CAHIIM)

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Medical Dosimetry (M.S.)

Joint Review Committee on Education in Radiologic Technology (JRCERT)

Medical Laboratory Science (B.S.)

National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)

Occupational Therapy (M.S.)

Accreditation Council for Occupational Therapy Education (ACOTE)

Physical Therapy (D.P.T.)

Commission on Accreditation in Physical Therapy Education (CAPTE)

Physician Assistant Studies (M.P.A.S.)

Accreditation Review Commission on Education for the Physician Assistant (ARC-PA)

Public Health (M.P.H.)

Council on Education of Public Health (CEPH)

Radiation Therapy (B.S.)

Joint Review Committee on Education in Radiologic Technology (JRCERT)

Recreational Therapy (B.S.)

Commission on Accreditation of Allied Health Education Programs (CAAHEP)

Speech-Language Pathology (M.S.)

Council on Academic Accreditation in Audiology and Speech-Language Pathology (CAA)

### **College of Liberal Arts and Sciences**

Art Education (B.A., B.S.)

National Association of Schools of Art and Design (NASAD)

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Art History (B.A.)

National Association of Schools of Art and Design (NASAD)

Athletic Training (MAT)

Commission on Accreditation of Athletic Training Education (CAATE)

Chemistry (B.S.)

Committee on Professional Training of the American Chemical Society (ACS)

Film and Video Production (B.A., B.S.)

National Association of Schools of Art and Design (NASAD)

Music (B.A., B.M.E., B.M.)

National Association of Schools of Music (NASM)

Photography (B.A., B.S.)

National Association of Schools of Art and Design (NASAD)

Studio Art (B.A., B.F.A., B.S.)

National Association of Schools of Art and Design (NASAD)

### **Kirkhof College of Nursing**

Nursing (B.S.N., M.S.N., D.N.P.)

Commission on Collegiate Nursing Education (CCNE)

Michigan Board of Nursing approval for undergraduate, prelicensure degree programs

### **Seidman College of Business**

Accounting (M.S.A.)

Association to Advance Collegiate Schools of Business (AACSB International)

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Business Administration (B.B.A., M.B.A.)

Association to Advance Collegiate Schools of Business (AACSB International)

Taxation (M.S.T.)

Association to Advance Collegiate Schools of Business (AACSB International)

Michigan SBDC (MiSBDC)

America's Small Business Development Centers (ASBDC)

### **Seymour and Esther Padnos College of Engineering and Computing**

Computer Science (B.S.)

Computing Accreditation Commission (CAC) of ABET

Engineering Programs (B.S.E.)

Engineering Accreditation Commission (EAC) of ABET

Information Systems (B.S.)

Computing Accreditation Commission (CAC) of ABET

Occupational Safety and Health (B.S.)

Applied and Natural Science Accreditation Commission (ANSAC) of ABET

### **Student Services**

Athletic Student Advising

National Association of Academic Advisors for Athletics (N4A)

Children's Enrichment Center

National Association for the Education of Young Children (NAEYC)

Doctoral Internship Program, University Counseling Center

American Psychological Association Committee on Accreditation (APA-CoA)

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## Tutoring

College Reading and Learning Association - International Tutor Training Program Certification

## University Counseling Center

International Association of Counseling Services (IACS)

## **Grand Valley Equals Grand Value**

At Grand Valley State University, we recognize that the more quickly students complete their degrees the less their educations will cost. Grand Valley has a long-standing practice of supporting and helping students make regular progress toward graduation, making the excellent education they receive at Grand Valley also a "Grand Value."

Nearly all of Grand Valley's undergraduate degrees can be completed in four years of full-time study.\* Full-time students who select a degree program requiring completion of 120 credit hours will be able to count on a four-year graduation when they

- tell their advisor that they plan to study full-time and intend to graduate in four years;
- obtain a list of prerequisites and required classes and fulfill it;
- visit regularly with their advisor to ensure their course selections are timely and correct;
- maintain the same major and minor; and
- successfully complete at least 30 credit hours of coursework every academic year without repeating courses.

\*Some undergraduate programs, primarily in education and select professional fields, require more than 120 hours for the baccalaureate degree, usually to meet state or national accreditation requirements. Please consult our catalog for degree requirements, which are listed by department in the Academic Programs section of the catalog.

## **University Facts**

Visit [gvsu.edu/quickfacts](http://gvsu.edu/quickfacts) for facts about Grand Valley State University.

## **Visiting the Campuses**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Prospective students are always welcome to visit the campus and talk with staff members in Admissions or Financial Aid. The Admissions Office is happy to make arrangements to tour the campus and meet with an admissions counselor.

The Admissions Office is open Monday through Thursday from 8 a.m. to 6 p.m. and on Fridays from 8 a.m. to 5 p.m. from September through April. Appointments are available on Saturdays from 9 a.m. to 4 p.m. during Grand Valley's academic year. Summer hours are from 8 a.m. to 5 p.m. Monday through Friday.

Prospective students should make an appointment with the Admissions Office, especially for Saturday visits, by contacting:

### **Admissions**

Grand Valley State University  
300 Arend and Nancy Lubbers Student Services Center  
Allendale, Michigan 49401-9403  
Telephone: (616) 331-2025  
Toll free: (800) 748-0246 (for Admissions, Financial Aid, Housing, and Records)  
Email: [admissions@gvsu.edu](mailto:admissions@gvsu.edu)

### **Allendale Campus**

The 1,300-acre **Allendale Campus** is located 12 miles west of Grand Rapids and is home to state-of-the-art facilities that include 134 classrooms, 158 research laboratories, 15 teaching labs, 20 lab prep rooms, 23 computer labs, and the Mary Idema Pew Library Learning and Information Commons. The university currently has 6,012 beds, the majority of them on the Allendale Campus.

For detailed information regarding these locations, please see The Campuses section of the online catalog.

### **Grand Rapids Campuses**

The Grand Rapids campuses total 64-acres in downtown Grand Rapids, MI.

The principal buildings on the **Robert C. Pew Grand Rapids Campus** are the Richard M. DeVos Center, L.V. Eberhard Center, John C. Kennedy Hall of Engineering, Fred M. Keller Engineering Laboratories, Innovation Design Center and the L. William Seidman Center. These state-of-the-art facilities include 78 classrooms, seven computer labs, 37 laboratories, and the Steelcase library.

The Cook-DeVos Center for Health Sciences is located at the top of Grand Rapids' Medical Mile and was the initial building on the **GVSU Health Campus**. Raleigh J.

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Finkelstein Hall was the next building and was completed in 2018. The newest addition to the Health Campus is the Daniel and Pamella DeVos Center for Interprofessional Health. Together, the buildings provide 25 classrooms, six computer labs, 49 teaching and research labs, and a Simulation Center.

### **Meijer Campus in Holland**

The Holland Campus, located at 515 Waverly Road, has 15 classrooms and labs, including a science lab, two computer labs, and an interactive television room. In 2008, Grand Valley partnered with Grand Rapids Community College to expand program offerings in Holland. For more information on the Holland campus, contact us by phone (616) 331-3910 or email us at [Holland@gvsu.edu](mailto:Holland@gvsu.edu).

For detailed information regarding these locations, please see The Campuses section of the online catalog.

### **Regional Centers:**

#### **Muskegon Campus**

The Robert B. Annis Water Resources Institute, which is housed in Lake Michigan Center located on Muskegon Lake, conducts research with a primary focus on the water quality of Michigan and the region. The Muskegon Innovation Hub, located in the Muskegon Lakeshore SmartZone on Muskegon Lake, is a business innovation center that provides coaching, funding, networking, and a synergistic work environment to help businesses and entrepreneurs.

Through facilities at the Stevenson Center for Higher Education on the campus of Muskegon Community College and the **Regional Center in Traverse City** located at Northwestern Michigan College University Center, Grand Valley offers graduate and undergraduate programs and provides on-site student services. Admission and registration information, academic advising, bookstore services, tuition payment, library resources, and computer technology are all available in each of the Grand Valley centers. For more information, please contact our Muskegon office at 221 S. Quarterline Road or by phone at (231) 777-0505. The Traverse City office is located at 2200 Dendrinis Drive and can be reached by calling (231) 995-1785.

The **Detroit Center** located at 163 Madison Street in downtown Detroit contains classrooms, offices, and support spaces used primarily by the Grand Valley Charter Schools Office and the College of Education.

# **Academic Calendar**

## **Fall Semester 2021**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Convocation	August 27
Classes begin	August 30
Labor Day recess	September 5-6
Fall break	October 24-26
Thanksgiving Day recess	November 24-28
Classes end	December 11
Commencement	December 11
Examinations	December 13-18
Semester ends	December 18
Grades due	December 21

## **Winter Semester 2022**

Classes begin	January 10
Martin Luther King Jr. Day recess	January 17

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Spring break	March 6-13
Classes end	April 23
Examinations	April 25-30
Semester ends	April 30
Commencement	April 29 and 30
Grades due	May 3

## **Spring/Summer Session 2022**

Classes begin first six and 12 weeks	May 9
Memorial Day recess	May 30
Classes end first six weeks	June 20
Examinations first six weeks	June 21-22
Classes begin second six weeks	June 27
Independence Day recess	July 4

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Classes end second six and 12 weeks	August 8
Examinations second six and 12 weeks	August 9-10
Session ends	August 10

## **Fall Semester 2022**

Convocation	August 26
Classes begin	August 29
Labor Day recess	September 4-5
Fall break	October 23 -25
Thanksgiving Day recess	November 23- 27
Classes end	December 10
Commencement	December 10
Examinations	December 12-17
Semester ends	December 17

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Grades due

December 20

## **Winter Semester 2023**

Classes begin

January 9

Martin Luther King Jr. Day recess

January 16

Spring break

March 5-12

Classes end

April 22

Examinations

April 24-29

Semester ends

April 29

Commencement

April 28 and 29

Grades due

May 2

## **Spring/Summer Session 2023**

Classes begin first six and 12 weeks

May 8

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Memorial Day recess	May 29
Classes end first six weeks	June 19
Examinations first six weeks	June 20-21
Classes begin second six weeks	June 26
Independence Day recess	July 4
Classes end second six and 12 weeks	August 4
Examinations second six and 12 weeks	August 7-8
Session ends	August 8

## **Fall Semester 2023**

Convocation	August 25
Classes begin	August 28
Labor Day recess	September 3-4
Fall break	October 20-22

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Thanksgiving Day recess	November 22-26
Classes end	December 9
Commencement	December 9
Examinations	December 11-16
Semester ends	December 16
Grades due	December 19

## **Winter 2024**

Classes begin	January 8
Martin Luther King Jr. Day recess	January 15
Spring break	March 3-10
Classes end	April 20
Examinations	April 22-27
Semester ends	April 27

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Commencement

April 26 and 27

Grades due

April 30

# The Colleges

## Brooks College of Interdisciplinary Studies

### Administration

Dean: Schaub

Interim Associate Dean: Shell-Weiss

### Website

[gvsu.edu/brooks](http://gvsu.edu/brooks)

### Mission

The Brooks College of Interdisciplinary Studies provides Grand Valley and the community with experiences, expertise, and programming that deepens our understanding of the world around us. The college does this through its innovative curriculum and by providing students with high-impact learning experiences like service-learning projects, study abroad opportunities, internships, living and learning communities, and intensive writing and research opportunities. The mission of the Brooks College is cultivating engaged global citizens through innovative interdisciplinary programs and diverse community partnerships.

### Program Information

The Brooks College of Interdisciplinary Studies challenges students to tackle the important issues of the day by integrating the perspectives, knowledge, and methodologies of multiple fields of study. The college offers majors in environmental and sustainability studies; global studies and social impact; integrative studies; and women, gender, and sexuality studies. Minors are available in African/African American studies; digital studies; East Asian studies; environmental and sustainability studies; human rights; Latin American and Latino/a studies; LGBTQ studies; Middle East studies; religious studies; and women, gender, and sexuality studies. The college also offers a graduate degree in social innovation and certificate programs in sustainable food systems, Latino/a studies, leadership, and intercultural competence and communication. Most of these academic programs have social justice components to them.

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The centers, initiatives, service units, and university-wide programs in Brooks College provide the expertise of highly qualified faculty and staff to Grand Valley and the West Michigan communities, helping people to become more skilled and experienced with internationalism, intercultural communication, sustainability, local history, social justice, creative problem-solving, and the goals of a liberal education.

What is interdisciplinarity? Interdisciplinarity is the integration of knowledge and methodologies from across the university to better understand the world around us. The most complex issues of the world - environmental stewardship, human rights, poverty, and the migration of people, to name a few - can only be addressed effectively if we pose questions, test hypotheses, and apply knowledge from different perspectives. In an interdisciplinary program, the focus is on improving critical-thinking skills by prompting students to integrate knowledge from among the humanities, social sciences, natural sciences, performing arts, and the professional programs. The interdisciplinary courses and programs in Brooks College are taught by faculty whose own research is interdisciplinary as well as by teams of faculty from across the disciplines who are skilled at helping students see different fields of study as parts of a whole. The goals of our classes and programs are to help students integrate perspectives from a variety of disciplines in order to problem-solve in a global context, take-action in their communities, and connect learning to their future professions.

## **Academic Units**

### **Area and Global Studies**

The Area and Global Studies Department includes interdisciplinary programs that focus on the history, politics, geography, and culture of various world regions as well as on current global issues such as human migration, climate change, and changing economies. The department offers the following programs:

- African/African American studies (minor)
- East Asian studies (minor)
- Global studies and social impact (major)
- Latin American and Latino/a studies (minor) and a Latino/a studies certificate
- Middle East studies (minor)

### **Digital Studies**

The digital studies minor provides students with skills to understand and use digital technologies. Regardless of their specialized major, today's students will work in areas that increasingly rely on digital tools and platforms to create and share information. Through theory and practice, the minor provides opportunities to gain experience in using digital tools and develop a complex understanding of the cultural, social, and ethical dimensions of a digitized world. Visit [gvsu.edu/ds](http://gvsu.edu/ds).

### **Environmental and Sustainability Studies**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Environmental and sustainability studies draws upon a variety of disciplines - arts and humanities, physical and life sciences, and economic and policy studies - to develop a holistic, place-based, and solutions-oriented understanding of environmental and sustainability challenges. While all aspects of humans' interaction with their environments may be relevant to environmental and sustainability studies, areas of particular interest include sustainable food systems, energy and climate change, water quality, and the cultural and built environment.

The major combines academic foundations in various disciplines with practical experience in interdisciplinary research and problem-solving to prepare graduates to work effectively in business, nonprofit, civic, or governmental roles that support sustainability and environmental responsibility. Students pursue either a B.A. or B.S. degree. The minor is structured for students in any major who have a strong interest in environmental and sustainability issues. The sustainable food systems certificate provides skills and experience necessary to address the role of food in community life. For more information, visit [gvsu.edu/ens](http://gvsu.edu/ens).

### **Human Rights**

The human rights program offers an interdisciplinary minor that provides students with both intellectual and practical opportunities to engage with a broad range of 21st century human rights issues both locally and globally. Students have opportunities to participate in high-impact practices such as study abroad, internships, and a Capstone project. The study of human rights provides insights and skills that are relevant to careers in humanitarian organizations and NGOs, businesses, health care, politics, and the law. For more information about the program, go to the website at [gvsu.edu/humanrights](http://gvsu.edu/humanrights).

### **Integrative, Religious, and Intercultural Studies**

The Integrative, Religious, and Intercultural Studies Department at Grand Valley State University ([gvsu.edu/iris](http://gvsu.edu/iris)) provides students with the opportunity to design programs that suit their specific interests, talents, and career aspirations utilizing courses throughout the university. The program begins with a core of required courses. Then, with the help of a faculty advisor, students develop a major area of study based on a specific theme, issue, problem, or career interest. Students interested in exploring the integrative studies option might begin by taking one of the core courses in conjunction with the Grand Valley State University general education requirement or one of the integrative or interdisciplinary electives. Interested students are invited to write or meet with any integrative studies faculty member. The department also offers a certificate and a badge in intercultural training, giving students skills to interact effectively with people who differ from themselves in values, culture, and life experiences.

### **Religious Studies**

Housed within the Integrative, Religious, and Intercultural Studies Department, the religious studies (REL) minor prepares students to think critically and creatively, connecting differing perspectives as an essential foundation for intercultural civic engagement. The REL minor offers students flexibility to tailor their studies to fit within a larger degree program, including the option to complete all needed courses online. Enhancing ones understanding of religious issues is

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

a good complement to any major and provides a strong foundation for careers in areas as diverse as the law, criminal justice, business, journalism, public policy, government, international development, education, and humanitarian services.

## **Women, Gender, and Sexuality Studies**

The Women, Gender, and Sexuality Studies (WGS) Department at Grand Valley ([gvsu.edu/wgs](http://gvsu.edu/wgs)) offers an interdisciplinary major and minor based on the study of women, gender, and sexuality, as well as a minor in LGBTQ studies. WGS has close relationships with the Integrative, Religious, and Intercultural Studies Department and the African/African American, Middle Eastern, Latin American and Latino/a, and East Asian programs. The WGS Department works closely with the Gayle R. Davis Center for Women and Gender Equity, Milton E. Ford LGBT Resource Center, and Office of Multicultural Affairs to cosponsor a variety of speakers, events, and internships. For students selecting the major or minor in women, gender, and sexuality studies, there are more than 30 courses that fulfill the required 21 hours. More than 40 faculty members across the campus support WGS through teaching, research, and service.

## **Advisory Boards and Councils**

Campus Sustainability

Digital Studies

Environmental and Sustainability Studies

Global Studies and Social Impact

International Education

Human Rights

Kutsche Office of Local History

Latin American and Latino/a Studies

Padnos/Sarosik Center for Civil Discourse

Religious Studies

Sustainable Agriculture Project

Social Innovation

## **Barbara and Stuart Padnos International Center**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

The Padnos International Center (PIC) serves as the university clearinghouse for study abroad opportunities for students from all academic programs. Students can choose to take faculty-led classes abroad, spend a semester abroad, intern at an international site, or participate in virtual exchange opportunities. In addition, grants are available for faculty and staff to travel abroad to aid in the internationalization of Grand Valley and its curriculum. PIC hosts international scholars as well as incoming international students. For more information, visit [gvsu.edu/pic](http://gvsu.edu/pic).

### **Frederik Meijer Honors College**

The Frederik Meijer Honors College provides academically talented students from all majors with the opportunity to work with excellent teaching faculty in a small college environment. The mission of the honors college is to provide a challenging interdisciplinary liberal education and a living/learning environment that prepares students to be intellectually curious lifelong learners and leaders in their communities and a changing world. Additional honors college information is available in the honors college section of the catalog. Honors courses are team-taught, blocked sequentially, and offer an interdisciplinary approach to general education. For more information, visit [gvsu.edu/honors](http://gvsu.edu/honors).

### **Kutsche Office of Local History**

The Kutsche Office of Local History fosters dialogue, understanding, and empowerment through local history. Guided by its mission, "giving voice to diverse communities through history," the Kutsche Office supports local history and cultural heritage institutions, organizations, and practitioners in West Michigan through expertise, networking, and collaborative projects. This is done in a variety of ways including, but not limited to, interdisciplinary research and teaching initiatives; serving as a resource to more fully document, preserve, and make known the histories of underrepresented/marginalized groups in West Michigan; supporting high impact practices (e.g., internships, research assistantships) for Grand Valley students; an internship program that places Grand Valley students in opportunities both on and off campus; and annual programming that supports the office's mission and connects Grand Valley faculty and students with community members around areas of common interest. Current programs include the annual Local History Roundtable, digital program series, Engaging the Community Series, and Youth Leadership Initiative. Information about programs and upcoming events can be found on the Kutsche Office website at [gvsu.edu/kutsche](http://gvsu.edu/kutsche).

### **Brooks College of Advising Center**

The Brooks College Advising Center offers a variety of programs and resources to fully engage students in their lifelong educational journeys and assist them in making connections between school, work, and other spheres of their everyday lives.

Some of the hallmark programs of the Office of Integrative Learning and Advising:

- **Brooks College Advising Support Services** coordinates and assists in providing services and resources supporting academic advising for students majoring or minoring in Brooks College academic programs.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

- **Brooks Professional Series** offers students the opportunity to connect their academic program to professional skills and opportunities. Students learn how to articulate their majors, develop a professional "brand," and make connections through networking events.

### **Office of Sustainability Practices**

The Office of Sustainability Practices supports Grand Valley administration, faculty, staff, students, and community members to foster a culture of sustainability by designing and implementing programs, while supporting policies to encourage sustainable behaviors and responsible global citizen-stewards. Social responsibility, cultural values, economic prosperity, and environmental stewardship are the core values of sustainability, aimed at the preservation of society for future generations. The Office of Sustainability Practices helps to ensure projects are informed by sustainable best practices through advocating for awareness, education, and engagement in all topics related to sustainability, including water, energy, transportation, purchasing, and others. To learn more, please visit [gvsu.edu/sustainability](http://gvsu.edu/sustainability).

### **Sustainable Agriculture Project**

The Sustainable Agriculture Project (SAP) is a collaborative initiative to seed sustainable practices, foster leadership and learning, and grow community. Housed in the Brooks College, the SAP serves the entire campus community by providing a farm on the Allendale Campus to stimulate experiential education, where faculty, staff, students, and community members are invited to get hands-on involvement in all aspects related to sustainable agriculture. Environmental stewardship, efficient production, food justice, and food literacy are core components to the SAP's philosophy. To learn more about opportunities for internships, research grants, class visits, tours, and purchasing produce from the farm, visit [gvsu.edu/sustainableagproject](http://gvsu.edu/sustainableagproject).

### **Student Services and Campuswide Programs**

#### **Fred Meijer Center for Writing and Michigan Authors**

The Fred Meijer Center for Writing and Michigan Authors provides all university writers with the resources and services they need to meet their writing goals. Students, faculty, and staff can receive feedback on any writing project, at any stage of the writing process. The center's well-trained peer consultants can help brainstorm ideas, organize content, integrate research, and/or polish a draft. The goal of these writing consultations is to help writers help themselves, not just with that single piece of writing, but also to become better writers overall. Information regarding writing center services can be found in the Undergraduate Information section of the catalog or online at [gvsu.edu/wc](http://gvsu.edu/wc).

#### **Supplemental Writing Skills Program**

The Supplemental Writing Skills (SWS) program is a pedagogical component of the Grand Valley general education requirements. SWS courses are writing-intensive, meaning the

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

development of writing skills through critique and revision is a major component of course assignments and grading. Grand Valley requires students to complete two SWS courses to graduate. Specific courses are listed as SWS. Additional information regarding SWS requirements can be found under Academic Policies and Regulations or at [gvsu.edu/sws](http://gvsu.edu/sws).

### **Awards, Scholarships, and Scholarship Events**

Arend D. and Nancy Lubbers Honors College Scholarship

Barbara H. Padnos International Scholarship

Brooks College Scholarship for Study Abroad

Crawley Japanese Studies Scholarship

Dave Feenstra Sustainable Agriculture Project Internship Fund

Empowering Haiti Through Education Scholarship

Frederik Meijer Honors College Service-Learning

Jean Enright Scholarship (Women, Gender, and Sexuality Studies)

Jonathan and Marcia White Honors College Scholarship

Mark A. Elizabeth C. Murray Study Abroad Scholarship

Mary A. and Wilhelm W. Seeger Global Programs Scholarship

Meijer First Generation Honors Student Scholarship

Nichols Sustainability Scholarship

Peace and Justice Advocacy Award

Ruth Chamberlain Global Issues Scholarship

Student Sustainability Fund

Sustainability Reinvestment Fund

### **Graduate Assistantships**

Graduate assistants work with Brooks College faculty and staff. Qualified candidates are selected on the basis of aptitude, interest, and background. Brooks College offers graduate assistantships in the following:

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

- General Education
- Brooks College Advising Center
- Padnos International Center
- Sustainability Practices
- Writing Center

## **Community Resources**

Kutsche Office of Local History

Office of Sustainability Practices

Padnos/Sarosik Center for Civil Discourse

Sustainable Agriculture Project

## **College of Community and Public Service**

### **Administration**

Dean: Grant

Associate Dean: P. Stansbie

Associate Dean: Hoffman

### **Website**

[gvsu.edu/ccps](http://gvsu.edu/ccps)

### **Mission**

The mission of the College of Community and Public Service (CCPS) is to educate students for professional careers through excellent teaching, learning, scholarship, and service that promote just and democratic communities, and ethical and effective leadership.

We value: liberal education and academic excellence in learning, teaching, and research; contemporary applied learning and critical thinking; a passion to provide ethical and compassionate services to diverse local, national, and global communities and populations in need; a culture of collegiality and collaboration: diversity, community, and social justice; empowered graduates with professional practice skills.

### **Program Information**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Department of Hospitality/Tourism Management**

Hospitality and Tourism Management, B.S., Minor

Adventure Tourism Management, Minor

## **School of Criminal Justice**

Criminal Justice, B.A., B.S., M.S., Minor

Legal Studies, B.A., B.S., Minor

Juvenile Justice, Minor

Police Academy approved by the Michigan Commission on Law Enforcement Standards (MCOLES)

## **School of Public, Nonprofit, and Health Administration**

Public and Nonprofit Administration, B.A., B.S., Minor

Master of Philanthropy and Nonprofit Leadership (M.P.N.L.)

Master of Public Administration (M.P.A.)

Master of Health Administration (M.H.A.)

Nonprofit Leadership Graduate Certificate

## **School of Social Work**

Social Work, B.S.W., M.S.W.

## **Units**

### **Academic**

School of Criminal Justice

School of Public, Nonprofit, and Health Administration

School of Social Work

Department of Hospitality and Tourism Management

### **Nonacademic**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Dorothy A. Johnson Center for Philanthropy

### **Accreditation**

Legal Studies Program: American Bar Association

Master of Public Administration: National Association of Schools of Public Affairs and Administration (NASPAA).

Social Work Program: Council on Social Work Education (CSWE); Educational Policy and Accreditation Standards (EPAS).

School of Criminal Justice: Police academy approved by the Michigan Commission on Law Enforcement Standards (MCOLES)

### **Graduate Admission**

See appropriate Academic Program description for information on the graduate admission.

### **Secondary Admission for Undergraduates**

There is a secondary admission to the Bachelor of Social Work program. See the Social Work Academic Program section of the catalog for more information.

### **Dorothy A. Johnson Center for Philanthropy**

Community Research Institute

The Grantmaking School

Nonprofit Services

The Foundation Review

Frey Chair for Family Foundations and Philanthropy

AIM Alliance

(See specific Academic Programs for detailed information.)

### **Student Services**

#### **College of Community and Public Service Undergraduate Advising Center**

321C DEV, (616) 331-6890, ccpsadvisor@gvsu.edu

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Undergraduate academic advising within the College of Community and Public Service (CCPS) is a collaborative partnership between students, faculty members, and staff members committed to developing meaningful educational plans aligned with students' values, goals, and interests. We engage students as active participants in their educational experience and empower them to successfully navigate the university in pursuit of their personal, academic, and professional goals.

The CCPS Undergraduate Advising Center (UAC) provides advising assistance and information for the following undergraduate programs:

- Criminal justice
- Hospitality and tourism management
- Legal studies
- Public and nonprofit administration
- Social work

Here are some of the ways the CCPS-UAC can help you achieve your degree goals:

- **Degree planning.** Academic advisors help students make informed choices about degree and graduation requirements. They can help clarify curriculum, course content, and optimal course sequences. Advisors will also enhance student awareness of diverse educational experiences to further enrich the academic plan.
- **Goal setting.** Academic advisors can assist students with the clarification of career and life goals, development of decision-making skills, reinforcement of self-direction, and evaluation of student progress toward established goals.
- **Outreach and support.** Academic advisors can assist students with academic support needs through individual sessions, group workshops, and connections with educational resources across the university.
- **Policies and procedures.** Students are responsible for their role in the academic process and navigating the university system. Academic advisors can help clarify university policies and procedures to enhance the student's ability to participate in the academic process.
- **Referrals.** Academic advisors can refer students to faculty mentors, other campus services, and student success resources.

## **Graduate Assistantships**

Graduate assistantships exist in the Undergraduate Advising Center; the School of Criminal Justice (SCJ); Hospitality and Tourism Management (HTM); the School of Public, Nonprofit, and Health Administration (SPNHA); and the School of Social Work, as well as the Johnson Center for Philanthropy.

**Undergraduate Advising:** This is a position available for a College Student Affairs Leadership or adult and higher education program student interested in gaining experience in the academic advising profession. The position assists the staff of the CCPS Advising Center in answering

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

questions via phone or electronic communication, meeting with students one-on-one and in groups, reviewing degree requirements, developing academic plans, assisting with registration, and other academic support projects.

Graduate assistants in SCJ, HTM, and SPNHA provide support to faculty with their teaching responsibilities, research and grant activities, and also provide departmental support.

Social work graduate assistants assist with both the B.S.W. and M.S.W. programs, as well as community projects. Graduate assistants at the Johnson Center are Community Research Institute and Nonprofit Services research assistants.

## **College of Education**

### **Administration**

Dean: Soman

Associate Dean: King

Associate Dean: Shinsky

### **Website**

[gvsu.edu/coe](http://gvsu.edu/coe)

### **Mission**

Teaching, leading, and learning in a democratic society.

### **Philosophy**

Believing that schools function as social and political entities as well as for the growth of individuals, the College of Education prepares teachers and leaders a) to enhance the academic and personal potential of their students, and b) to evaluate the social and ethical implications of educational policies and practices.

### **Values**

The College of Education values *expertise* to guide our practice, *equity* to guide our interactions, *liberal education* to guide our perspectives, and *social responsibility* to guide our commitment to democratic education. We value these ideals in our preparation of candidates, our development of faculty, and our relationships with the larger community we serve.

### **Program Information**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

The College of Education offers programs leading to initial certification (Michigan standard teaching certification) both at the undergraduate and graduate level. Certification is available at the undergraduate level in elementary and secondary general education and special education. Candidates complete a teachable major in one of the content areas and a second major in education. The graduate-level initial certification program, graduate teacher certification (GTC), is for candidates who already possess an approved baccalaureate degree.

The teacher preparation program reflects a belief in strong backgrounds in the liberal arts, familiarity with learning theory, and practical experience in diverse settings. College of Education faculty members teach courses and seminars in educational philosophy and psychology, methods and materials, school organization and management, and technology and assessment. Faculty members from the College of Liberal Arts and Sciences teach content area courses.

Graduate level programs offer the Master of Education (M.Ed.) degree, Michigan standard teaching certification, administrator certification, school counseling license and endorsement, certification renewal, and programs leading to approvals, endorsements, and professional development.

The major function of the graduate program is to create opportunities for professional renewal and development. The graduate program attempts to increase knowledge and understanding of the learning process and the repertoire of teaching methods and skills. The graduate program offers the M.Ed. degree in seven major areas: educational technology, higher education, instruction and curriculum, educational leadership, literacy studies, school counseling, and special education.

Beyond the graduate program, the College of Education offers the educational specialist degree in leadership (Ed.S.). This degree program builds on the master's degree and develops leadership practitioners for school and/or central office administrative positions. The program provides district leaders with meaningful clinical experiences, case methods of teaching, and pragmatic curriculum geared to the specific knowledge and skills required by district leaders and superintendents at different career stages. See the Education section under Academic Programs in this catalog for specific program requirements.

## **Units**

### **Academic Departments**

Educational Foundations  
Educational Leadership and Counseling  
Literacy and Technology  
Teaching and Learning

### **Administrative Departments**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Administrative Services  
Center for Educational Partnerships  
Dean's Office  
Student Information and Services Center

## **TRIO**

Educational Talent Search  
Teacher Preparation Student Support Services  
Upward Bound

All offices are located at the Richard M. DeVos Center on the Pew Grand Rapids Campus, with the exception of the Educational Talent Search office which is located at the Depot on the Pew Grand Rapids Campus.

## **Accreditation**

The College of Education is an upper-division and graduate unit. Programs are approved by the Michigan Department of Education and follow the Council for the Accreditation of Educator Preparation (CAEP) guidelines.

## **Admission**

### **Graduate Admission**

For specific graduate College of Education admission requirements, see the Graduate Teacher Education Program Description.

### **Secondary Admission for Undergraduates**

For specific undergraduate College of Education initial certification admission requirements, see the Undergraduate Teacher Education Program Description.

## **Student Services**

The College of Education Student Information and Services Center (SISC) provides advising and information that supports undergraduate and graduate students through a variety of transitions within the College of Education. The service center offers centralized services for admissions, placement, advising, and certification. A full service professional staff is available for advising and assistance. Contact [coeserve@gvsu.edu](mailto:coeserve@gvsu.edu) or phone (616) 331-6650.

### **Graduate Assistantships**

Graduate assistant positions are available in the College of Education to assist with research, writing, data collection and analysis, grant proposal development, student services, computer projects, and serving on graduate committees.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Refer to [gvsu.edu/gs/policies-and-procedures-58.htm](http://gvsu.edu/gs/policies-and-procedures-58.htm) or The Graduate School section in this catalog for additional information on Graduate Assistantships.

## Scholarships

Each year, the College of Education assists students through the generosity of individuals and organizations dedicated to the preparation of educators. All scholarship awards require formal admission to the College of Education. Please refer to the university's scholarship website at [gvsu.edu/scholarships](http://gvsu.edu/scholarships) for more information or to apply through myScholarships, the online application database.

- Baldwin Foundation Scholarship Endowment Fund
- Greta and Arthur DeLong Scholarship for Teacher Education
- Kenneth and Irene Fridsma Endowed Special Education Scholarship
- Faculty Teaching and Learning Center Scholarship for Minority Students in Education
- Mack-Jackson African American Teacher Scholarship
- Joe E. Reid Memorial Scholarship
- Telephone Pioneers of America Scholarship
- J. Patrick Sandro Education Scholarship
- Graduate Teacher Certification Scholarship
- The David G. and Mary L. Annis Education Scholarship
- Paul '81 and Pamela '80 Schweitzer Scholarship
- College of Education Future Teacher Scholarship
- PNC Early Childhood Education Scholarship

Refer to [gvsu.edu/financialaid](http://gvsu.edu/financialaid) or the Costs and Financial Aid section in this catalog for scholarship details.

## Student Organizations

**Kappa Delta Pi (KDP)** is an international honor society in education that fosters excellence in education and promotes fellowship among those dedicated to teaching. The Grand Valley KDP Student Chapter provides service opportunities in schools and throughout the community to positively impact the education of all children.

The **Grand Valley National Science Teachers Association (NSTA)** Student Chapter provides professional opportunities for students wishing to pursue careers in K-12 science education.

The Grand Valley Student Chapter of Phi Delta Kappa is **Teachers of Tomorrow (TOT)**, which is under the umbrella of Phi Delta Kappa's **Future Educators Association**. Monthly meetings concentrate on topics of interest for future educators and service-learning/volunteer opportunities. Grand Valley is recognized as a Phi Delta Kappa International member with all the opportunities afforded by that organization.

## College of Health Professions

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Administration**

Dean: Beck

Senior Associate Dean for Graduate Studies: Open

Associate Dean for Research: Bacon-Baguley

Assistant Dean for Undergraduate Studies: Hall

## **Website**

[gvsu.edu/chp](http://gvsu.edu/chp)

## **Mission**

The College of Health Professions strives to be a model of excellence in health care education in the 21st century. The mission of the college is to prepare reflective professionals with the foundation necessary to serve and guide health care.

## **Program Information**

The College of Health Professions houses 20 majors and programs in the following 13 disciplines.

### **Doctorate Degrees**

Audiology

Physical Therapy

### **Master's Degrees**

Clinical Dietetics

Medical Dosimetry

Occupational Therapy

Physician Assistant Studies

Public Health

Speech-Language Pathology

### **Baccalaureate Degrees**

Allied Health Sciences with selection of an emphasis

American Sign Language Interpreting

General Allied Health Science (minor required)

Health Professional Degree Completion

Histotechnology

Prehealth Physical Therapy

Prehealth Physician Assistant Studies

Respiratory Care

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Cardiovascular Sonography  
Communication Sciences and Disorders  
Diagnostic Medical Sonography  
Abdominal and OB/GYN  
Health Information Management  
Medical Laboratory Science  
Radiation Therapy  
Therapeutic Recreation

## **Accreditation**

The medical laboratory science program is accredited by the National Accrediting Agency for Clinical Laboratory Science. The radiation therapy program is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT). The cardiovascular sonography program is accredited under the Commission on Accreditation of Allied Health Education Program (CAAHEP) and programmatically through the Joint Review Committee on Education in Cardiovascular Technology (JRC-CVT). The diagnostic medical sonography program is accredited by the Joint Review Committee on Education in Diagnostic Medical Sonography (JRCDMS). The health information management program is accredited by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM). The occupational therapy program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA). The physician assistant studies program is accredited by the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA). The physical therapy program is accredited by the Commission on Accreditation in Physical Therapy Education of the American Physical Therapy Association. The speech-language pathology M.S. program is a candidate for accreditation by the Council on Academic Accreditation in Audiology and Speech-Language Pathology (CAA) of the American Speech-Language-Hearing Association. The clinical dietetics program is accredited by the Accreditation Council for Education in Nutrition and Dietetics (ACEND), which is the accrediting agency for the Academy of Nutrition and Dietetics (AND). The public health program is accredited by the Council on Education for Public Health (CEPH). The therapeutic recreation program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) through its Committee on Accreditation of Recreational Therapy Education (CARTE).

## **Admission**

### **Undergraduate Secondary Admission**

Five undergraduate majors in the College of Health Professions require a selective secondary admissions/application process: communication sciences and disorders, medical laboratory science, therapeutic recreation, health information management, and allied health sciences in the following emphases: health professional degree completion, histotechnology, and respiratory care. See the Academic Programs section of the catalog for details.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Admission into diagnostic medical sonography, cardiovascular sonography, and radiation therapy involves a competitive secondary admissions/application process. See appropriate Academic Program description for detailed information on undergraduate admission.

## **Graduate Admission**

The doctorate of audiology, as well as the master's degree programs in clinical dietetics, medical dosimetry, occupational therapy, physician assistant studies, public health, and speech-language pathology require completion of a baccalaureate degree and submission of a graduate application and corresponding materials; admission into these programs is competitive. See appropriate Academic Program description for detailed information on the admission requirements.

## **Student Services**

The CHP Student Services office (CHPSS) is a key resource for academic advising services and admissions to Grand Valley's CHP programs and majors. Grand Valley students who declare a major within the College of Health Professions are each assigned to a professional academic advisor and encouraged to meet with their advisor at a minimum once per year but preferably each semester. The majority of programs in CHP are competitive; it is in the student's best interest to get academic advising throughout the college career.

Prospective and admitted students can expect to receive the following services and support from the CHP Student Services director, admissions coordinator, office coordinator, and four academic advisors.

- Academic plans: Development of achievable academic plans and access to resources for parallel plans.
- Admissions: Invitation for prospective students to visit the Cook-DeVos Center for Health Sciences (CHS) and learn about the CHP programs.
- Advisor access: Academic advisors are available to students at Grand Valley's Allendale Campus and in Grand Rapids at the Cook-DeVos Center for Health Sciences.
- Program application: Navigation through CHP's undergraduate secondary admissions process and graduate program applications.
- Orientation: Academic advising during freshmen and transfer orientation.
- Policies and procedures: Clarification of university policies that pertain to and support degree completion.
- Referrals: Introduction to and utilization of Grand Valley's campus resources, student success services, and faculty support.

The College of Health Professions encourages students to consider participation in any one of the following clubs as it pertains to program interest and eligibility.

Doctorate of Physical Therapy Organization  
National Student Speech Language Hearing Association  
Preoccupational Therapy Club

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Prephysician Assistant Club  
Prephysical Therapy Club  
Preradiologic and Imaging Sciences Student Organization  
Public Health Society  
Radiologic and Imaging Sciences Student Organization  
Student Occupational Therapy Association  
Therapeutic Recreation Student Organization

### **Scholarship Resources**

Numerous scholarship opportunities are available to students in their respective programs. Information regarding scholarships is available through the College of Health Profession's program websites or through Grand Valley's Office of Financial Aid and Scholarships at [gvsu.edu/financialaid](http://gvsu.edu/financialaid).

## **College of Liberal Arts and Sciences**

### **Administration**

Dean: Jennifer Drake  
Associate Dean: Anderson  
Associate Dean: McBane  
Associate Dean: Shreiner

### **Website**

[gvsu.edu/clas](http://gvsu.edu/clas)

### **Mission**

The College of Liberal Arts and Sciences (CLAS) is a student-centered and diverse learning community that engages in critical inquiry extending knowledge to enrich and enliven individual and public life.

### **Program Information**

Created in July 2004, CLAS is the largest of Grand Valley's colleges and offers more than 50 bachelor's degrees (and a growing number of advanced degrees) in the natural and mathematical sciences, the humanities, the fine and performing arts, and the social sciences.

All Grand Valley undergraduates build the foundation for their major studies in general education courses offered by our college.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

**Advertising and Public Relations**

Advertising and Public Relations, B.A., B.S.

Advertising (emphasis)

Public Relations (emphasis)

Advertising and Public Relations (minor)

**Annis Water Resources Institute**

(See Biology, M.S.,

Aquatic Sciences)

**Aging and Adult Life**

Aging and Adult Life (minor)

**Anthropology**

Anthropology, B.A., B.S.

Anthropology (minor)

Applied Anthropology, Certificate

**Applied Linguistics**

Applied Linguistics, M.A.

Applied Linguistics (minor)

General (minor emphasis)

ESL (minor emphasis)

**Arabic**

Arabic (minor)

**Archaeology**

Archaeology (minor)

**Behavioral Neuroscience**

Behavioral Neuroscience, B.A., B.S.

**Biochemistry**

Biochemistry, B.S.

**Biology**

Biology, B.A., B.S.

Biomolecular Processes

Ecology and Evolutionary Biology (emphasis)

General Biology (emphasis)

Preveterinary Medicine (emphasis)

Secondary Education (emphasis)

Biology, M.S.

Aquatic Sciences (M.S. emphasis)

Natural Resources (M.S. emphasis)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Biology (minor)  
Biology Secondary Education (minor)

### **Biomedical Sciences**

Biomedical Sciences, B.S.  
Microbiology (emphasis)  
Nutritional Science (emphasis)  
Biomedical Sciences, M.H.S.

### **Biostatistics**

Biostatistics, M.S.

### **Cell and Molecular Biology**

Cell and Molecular Biology, B.S.  
Cell and Molecular Biology, M.S.  
Biotechnology (M.S. emphasis)  
Research (M.S. emphasis)  
Combined Bachelor of Science and Master of Science in Cell and Molecular Biology  
Bioinformatics and Genomics (undergraduate certificate)  
Bioinformatics and Genomics (graduate certificate)

### **Chemistry**

Chemistry, B.S.  
Secondary Education (emphasis)  
Chemistry (minor)  
Chemistry Secondary Education (minor)  
Green Chemistry (certificate)

### **Chinese**

Chinese Language (minor)

### **Classics**

Classics, B.A.  
Classical Languages (emphasis)  
Classical Studies (emphasis)  
Latin Secondary Education (emphasis)

### **Communication Studies**

Communication Studies, B.A., B.S.  
Communications, M.S.

### **Dance**

Dance, B.A.  
Dance (minor)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

**Earth Science**

Earth Science, B.S.  
Secondary Education (emphasis)  
Earth Science (minor)

**English**

English, B.A.  
Language and Literature (emphasis)

Secondary Education (emphasis)  
English, M.A.  
English (minor)  
English Secondary Education (minor)

**Exercise Science**

Combined Exercise Science, B.S. and Masters in Athletic Training, MAT  
Exercise Science, B.S.  
Clinical Exercise Science (emphasis)  
Health Fitness Instruction (emphasis)

**Fisheries and Aquatic Sciences**

Fisheries and Aquatic Sciences, B.S.

**French**

French, B.A.  
Secondary Education (emphasis)  
French (minor)  
French Secondary Education (minor)

**Geography and Sustainable Planning**

Geography, B.A., B.S.  
Climate Change Mitigation, Adaptation, and Resiliency Planning (emphasis)  
Environment and Global Development (emphasis)  
Geospatial Technology (emphasis)  
Urban and Regional Planning (emphasis)  
Environmental Remote Sensing (certificate)  
Geographic Information Science and Teaching (certificate)  
Geography - Secondary Teacher Certification (minor)  
Sustainable Urban and Regional Planning (minor)  
Geospatial Techniques (minor)  
Sustainable Urban and Regional Planning (certificate)  
Environmental Remote Sensing (certificate)  
Geographic Information Science and Technology (certificate)  
Geospatial Techniques (minor)  
Sustainable Urban and Regional Planning (minor)  
Sustainable Urban and Regional Planning (certificate)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

**Geology**

Geology, B.S.  
Environmental (emphasis)  
Geology (minor)

**Geology - Chemistry**

Geology - Chemistry, B.S.

**German**

German, B.A.  
Secondary Education (emphasis)  
German (minor)  
German Secondary Education (minor)

**Health Communication**

Health Communication, B.A., B.S.

**History**

History, B.A., B.S.  
Secondary Education (emphasis)  
History (minor)  
History Secondary Education (minor)

**History of Science**

History of Science (minor)

**Integrated Science**

Integrated Science, B.S.  
Secondary Education (emphasis)

**International Relations**

International Relations, B.A.  
International Relations (minor)

**Mathematics**

Mathematics, B.A., B.S.  
Theoretical Mathematics (emphasis)  
Applied Mathematics (emphasis)  
Secondary Education (emphasis)  
Mathematics (minor)  
Mathematics Elementary Education (minor)  
Mathematics Secondary Education (minor)  
Microbiology, B.S.

**Multimedia Journalism**

Multimedia Journalism, B.A., B.S.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

**Music**

Music, B.A.

Music, B.M.

Instrumental (emphasis)

Keyboard (emphasis)

Vocal (emphasis)

Music (minor)

Music Education, B.M.E. (K-12)

Instrumental (emphasis)

Vocal/Choral (emphasis)

Piano Pedagogy (certificate)

**Natural Resources Management**

Natural Resources Management, B.S.

Natural Resources Management (minor)

**Pedagogical Content Knowledge for Elementary Teaching, B.A., B.S.**

Pre-K through 3<sup>rd</sup> Grade (emphasis)

3<sup>rd</sup> Grade through 6<sup>th</sup> Grade (emphasis)

Mathematics (concentration)

Language Arts (concentration)

Social Studies (concentration)

Integrated Science (concentration)

**Philosophy**

Philosophy, B.A.

Philosophy (minor)

**Physical Education**

Physical Education, B.S.

Health and Physical Education, B.S.(K-12)

Physical Education Secondary Education (minor)

School Health Education (minor)

**Physics**

Physics, B.S.

Secondary Education (emphasis)

Physics (minor)

Physics Secondary Education (minor)

**Political Science**

Political Science, B.A., B.S.

Legal Education Admission Program (LEAP)

Political Science (minor)

Political Science Secondary Education (minor)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Political Science and Law, B.A./J.D.  
Political Science and Law, B.S./J.D.

### **Preprofessional Studies**

Predental Studies  
Prelaw  
Premedical Studies  
Preveterinary Medicine

### **Psychology**

Psychology, B.A., B.S.  
Psychology (minor)  
Psychology Secondary Education (minor)  
Applied Behavior Analysis (certificate)

### **School Psychology**

School Psychology, M.S. and Psy.S.

### **Sociology**

Sociology, B.A., B.S.  
Sociology (minor)

### **Spanish**

Spanish, B.A.  
Secondary Education (emphasis)  
Spanish (minor)  
Spanish Elementary Education (minor, in conjunction with a PCKET major)  
Spanish Secondary Education (minor)

### **Sport Management**

Sport Management, B.S.  
Sport Coaching (certificate)

### **Statistics**

Statistics, B.A., B.S.  
Actuarial Sciences (emphasis)  
Applied Statistics (minor)  
Data Science (minor)  
Mathematical Statistics (minor)

### **Theatre**

Theatre, B.A., B.S.  
Theatre (minor)

### **Wildlife Biology**

Wildlife Biology, B.S.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Visual and Media Arts**

Art Education (Teacher Certification K-12) B.A., B.S.  
Art History, B.A.  
Art History (minor)  
Studio Art, B.A., B.S.  
Studio Art, B.F.A.  
Ceramics (emphasis)  
Graphic Design (emphasis)  
Illustration (emphasis)  
Jewelry/Metalsmithing (emphasis)  
Painting (emphasis)  
Printmaking (emphasis)  
Sculpture (emphasis)  
Visual Studies (emphasis)  
Studio Art (minor)  
Film and Video Production, B.A., B.S.  
Photography, B.A., B.S.  
Photography (minor)

## **Academic Units**

Annis Water Resources Institute  
Anthropology  
Biology  
Biomedical Sciences  
Cell and Molecular Biology  
Chemistry  
Classics  
English  
Geography and Sustainable Planning  
Geology  
History  
Mathematics  
Modern Languages and Literatures  
Movement Science  
Music, Theatre, and Dance  
Philosophy  
Physics  
Political Science  
Psychology  
School of Communications  
Sociology  
Statistics  
Visual and Media Arts  
Writing

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Accreditation**

See individual unit or program sections for information.

### Secondary Admission for Undergraduates

- Art Education (B.A., B.S.); National Association of Schools of Art and Design (NASAD)
- Art History (B.A.); National Association of Schools of Art and Design (NASAD)
- Chemistry (B.S.); Committee on Professional Training of the American Chemical Society (ACS)
- Film and Video Production (B.A., B.S.); National Association of Schools of Art and Design (NASAD)
- Music (B.A., B.M.E., B.M.); National Association of Schools of Music (NASM)
- Photography (B.A., B.S.); National Association of Schools of Art and Design (NASAD)
- Studio Art (B.A., B.F.A., B.S.); National Association of Schools of Art and Design (NASAD)
- Regional Math and Science Center; Michigan Department of Education (MDEC)

The following programs require audition, portfolio review, and/or prerequisites and separate application:

- Art and design - studio art and art education
- Dance
- Film and video production
- Music

## **Graduate Admission**

See appropriate Academic Program description for information on graduate admission.

## **Student Services**

### **College of Liberal Arts and Sciences Academic Advising Center**

The CLAS Academic Advising Center serves as a key resource for students pursuing majors and/or minors in the College of Liberal Arts and Sciences and for Grand Valley's Exploratory Study (undecided) students. The goal is to complement faculty advising with professional advising services and serve students by

- providing initial academic advising through first-year, transfer, and international student advising and registration sessions;
- assisting in the development of an achievable academic plan;
- sharing resources and opportunities for exploration of academic options;
- disseminating Grand Valley policies and procedures as they pertain to degree completion in the College of Liberal Arts and Sciences;

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- offering a central location for students seeking information on preprofessional programs such as premedical, pre dental, prepharmacy studies, and many other postbaccalaureate programs;
- assisting students interested in attaining teacher certification through the undergraduate programs or the graduate teacher certification program, as well as current teachers seeking an additional endorsement in a CLAS-related area; and
- providing support for nontraditional students and students returning to Grand Valley after an absence.

The CLAS Academic Advising Center's location is C-1-140 and C-1-120 Mackinac Hall and can be reached by calling (616) 331-8585 or via email at [advstu@gvsu.edu](mailto:advstu@gvsu.edu). Additional information also can be found on the center's website at [gvsu.edu/clasadvising](http://gvsu.edu/clasadvising).

Mathematics Tutoring Center

Science Success Center

Statistical Consulting Center

Statistics Tutoring Center

### **Honors Organizations**

Program-specific honors programs are described under each unit's description.

### **Scholarships**

The eligibility criteria for each scholarship can be found in the Costs and Financial Aid section of the catalog.

Eric A. Andres Live, Laugh, Love, Learn Scholarships

Alex Aninos Music Education Scholarship

John T. Batchelder Political Science Scholarship

Edith I. Blodgett Endowed Piano Scholarship

Frederick A. Bogaert Theatre Scholarship

William J. and Margaret G. Branstrom Fine Arts Scholarship

Breen Scholarship

Dr. Andrew M.C. Brown Memorial English Scholarship

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Alexander Calder Honor Scholarship

Carroll Vocal Performance Scholarship

Robert L. Chamberlain Scholarship

Dean Fred Antczak Endowed Scholarship

College of Liberal Arts and Sciences Endowed Scholarship

Gilbert R. and Patricia K. Davis Endowed Merit Scholarship for Full- or Part-time English Majors

Gilbert R. and Patricia K. Davis Endowed Theatre Scholarship: Remembering Shakespeare

Greta and Arthur DeLong Psychology Scholarship

Aaron M. DesRocher Memorial Chemistry Scholarship

Pamella and Daniel G. DeVos Musical Theater Scholarship

DeWitt Barrels Inc. Environmental Science and Natural Resources Scholarship

Carlson Family Endowed Scholarship Any CLAS student

Ann M. Dilly Jewelry/Metalsmithing Scholarship

Mary Jane Dockeray Scholarship

Leslie Eitzen Voice Scholarship

English Faculty Endowed Scholarship for New Majors

Shelby Fazio '13 Memorial Endowed Scholarship

Richard E. Flanders Scholarship

Barbara L. Flaschenreim Endowed Classics Scholarship

Geology Field Studies Scholarship

Norman and Helen Gibson Geology Field Study Scholarship

Edward Tremba Geology Scholarship

Charlotte A. Gierst and Salome C. Egeler Trust Fund

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Kyle Grant '12 Memorial Endowed Scholarship

Tom and Marcia Haas and Family Laker Marching Band Scholarship

Eva Habetinova and Gregory J. Sanial Family Endowed Scholarship STEM

Steve Hecht Memorial Endowed Scholarship

Paul B. Henry Congressional Internship

Arthur C. Hills Music Scholarship

David S. and Leslie A. Hooker Liberal Arts Endowed Scholarship

Prof. Paul A. Huizenga Biology Education Scholarship

Jake Jager '18 Memorial Endowed Scholarship

Paul and Dianna Johnson STEM Pathway Endowed Scholarship

Florence and Leonard Joyce Mathematics First Generation Endowed Scholarship

Jurries Family Scholarship

Frances Anne Kelleher Memorial Scholarship

Marlene Kenneway Love of Dance Scholarship

Prof. Charles Knop Chemistry Scholarship

Walton B. Koch Memorial Scholarship

Albert S. and Ella D. Koeze Art Scholarship

MaryBeth Koeze Art Scholarship Endowment

Dirk Koning Film and Video Scholarship

Kulesza Family Healthcare Pathway Scholarship

Marney Houseman MacAdam Endowed Voice Scholarship

Dr. Nancy K. Mack and Katherine Klemmit Mack Memorial Scholarship

The Malinoski Family Pre-Dental Scholarship

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Adam M Malson Memorial Scholarship  
Mathematics Endowment Fund  
Michigan Garden Club Scholarship  
David and Diana Moore Biology Graduate Student Assistantship  
Upper Division Music Department Scholarship  
Arlene Treanor Natie Plants Internship  
Robert Nelson Foundation Scholarship  
Glenn A. and Betty J. Niemeyer History Scholarship  
Nedra J. Otis Art Scholarship  
Pathway Scholarship for Mathematics  
Ross W. Perry Bachelor of Science Scholarship  
Danny K. Phipps Music Endowed Scholarship  
Elizabeth Platek '89 Communication Scholarship  
Ellen Pool Choral Endowed Scholarship B.M.E  
Dr. Margaret Proctor School of Communications Scholarship  
Dr. George I. and Helen Z. Quimby Scholarship  
Warren Reynolds Endowed Scholarship  
Robert and Linda '89 Rynbrandt Endowed Sociology Scholarship  
Hugo Salazar Memorial Scholarship  
John Salski Memorial Fund  
Ilene I. Schooley Biomedical Science Scholarship  
School of Communications Scholarship  
Mary and Wilhelm Seeger Scholarship

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Madeline Siehling Statistics Pathway Scholarship

Anonymous Statistics Pathway Endowed Scholarship

Shakespeare Festival Alumni Scholarship

John J. and Marjorie E. Shephard Communications Scholarship

John Shontz Native Plants Biology Scholarship

Statistics Book Scholarship

Statistics Endowment

George and Marianne Stein Endowed Memorial Scholarship

Howard and Rose Stein Endowed Biology Scholarship

Duke Tanka Jr. Anatomy Scholarship

Edward L. Tremba Scholarship

Donald and Barbara VanderJagt Mathematics and Athletics Scholarship

Ada Council for the Arts Rebecca Vogelsang Memorial Scholarship

Margaret F. Ward Art and Design Scholarship

Margaret F. Ward Music Scholarship

Dr. Ronald W. Ward Scholarship

Wayland Street Films Scholarship for the Arts in Memory of BrownHill

Holliday Willey Psychology Scholarship for the Study of Pervasive Development Disorders

Bill and Diana Wipperfurth Annis Water Resources Institute Student Research Scholarship

Writing and Leadership Scholarship

Writing Major Scholarship

Doug and Linda Woods Athletic Training Scholarship

Barbara Waddell Native Plants Research Scholarship

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Barbara Waddell Integrated Science Academic Excellence Award

Mark A. Warren Memorial Scholarship

## **Community Resources**

- Annis Water Resources Institute
- Autism Education Center
- Regional Math and Science Center

Refer to the Community Resources section of this catalog for more information

## **Kirkhof College of Nursing**

### **Administration**

Acting Dean: Coke

Associate Dean, Undergraduate Programs: Winter

Associate Dean, Graduate Programs: Moran

### **Website**

[gvsu.edu/kcon](http://gvsu.edu/kcon)

### **Mission**

The mission of the Kirkhof College of Nursing is to provide quality nursing education to a diverse population of students. The Kirkhof College of Nursing strives to improve the well-being of people through leadership in nursing education, professional practice, and scholarship.

### **Kirkhof Legacy**

The Kirkhof College of Nursing was named in recognition of Russel Kirkhof, a self-taught electrician. His avid interest in finding solutions to manufacturing problems through the application of electricity developed into an international business enterprise. His life paralleled the American dream of becoming a self-made millionaire through the virtues of hard work, talent, and personal determination. Kirkhof was a humble man who conducted his life without fanfare and he was happiest when he was working with his hands. Today, his life story serves as an inspiration to others in making meaningful contributions to their communities. KCON embodies the values espoused by Kirkhof through professional education that teaches the importance of making significant contributions as nurses to surrounding communities and society-at-large.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Program Information**

Bachelor of Science in Nursing (B.S.N.): Traditional

Bachelor of Science in Nursing (B.S.N.): Second Degree (for students with degrees in other disciplines)

Bachelor of Science in Nursing (B.S.N.): R.N. to B.S.N. (for individuals currently working on or having completed academic preparation as an associate degree prepared nurse)

Master of Science in Nursing (M.S.N.)

Doctor of Nursing Practice (D.N.P.): Primary Care Adult /Older Adult Nurse Practitioner;

Primary Care Child/Adolescent Nurse Practitioner; Health Systems Leadership

Interprofessional Palliative and Hospice Care (certificate)

Interprofessional Health Informatics (certificate)

Psychiatric/Mental Health Nurse Practitioner (certificate)

## **Accreditation**

KCON is recognized for outstanding teaching, scholarship, and service. The Bachelor of Science in Nursing program, the Master of Science in Nursing program, and the Doctor of Nursing Practice program at Grand Valley State University (GVSU) Kirkhof College of Nursing (KCON) are accredited by the Commission on Collegiate Nursing Education

([www.ccnaccreditation.org](http://www.ccnaccreditation.org)). The Bachelor of Science in Nursing (B.S.N.) program is also approved by the Michigan Board of Nursing, P.O. Box 30004, Lansing, MI 48909; Telephone: (517) 241-0199. KCON offices are housed on the GVSU Health Campus in the DeVos Center for Interprofessional Health at 333 Michigan St. N.E. in Grand Rapids, MI 49503; Telephone: (616) 331-3558.

Graduates of the KCON Traditional or Second Degree Bachelor of Science in Nursing (B.S.N.) degree programs are qualified to take the National Council Licensure Examination R.N. (NCLEX-RN) to obtain licensure to practice as a registered nurse. Students completing the advanced generalist Master of Science in Nursing (M.S.N.) degree will be eligible for national certification as a clinical nurse leader. Students completing the Doctor of Nursing Practice (D.N.P.) degree in one of the nurse practitioner tracks will be prepared for national primary care specialty certification in either pediatrics or adult-gerontology. Students completing the D.N.P. health systems leadership track will be eligible for and encouraged to sit for national certification as a nurse executive.

## **Admissions**

Information regarding undergraduate and graduate admissions is outlined under the respective academic program section of the catalog. For questions or clarification, please call the Kirkhof College of Nursing Office of Student Services at (616) 331-7160.

## **Graduate Assistantships**

The Kirkhof College of Nursing employs graduate students in full- and part-time assistantships to support student engagement in faculty scholarship, teaching, and academic activities.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Assistantships provide tuition and stipend support for graduate education. For more information, please contact KCON at (616) 331-7160.

## **Honors Organizations**

Sigma Theta Tau International (STTI) is recognized as the honor society of nursing with over 135,000 members in more than 100 countries worldwide. Members serve as agents and catalysts for change throughout the world. Sigma members include clinicians, educators, administrators and researchers who are leaders in the scientific journey toward advancing world health by recognizing and promoting nursing excellence in scholarship, leadership, and service. Sigma's local Chapter, Kappa-Epsilon-at-Large, was organized in 1996. Potential candidates for membership may be students in undergraduate or graduate nursing programs or may be nursing professionals or community leaders. The society challenges members to become better nurses and offers support through continuing education, networking opportunities, access to nursing research, mentoring opportunities, and many other avenues.

## **Student Organizations**

The Kirkhof College of Nursing is proud to hold the All College Membership status within the National Student Nurses' Association (NSNA) at [www.nsna.org](http://www.nsna.org). All undergraduate students are encouraged to actively participate in the Grand Valley chapter of the NSNA. The benefits of joining the GVSU Student Nurses' Association (SNA) include opportunities for leadership, networking, and volunteering in the community.

Students taking prerequisite courses are encouraged to join the GVSU Pre-Nursing Association (PNA) by visiting online at [gvsu.edu/kcon/oss/pre-nursing-association-63.htm](http://gvsu.edu/kcon/oss/pre-nursing-association-63.htm). This organization is student-run and open to all pre-nursing students. The benefits of membership include leadership, networking, social connections, and opportunities to learn more about the nursing profession. Additional information about PNA is available through the Student Life Office ([gvsu.edu/studentlife](http://gvsu.edu/studentlife)).

The Graduate Student Organization (GSO) is a university wide student organization dedicated to Grand Valley graduate students. Its goals include intellectual, professional, and social development while fostering interprofessional communication, collaboration, and community. Because this organization represents all graduate students, M.S.N. and D.N.P. students are encouraged to participate. The annual meeting schedule is posted on the GSO Blackboard site in September of each year. Additional information about GSO is available at [gvsu.edu/gsa](http://gvsu.edu/gsa).

All graduate nursing students are encouraged to join the American Association of Colleges of Nursing Graduate Nursing Student Academy (GNSA). The GNSA provides high value programs, services, and resources to graduate nursing students enrolled in master's and doctoral programs at AACN member schools, of which GVSU is a member. The GNSA is committed to supporting graduate students preparing for careers as faculty members, researchers, advanced practice registered nurses, clinical nurse leaders, policy experts, and health care administrators, among other roles (AACN, 2020). Additional information about GNSA is available at [www.aacnnursing.org/gnsa](http://www.aacnnursing.org/gnsa).

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Scholarships**

Numerous scholarship opportunities are available to undergraduate and graduate nursing students. Information regarding specific scholarships is available through the Kirkhof College of Nursing website at [gvsu.edu/kcon](http://gvsu.edu/kcon) and the Office of Financial Aid website at [gvsu.edu/financialaid](http://gvsu.edu/financialaid).

## **Office of Student Services**

The mission of the Kirkhof College of Nursing Office of Student Services (OSS) is to recognize individuality and establish collaborative partnerships with students and those interested in our nursing programs. To do this, OSS advisors engage in intentional and holistic advising through proactive outreach toward individuals seeking a nursing degree at Grand Valley. The OSS strives to promote diversity and foster student connections within KCON, Grand Valley, the broader community, and the nursing profession. The OSS provides a wide range of services to support undergraduate and graduate nursing students, including degree-planning in consideration of general education and major or minor requirements, as well as development and review of degree-progress plans to promote academic success. Students are assigned to a professional advisor once they declare nursing as their intended major. For individual and group appointments, students may call the Kirkhof College of Nursing Office of Student Services at (616) 331-7160.

## **Seidman College of Business**

### **Administration**

Dean: Lawson

### **Website**

[gvsu.edu/seidman](http://gvsu.edu/seidman)

### **Mission**

Seidman develops business talent that advances sustainable growth in West Michigan and the Great Lakes Region. Through the exchange and application of knowledge from global and diverse perspectives, we prepare learners to make ethically-informed decisions that positively impact the economy, environment, and society. Our distinctiveness is grounded in strong community collaborations, applied scholarly contribution, innovative approaches to learning, and a supportive culture.

### **The Legacy of Seidman**

### **Program Information**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

The Seidman College of Business was named in honor of the late Frank Edward Seidman, who for more than 50 years was a distinguished member of the Grand Rapids business community and a partner in the national accounting firm of BDO Seidman. He was nationally recognized as a business and civic leader, an economist, and a philanthropist. For many years, he wrote a newspaper column on business and economics and contributed to numerous professional journals. He was also the co-author of three technical books, including *Legislative History of the Federal Income Tax Law*, *Financing the War*, and *Accounting Handbook*.

F.E. Seidman worked for both his bachelor's and master's degrees in commercial science by attending night classes at New York University. He placed a high value on education and was devoted to improving educational opportunities for people from all backgrounds. F.E. Seidman was especially dedicated to improving the level of competence in the business and public sectors, not only in his own firm, but also in all of the organizations it audited.

F.E. Seidman was, in every sense, a creative businessman. He was chairman of the Citizens' Advisory Committee on the Michigan Tax Study and of the Michigan State Board of Accountancy. He was a director of the Grand Rapids Community Chest and the Community Services of Kent County for 25 years and was a long-time director of the Grand Rapids Foundation, the largest philanthropic organization of its kind in the area. As a trustee of the Thomas Erler Seidman Foundation, named for a deceased son, he was instrumental in providing youth-building and educational opportunities for thousands of young people in the Grand Rapids area, as well as providing funds for the Seidman House at Grand Valley.

In establishing the Seidman College of Business, Grand Valley intended to embody the philosophy, ideas, and spirit of Seidman and to provide a place to gain an education in business and administration in West Michigan.

Just as quality was the hallmark of F.E. Seidman's efforts, so, too, is quality in education the touchstone of Seidman College of Business. Grand Valley's purpose has been to honor the man not merely by affixing his name to the college, but by perpetuating the high ideals to which he personally dedicated himself.

The Seidman College of Business offers programs in business and economics leading to a Bachelor of Business Administration (B.B.A.), a Master of Business Administration (M.B.A.), a Master of Science in accounting (M.S.A.), and a Master of Science in taxation (M.S.T.). The Seidman College of Business in partnership with Michigan State University College of Law also offers the opportunity to participate in a "3+3" legal education admission program leading to a B.B.A. and J.D. in approximately six years. For a description of the B.S. and B.A. economics program, see the Economics section. Please contact the Seidman College of Business Student Academic Services Office for additional information.

Through these programs, the college helps students learn to gather the information upon which effective management is based, make rational decisions on the basis of that information, plan for the effective implementation of those decisions, and monitor their consequences. Students develop an understanding of the functional areas of business, the dynamics of competitive and

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

cooperative group process, formal and informal organizational behavior, and the culture of business.

Students also gain knowledge of the external environment of business, developing a perspective on contemporary global business through historical and international comparisons. Students understand the ways in which business and management are responding to current social, economic, political, international, and technological challenges.

Undergraduate students may major in accounting, business economics, economics, entrepreneurship, finance, general business, general management, human resources management, international business, marketing, operations management, and supply chain management. An emphasis in management information systems is available in the management program. Emphases in general marketing, distribution and logistics, and sales are available in the marketing program. There are also opportunities for students who do not wish to enter a degree program to take courses that apply to their professional interests.

The college makes every effort to accommodate the varying needs of its students. People employed full-time, for example, can enroll in many evening classes. Those who are not employed can gain valuable experience through internships with area businesses and government agencies.

Graduate students may pursue master's degrees in accounting, business administration, or taxation.

### **Academic Units**

School of Accounting

Economics Department

Finance Department

Management Department

Marketing Department

### **Seidman Business Services**

Richard M. and Helen DeVos Center for Entrepreneurship and Innovation

Family Owned Business Institute

Koeze Business Ethics Initiative

Michigan-Small Business Development Center - West Michigan Region

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Michigan-Small Business Development Center Michigan Lead Center

Seidman Financial Planning Certificate Program

U.S. Department of Commerce Export Assistance Center

Van Andel Global Trade Center

Refer to the Community Resources section of this catalog for descriptions of the previously listed centers, institutes, and initiatives.

### **Dean's Early Access Invitation**

#### **Eligibility Criteria**

- High school (HS) seniors who have been admitted to GVSU
- 3.500 or higher overall HS GPA
- 26 or higher ACT score or 1240 SAT

Those who have applied to Grand Valley State University and meet the above criteria will automatically be sent information regarding the steps necessary to accept the dean's early access invitation. If you have updated test scores or ACT/SAT scores that meet the criteria, please notify the Admissions Office at (616) 331-2025.

#### **Advantages of Dean's Early Access Invitation**

Early access to upper-level business courses:

Typically, students begin their 200-level business courses in their sophomore year and their 300-level business courses in their junior year. When students accept their early access invitation from the dean, they are eligible for 200-level business courses in their first year as a student and 300-level business courses prior to junior standing. The 200-level Seidman courses include ACC 212, BUS 201, ECO 210, ECO 211, MGT 268, plus STA 215.

Early access to a faculty advisor:

When students accept the invitation, they will be assigned a faculty advisor in their business major. Faculty advisors assist with questions regarding career, elective course selection, and graduate school guidance.

Students must also meet with a professional advisor in the Seidman Undergraduate Programs Office each semester. The professional advising staff assists students with degree progression toward graduation.

#### **Seidman Success Standards**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

The Seidman College of Business permits access to 300- and 400-level business courses after meeting the following Seidman College of Business success standards.

1. 55 earned semester hours (junior status)
2. 2.5 or higher overall GPA
3. Completion of the following courses with a 2.5 or higher combined GPA: ACC 212, BUS 201, ECO 210, ECO 211, MGT 268, STA 215

Once a student has met the Seidman College of Business success standards, they must maintain a 2.5 minimum overall GPA to remain eligible for 300- and 400-level business courses.

For graduation, Seidman College of Business majors must have an overall GVSU GPA and business major GPA of 2.5 or higher.

### **Catalog Year Stipulations**

Students admitted to GVSU under a catalog year prior to 2016-2017 will follow the Seidman College of Business' secondary admission criteria:

1. Established 2.750 overall GPA
2. 55 earned semester hours (junior status)

All eligible students are admitted upon meeting both criteria and must maintain a 2.5 overall GPA and a 2.5 Seidman GPA to graduate.

### **General Education**

All business students must complete the general education requirements (see section on General Education). This program will develop a base of general education upon which business administration education will rest. Included is a broad spectrum of liberal arts, mathematics, and science courses. During their junior and senior years, students will take a variety of business administration courses in different areas that provide a strong general business and administration background. Additionally, they will complete courses applicable to one of the specific majors offered.

### **Graduate Admission**

The graduate business programs are open to qualified individuals with a bachelor's degree from accredited colleges and universities.

No particular undergraduate major is necessary for students selecting the M.B.A., M.S.A., or M.S.T. programs, although candidates may be required to show proof of foundational competencies in business subjects before attempting advanced work. It is recommended that M.S.T. students have a background in accounting or law.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Candidates are admitted to the master's degree programs in business administration, accounting, or taxation based on criteria that have been shown to predict success in graduate business programs, including previous academic performance, career history, performance on the Graduate Management Admission Test (GMAT) if required, and evidence of other competencies related to academic program and workplace success. A TOEFL score of at least 80 (IBT) is also required of applicants whose first language is not English.

## **M.B.A. Admission**

The Seidman College of Business seeks individuals who want to build a meaningful career. Admission to the Seidman M.B.A. program is competitive as the M.B.A. Admissions Committee carefully considers each applicant. The M.B.A. Admissions Committee takes a holistic approach to candidate evaluation with consideration of relevant professional experience, potential for career growth, academic ability, leadership qualities, communication and interpersonal skills, and motivation for success. Applicants with managerial, operational, or decision-making experience receive preference for admission. Seidman purposefully maintains a relatively small class size and values candidates with diverse backgrounds, skill sets, cultures, and talents. No particular undergraduate major is necessary for students applying to the M.B.A. program. Instead, candidates must demonstrate competency in background business subjects.

To apply, students should

1. complete the M.B.A. application (including essay/personal statement);
2. submit official transcripts;
3. submit a recent resume;
4. provide two graduate references; and
5. provide official GMAT scores (if applicable).

International students may be required to submit additional documents as part of their admission materials.

Individuals who submit all required documents may be selected for an interview as part of the admission process.

## **Waiver of the Graduate Management Admission Test (GMAT) Requirement**

Most prospective graduate business students take the GMAT. The GMAT is strongly recommended and may be used to strengthen the applicant's profile. A GMAT waiver is an option for highly qualified individuals.

To be considered for a GMAT waiver, candidates must meet one of the following criteria:

- Document at least three years of relevant professional experience that shows increased responsibilities over that period.
- Document having earned an acceptable score on the Graduate Record Examination (GRE); other graduate exams may be considered by request.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- A transcribed undergraduate GPA of 3.2 or higher from an AACSB-accredited business program.
- A transcribed undergraduate GPA of 3.4 or higher from a regionally accredited university in any major.
- Documented having earned a master's degree or higher from a regionally accredited program.

Meeting the criteria to waive the GMAT does not guarantee admission to the M.B.A. program. Even those who are eligible to waive should consider taking the GMAT because a strong score increases the likelihood of admission.

## **Executive M.B.A.**

EMBA (Executive Master of Business Administration) serves experienced professionals. Applicants are evaluated on professional experience, leadership potential, prior academic performance, and employer recommendation.

## **Student Programs**

### **Graduate Independent Study**

Individualized study may be available for candidates interested in pursuing relevant special interests in areas in which regular courses are not offered. These may consist of research projects, theses, problem-solving projects, or other appropriate endeavors related to the candidate's current job and intellectual or career interests.

No independent study or individualized courses will be allowed in areas in which courses exist and are taught at least once per year.

Only graduate degree-seeking candidates who have completed the core requirements or have special permission from the program director may take individualized graduate courses or conduct graduate-level independent projects.

All independent study topics and the amount of credit to be earned must be approved by the faculty member who agrees to supervise the project. A maximum of three hours of credit can be granted for independent study. The conditions, meeting times, workload, and subject matter concerned with the project are mutually agreed to by the initiating candidate and the assenting faculty member, consistent with standards of quality education. Request forms can be obtained from the assistant dean for Seidman Student Services.

### **Graduate Study Abroad**

Seidman College of Business offers special topic business courses that generally include a two-week summer study abroad session.

### **Washington Campus Program**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Seventeen universities have recognized the importance of training private sector managers and leaders in the art of working with the federal government and have established the Washington Campus Program. These colleges and universities are Grand Valley State University, Arizona State University, University of California at Berkeley, Colorado State University, Emory University, Georgetown University, Howard University, Indiana University, University of Michigan, University of New Mexico, University of North Carolina at Chapel Hill, Northeastern University, The Ohio State University, Purdue University, Rice University, University of Texas at Austin, and Texas A&M University.

The Washington Campus Program offers a unique opportunity for current and future leaders in business and government to gain a basic understanding of how to deal with the problems inherent in business/government relationships by working with policy makers, politicians, regulatory agency personnel, and others who make up the teaching staff and resource persons for the programs.

Participating graduate students spend a week in Washington, D.C., where they hear from Washington insiders, visit government and public policy institutions, and engage in real-world case studies on the interaction of business, politics, and public policy. Participants earn three credit hours and a certificate of completion from the Washington Campus Program. For additional information, graduate students can contact the assistant dean for Seidman Student Services.

## **Student Services**

### **Practice Interviews**

To assist students in preparing for career placement, the Seidman College of Business collaborates with the Career Center to offer mock interview opportunities for Seidman College juniors and seniors who meet the college's minimum grade point average requirements. The primary purpose of mock interviews is to give students a chance to practice their interviewing skills and build self-confidence. Students are matched with companies so that they interview with and receive feedback from business professionals in their major areas of study.

## **Awards and Scholarships**

### **Accounting Awards**

The Beene Garter Institute of Management Accountants, Ernst and Young Accounting Senior Excellence Award, and Clipper Belt Lacer accounting awards are presented at the annual spring accounting awards dinner. These awards honor outstanding academic and leadership excellence.

### **Delta Sigma Pi Scholarship Key**

Each year, the international fraternity of Delta Sigma Pi awards the Delta Sigma Pi Scholarship Key to the graduating student with the highest academic average for the four years of study in business administration. All business students are eligible for this award.

## **Scholarships**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Accounting Alumni Scholarship

American Photo Marketing Entrepreneurship Scholarship

American Production and Inventory Control Society (APICS) Scholarship

BDO USA International Accounting Scholarship

Becker CPA Course Scholarship

Fred A. Bell Business Scholarship

Barry Castro Business Ethics Scholarship

Johnny C. Burton Memorial Scholarship

Campbell Williams Business Scholarship

Colliers International Scholarship

Crowe Horwath, LLP Outstanding Accounting Student Scholarship

Marvin G. DeVries Endowed Scholarship

Gregg K. Dimkoff Finance Scholarship

Economics Department Faculty Scholarship

Ernst and Young Senior Accounting Excellence Scholarship

Excel Business Scholarship

Finance Department Advisory Board Scholarship

Finance Department Faculty Scholarship

Doug and Christen Fox Scholarship

The Four Ps of Marketing Scholarship

Matt and Kendra Gibson Accounting and Finance Scholarship

Richard H. Giles Memorial Scholarship

Dr. Earl Harper Management Scholarship

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Hilda C. Holder Scholarship for Women in Business

J.C. Huizenga Business Scholarship

Hungerford Nichols CPAs+ Advisors Accounting Scholarship

Jad Abou-Maarouf '05, '08 and Selene Lacayo '06 Scholarship

Michael and Sue Jandernoa Scholarship

Dr. Donald J. Kline Sr. Graduate Scholarship in Accounting

Kaufman Family Scholarship Honoring L. William Seidman

The A. Scott and Ruth P. Koeze Graduate Business Scholarship

Jack J. Korff Seidman College of Business Finance Scholarship

L.V. Eberhard Business Scholarship

Lacks Enterprises Scholarship

May Group Realtors w/ReMax of Grand Rapids Scholarship

Mithilesch and Jitendra Mishra Foreign Student and Faculty Scholarship

NAI Wisinski of West Michigan Commercial Real Estate Scholarship

Don and Diane Paton Family Entrepreneurship Scholarship

Dr. William F. Pickard Business Scholarship

Randy and Debbie Price Scholarship

Redfield Financial Group Business and Baseball Scholarship

Plante Moran Accounting Scholarship

John W. and Virginia M. Reifel Economics Scholarship

School of Accounting Faculty Endowed Scholarship

Seidman College of Business Study Abroad Scholarship

Seidman Dean's Advisory Board Scholarship

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

Marilyn and Budge Sherwood Seidman College of Business Scholarship for Nontraditional Students

Paul '87 and Sue Spindler Accounting Study Abroad Scholarship

Steelcase Inc. Seidman College of Business Diversity Scholarship

Supply Chain Management Related Scholarships

Tax Executives Institute Accounting/Tax Scholarship

The Right Place/MMTC-West Manufacturers Council Scholarship

VanderZwaag Business Scholarship

Richard E. Veazey Graduate Academic Scholarship in Accounting

Philip P. and Joyce Versluis Supply Chain Management Scholarship

Vetter Family Marketing Scholarship

The Kathleen B. Vogelsang Seidman College of Business Scholarship for Non-Traditional Students

Don Williams Sr. Dean Emeritus Multicultural Business Education (MBEC) Scholarship

H. James Williams Endowed Scholarship

Windstream Enterprise Resource Planning Scholarship

Robert H. and Barbara Wood Entrepreneurship Scholarship

Refer to the Seidman College of Business website at [gvsu.edu/seidman](http://gvsu.edu/seidman) for scholarship details.

### **Graduate Assistantships**

Graduate assistants work with Seidman College of Business faculty and staff members. Qualified full-time candidates are selected on the basis of aptitude, interest, and background.

### **Advisory Boards and Associations**

#### **Seidman Dean's Advisory Board**

The Seidman Dean's Advisory Board, composed of the dean and three dozen leaders from local, national, and international companies, serves to create and sustain a partnership between the Seidman College and the business community. The board meets to advise the Seidman College

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

of Business on goals, curriculum, and other matters that are of benefit to the continued enhancement of the student body, the college, and the business and public communities.

### **Seidman College of Business Alumni Association Board**

The Seidman Alumni Association Board consists of up to 30 graduates of the Seidman College of Business who represent the alumni of the college. The board's purpose is to promote, assist, and perpetuate the aims and objectives of the college.

### **Accounting Advisory Board**

The Accounting Advisory Board is composed of accountants and meets as needed to advise the college on all matters pertaining to the accounting curriculum and alumni events. Representatives of national, regional, and local accounting firms, presidents of local accounting associations, and corporate accountants are members of this board.

### **Accounting Alumni and Friends Advisory Board**

The Accounting Alumni and Friends Advisory Board provides a way for alumni to interact with accounting faculty members and students. Upon graduation, accounting students are encouraged to join this advisory board.

### **Business Ethics Center Advisory Board**

The Business Ethics Center (BEC) Advisory Board consults with the director on matters of expansion, programming, community relations, and budget. Board members also act as advocates for the BEC in the community and nationally.

### **Economics Department Advisory Board**

The Economics Department Advisory Board is comprised of local leaders from a broad range of sectors, including banking, manufacturing, real estate, and nonprofit and government organizations. The board provides feedback and support for department initiatives.

### **Finance Department Advisory Board**

The Finance Department Advisory Board is comprised of 15 representatives from the areas of investment, corporate finance, banking, and financial planning. The board's main goals are to facilitate collaboration with the finance industry and to receive input on curriculum and related issues.

### **Human Resource Management Advisory Board**

The purpose of the Seidman Human Resource Management Advisory Board is to develop, maintain, and promote a working relationship between human resources professionals and the

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

stakeholders of the Management Department of the Seidman College of Business, including current students, faculty members, and alumni.

### **International Business Advisory Board**

The International Business Advisory Board consists of business leaders of local and international companies who want to support international business education at Seidman College.

### **Marketing Advisory Board**

The Marketing Advisory Board was formed to help align the interests of the students, faculty members, alumni, and communities Seidman College serves. The board meets routinely with marketing faculty members. Board members are from diverse, prestigious firms, including Amway, Axios Inc., Bissell Homecare Inc., Cynthia Kay & Co. Media Production, Daymon Worldwide, Gordon Food Service, Holton Research, Meijer, SoundOff Signal, Stryker Medical, and TransCorr.

### **M.S.T. Advisory Board**

The M.S.T. Advisory Board is comprised of attorneys and accountants from the professional community who actively support, teach in, and refer students to the M.S.T. program.

### **Supply Chain Management Advisory Board**

The purpose of the Seidman Supply Chain Management Advisory Board is to develop, maintain, and promote a working relationship between supply chain/logistics professionals and the stakeholders of the Management Department of the Seidman College of Business, including current students, faculty, and alumni.

### **Endowed Chairs**

#### **L. William Seidman Accounting Chair**

The L. William Seidman Chair in Accounting was established to provide financial support to one distinguished accounting faculty member who would advance the accounting profession through teaching, research, and professional outreach activities.

This endowed chair was established to recognize and honor L. William Seidman, who was the former chairman of the Federal Deposit Insurance Corp. (FDIC). Seidman received his undergraduate degree from Dartmouth, his law degree from Harvard Law School, and his M.B.A. from the University of Michigan. He was also a C.P.A. and a noted author. He served as dean of the College of Business at Arizona State University, as vice chairman of Phelps Dodge Corporation, and as an assistant to the president of the United States for economic affairs.

#### **Esther Seidman Chair**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

The Esther Seidman Chair was established to provide financial support to one distinguished faculty member who would advance the initiatives and goals of the Seidman College of Business. This endowed chair was established to recognize and honor the late Esther Seidman who, along with her husband Frank Edward Seidman, was a distinguished member of the Grand Rapids business and civic community.

## **Seymour and Esther Padnos College of Engineering and Computing**

### **Administration**

Dean: Plotkowski

Associate Dean: Born

Assistant Dean: Thelenwood

### **Website**

[gvsu.edu/pcec](http://gvsu.edu/pcec)

### **Mission**

The mission of the Seymour and Esther Padnos College of Engineering and Computing is to prepare undergraduate and graduate students in engineering, computing, and occupational safety and health to become accomplished professionals; to contribute to our professions through active scholarship in all of its forms; and to support the university and society with expertise, leadership, and service.

To achieve our mission, we

- prepare students to compete in today's global economy by emphasizing experiential learning in a contemporary technical environment;
- prepare students for the future by emphasizing sound principles;
- emphasize a strong technical background enhanced by effective communication skills;
- provide working professionals with the opportunity for continuous professional development;
- imbue students with a strong sense of "the public good" and their own professional responsibility to the public good; and
- strive to be an example and an inspiration to develop competence, courage, and compassion with unquestioned integrity.

### **The Padnos Legacy**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Grand Valley State University has named the Padnos College of Engineering and Computing in honor of Seymour and Esther Padnos to recognize their commitment to creating an environment where students and faculty can reach their full potential in the fields of engineering, computing, and occupational safety and health. It is the aim of the university to inspire these future professionals to live up to the personal and professional ideals of the Padnos family.

## **Program Information**

The college offers undergraduate programs in biomedical engineering, computer engineering, electrical engineering, interdisciplinary engineering, mechanical engineering, product design and manufacturing engineering, computer science, cybersecurity, information systems, information technology, and occupational safety and health management. Master's degree programs are offered in health informatics and bioinformatics, data science and analytics, cybersecurity, computer information systems, biomedical engineering, electrical and computer engineering, product design and manufacturing engineering, manufacturing operations, and mechanical engineering.

The college also provides courses in support of nonengineering and computing students through minor programs in biomedical engineering, computer science, computer engineering, data science, engineering science, health care information systems, information security systems, information systems, information technology, and occupational safety and health management, as well as general education and service course offerings.

Specific information on admission, curriculum, and graduation requirements can be found in each program section.

## **Experiential Learning**

The Padnos College of Engineering and Computing is committed to the role of experiential learning in preparing professionals for careers in engineering, computing, and occupational safety and health management. All students completing undergraduate degrees in engineering complete the integrated cooperative education program. All students completing undergraduate degrees in the school of computing and information systems, occupational safety and health management, and the professional science master's programs, complete the integrated internship program. Internship opportunities are available, but not required, of students in the Master of Science in engineering program and the Master of Science in computing and information systems programs.

## **Academic Units**

School of Computing and Information Systems: [cis.gvsu.edu](http://cis.gvsu.edu)

School of Engineering: [gvsu.edu/engineering](http://gvsu.edu/engineering)

Department of Occupational Safety and Health: [gvsu.edu/osh](http://gvsu.edu/osh)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Professional Science Master's (coordination function): [gvsu.edu/psm](http://gvsu.edu/psm)

## Accreditation

- The **Computer Science Major** is accredited under the General Criteria and Computer Science Criteria by the Computing Accreditation Commission of ABET, 415 N. Charles St., Baltimore, MD 21201. Telephone: (410) 347-7700, [www.abet.org](http://www.abet.org).
- The **Information Systems Major** is accredited under the General Criteria and Information Systems Criteria by the Computing Accreditation Commission of ABET, 415 N. Charles St., Baltimore, MD 21201. Telephone: (410) 347-7700, [www.abet.org](http://www.abet.org).
- The **Computer Engineering Major** is accredited under the General Criteria and Computer Engineering Criteria by the Engineering Accreditation Commission of ABET, 415 N. Charles St., Baltimore, MD 21201. Telephone: (410) 347-7700, [www.abet.org](http://www.abet.org).
- The **Electrical Engineering Major** is accredited under the General Criteria and Electrical Engineering Criteria by the Engineering Accreditation Commission of ABET, 415 N. Charles St., Baltimore, MD 21201. Telephone: (410) 347-7700, [www.abet.org](http://www.abet.org).
- The **Interdisciplinary Engineering Major** is accredited under the General Criteria by the Engineering Accreditation Commission of ABET, 415 N. Charles St., Baltimore, MD 21201. Telephone (410) 347-7700, [www.abet.org](http://www.abet.org).
- The **Mechanical Engineering Major** is accredited under the General Criteria and Mechanical Engineering Criteria by the Engineering Accreditation Commission of ABET, 415 N. Charles St., Baltimore, MD 21201. Telephone: (410) 347-7700, [www.abet.org](http://www.abet.org).
- The **Product Design and Manufacturing Engineering Major** is accredited under the General Criteria and Manufacturing Engineering Criteria by the Engineering Accreditation Commission of ABET, 415 N. Charles St., Baltimore, MD 21201. Telephone (410) 347-7700, [www.abet.org](http://www.abet.org).
- The **Occupational Safety and Health Management Major** is accredited under the General Criteria and Safety Criteria by the Applied and Natural Sciences Accreditation Commission of ABET, 415 N. Charles St., Baltimore, MD 21201. Telephone (410) 347-7700, [www.abet.org](http://www.abet.org).

## Advisory Boards

The advisory boards for the Padnos College of Engineering and Computing and each academic program are composed of the dean and many leaders from local, national, and international companies, who serve to create and sustain an active partnership between the college, schools, and industry. The boards provide advice concerning goals, curriculum, and other matters that strengthen the student experience. The advisory boards also work to strengthen the partnerships that benefit industry and the broader community.

## Admission

### Secondary Admission for Undergraduates

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

All undergraduate programs require secondary admission as described in their specific academic program information.

### **Graduate Admission**

See appropriate academic program description for information on graduate admission.

### **Advising**

Academic advising, including major selection, meeting secondary admission requirements, career direction, and course scheduling, is provided by the professional staff of the advising center on both the Pew Grand Rapids Campus and the Allendale Campus. Advisors work primarily with presecondary admission undergraduate students. Inquiries from prospective students are welcome. See [gvsu.edu/pcec/advising](http://gvsu.edu/pcec/advising) for additional information.

### **Outreach**

K-12 outreach strives to attract the next generation of students to the computing, engineering, and occupational safety and health professions. Staff direct summer camps, provide building tours to prospective students, and support curricular and co-curricular activities for students both at Grand Valley and in schools. See [gvsu.edu/pcec/outreach](http://gvsu.edu/pcec/outreach) for more information.

### **Professional Society Student Chapters**

ACM - Association for Computing Machinery

ASME - American Society of Mechanical Engineers

ASSE - American Society of Safety Engineers

IEEE - Institute of Electrical and Electronic Engineers

NSBE - National Society of Black Engineers

SAE - Society of Automotive Engineers

SME - Society of Manufacturing Engineers

SWE - Society of Women Engineers

### **Honor Societies**

Tau Beta Pi National Engineering Honors Society

Upsilon Pi Epsilon International Honor Society for Computing and Information Disciplines

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Scholarships**

Joseph E. Appelt, P.E. Engineering Scholarship

AITP (Association of Information Technology Professional(s) Scholarship

Atomic Object Scholarship

NN Autocam Precision Components Group Engineering Scholarship

Autocam Medical Engineering Scholarship

Baldwin Foundation Scholarship

Clarke & Nancy Borgeson Science, Technology, & Mathematics Endowed Scholarship

Robert Bosch Fuel Systems Engineering Scholarship

Scott M. Dykstra/Oliver Products Company Engineering Scholarship

Carl Erickson and Mary O'Neill Pathway Endowed Scholarship

FIRST Robotics Engineering Scholarship

FTC&H Engineering Endowed Scholarship

FTC&H Occupational Safety and Health Management Endowed Pathway Scholarship

General Dynamics Land Systems Engineering Scholarships

Eric Jon Gillette Memorial Scholarship

Initech Global Advancing Technology Scholarship

Paul and Dianna Johnson STEM Pathway Endowed Scholarship

Fred M. and Bernedine Keller Engineering Diversity Scholarship

Kirkhof Engineering Scholarship

Ray and Fran Kisor Graduate Engineering Fellowship

Lacks Enterprises Scholarship

Eric Maino Community Technology Award

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

James B. Miller Endowed Engineering Scholarship

Occupational Safety and Health Management Scholarship

Seymour and Esther Padnos Engineering Scholarship

GVSU/Padnos/MSPE Engineering Scholarship

GVSU/Padnos/SAE Engineering Scholarship

GVSU/Padnos/Graduate Scholarship

Lt. James W. Parmelee Memorial Scholarship

Price-Heneveld Engineering Scholarship

Retaining and Inspiring Students in Science & Engineering (RISE) Scholarship

Right Place Manufacturing Engineering Scholarship

GVSU/School of Computing and Information Systems Academic Scholarship

GVSU/School of Computing and Information Systems Freshman Scholarship

GVSU/School of Computing and Information Systems Study Abroad Scholarship

The Joseph Spruit Engineering Scholarship

SPX Corporation Foundation Engineering Scholarship

George & Marianne Stein Memorial Scholarship

TowerPinkster Engineering Scholarship

Trans-Matic Engineering Scholarship

Dr. Eric L. VanFleet Occupational Safety and Health Endowed Scholarship

Whitney Young Outreach Engineering Scholarship

Windstream Technology Scholarship (previously PAETEC Technology Scholarship)

Thomas and Joyce Wisner Engineering Scholarship

### **Graduate Fellowships and Assistantships**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Qualified full-time fellowship and assistantship candidates are selected on the basis of aptitude, interest, and background.

Industry graduate fellows gain practical experience by working closely with a local company to solve practical problems related to the chosen area of graduate study.

Graduate assistants work with appropriate school faculty and staff members. Graduate assistant positions are available to assist in the Padnos College of Engineering and Computing with research, writing, data collection and analysis, and student services.

Graduate assistantships are typically available in support of the following areas:

- Data Science and Analytics
- Engineering
- Computer Science
- Professional Science Masters FIRST Robotics
- K-12 Outreach
- PCEC Advising

# **Frederik Meijer Honors College**

## **Administration**

Director: Roger Gilles

## **Website**

[gvsu.edu/honor](http://gvsu.edu/honor)

## **Mission**

The mission of the Frederik Meijer Honors College is to inspire and empower motivated students to be intellectually curious lifelong learners who make positive contributions to their local and global communities, and serve as capable leaders and active global citizens.

## **Program Information**

The Frederik Meijer Honors College is an alternative general education program for students who desire to challenge themselves academically. The focus of the college is

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

to bridge the gaps between traditional academic disciplines and allow students a chance to see the impact each discipline has on the others.

To fulfill this goal, many of our classes are interdisciplinary and team-taught while utilizing smaller class sizes to elicit greater discussion. We understand that sometimes the moments of greatest learning are unplanned. These smaller classes, coupled with the fact that many professors hold office hours nearby, foster a deeper personal connection between students and professors. Another feature of our curriculum is an active schedule of co-curricular activities, both on campus and off.

The greater student-faculty interaction, as well as classes specially designed to foster advanced writing and speaking skills, critical thinking, and analysis, prepare students to be competitive for graduate and professional programs. Our students develop high levels of proficiency in research, writing, critical thinking, synthesizing material from multiple disciplines, and applying critical skills to primary sources. Because of these advanced skills, honors students have more opportunities to participate in and present research as undergraduates at Student Scholars Day, regional honors conferences, the National Collegiate Honors Council annual meeting, and other professional meetings.

The Meijer Honors College encourages its students to engage in extracurricular activities to develop leadership skills and an appreciation of the richness and diversity of university life. Honors students frequently engage in service and volunteer projects at the university or in the community. They also have unique cultural experiences and travel opportunities such as subsidized museum visits and faculty-led trips to Chicago, Detroit, and other cities. There are annual summer service-learning programs to Ghana, Haiti, and Israel, and students are also encouraged to take advantage of other study abroad opportunities offered by the university.

Completion of the Meijer Honors College program should not be confused with "Graduation with Honors," which is determined strictly by final grade point average. The Meijer Honors College requires not only a high grade point average but also successful completion of a special series of challenging courses. Completion of all Meijer Honors College requirements results in the "Meijer Honors College Graduate" designation on both the baccalaureate diploma and the college transcript. Graduates are eligible to wear a special medallion and stole at Commencement.

## **Academic Standing**

To attain the Meijer Honors College designation, students must graduate with an overall grade point average of 3.2 or above. Students below 3.2 may complete the honors curriculum in order to satisfy their university general education requirements,

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

but they will not earn the honors designation. Honors courses may be repeated only with the consent of both the director and the faculty member involved.

Students may voluntarily withdraw from honors at any time but will be responsible for completing the regular General Education Program if they do so. Meijer Honors College advisors are available to assist students transitioning out of the program. Likewise, students may apply to transfer into Honors from the regular General Education Program, or from another college or university, and honors advisors are available to help with the transition.

Students who earn any additional baccalaureate diplomas using the honors curriculum to fulfill the university's general education requirements will receive the honors designation on the new diplomas and transcripts.

## **Accreditation**

There is no accrediting body for honors, though the National Collegiate Honors Council sets guidelines and offers resources for honors programs. Grand Valley is an active member of the National Collegiate Honors Council.

## **Admission**

Applicants must first be accepted to Grand Valley before they apply to the Meijer Honors College. We employ a holistic application process, which means that we consider the whole student, not just static indicators. In the application, we look for demonstrations of strong academic motivation and ability to achieve on a high level. The application asks students to show these through completing a self-assessment, listing academic and leadership accomplishments, writing a strong essay, and submitting a significant analytical or creative paper from high school. Our normal expectation of high school applicants entering college for the first time is a 3.5 high school GPA and an ACT score of 28 or an SAT score of 1300. These are not firm requirements, however.

Meijer Honors College also welcomes applications from students transferring from another college or university or from within Grand Valley. Our normal expectation is that transfer students will have a 3.5 college GPA. The application is available at [gvsu.edu/honors](http://gvsu.edu/honors).

## **Frederik Meijer Office of Fellowships**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

The Frederik Meijer Office of Fellowships, assists Grand Valley students who show extraordinary potential in disciplines all across campus in preparing and applying for nationally competitive scholarships and fellowships including the Boren, Fulbright, Gates Cambridge, Gilman, Goldwater, Marshall, Rhodes, Truman, Udall, and more. The staff matches opportunities with students' strengths, interests, and ambitions; helps students design a plan to attain their goals; and provides support throughout the application process. To learn more, visit [gvsu.edu/fellowships](http://gvsu.edu/fellowships).

## Learning and Living Community

One of the hallmarks of the Meijer Honors College is its rich learning and living community. For this reason, honors students, especially first-year students are encouraged to live in one of the two honors housing centers, so that they strengthen the bonds of community and reinforce each other's commitment to academic excellence.

**The Glenn A. Niemeyer Learning and Living Center** is a state-of-the-art residential and academic center with two- and four-bedroom apartments, lounges and study areas, and a computer lab. Most honors classrooms are also in the building.

**The Holton-Hooker Learning and Living Center** is a residential and academic center that provides optimal housing for first-year honors students because it builds rich and deep community.

## Scholarships

**Arend D. and Nancy Lubbers Scholarship.** Those who are awarded presidential scholarships are eligible for a prestigious honors-only scholarship, the Lubbers Scholarship. This award can add as much as \$2,000 onto merit-based scholarships and is renewable for up to 10 semesters. It is a significant honor to receive this scholarship, **but a student is only eligible for this award if he or she has qualified for and participated in the scholarship competition and has applied to and been accepted by the Meijer Honors College prior to the last scholarship competition of the year.**

**Frederik Meijer First Generation Honors College Student Scholarship.** This is a full-tuition scholarship for a select number of extraordinary first-year students who are the first in their immediate family to pursue a college degree. Candidates must be eligible to participate in the scholarship competition, must have been accepted to the university and the Meijer Honors College, and must enroll full-time as a degree-seeking student. The scholarship is renewable up to a maximum of eight semesters.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Recipients must stay in good standing in Meijer Honors College to renew this scholarship.

**Felix V. and Gladys A. Zukaitis Honors Scholarship.** Those who are awarded presidential or faculty scholarships are eligible for a prestigious honors-only scholarship, the Zukaitis Honors Scholarship. This award can add as much as \$1,000 onto merit-based scholarships and is renewable for up to eight semesters. It is a significant honor to receive this scholarship, but a student is only eligible for this award if he or she has qualified for and participated in the scholarship competition and has applied to and been accepted by the Meijer Honors College prior to the last scholarship competition of the year.

**Ruth Chamberlain Global Issues Scholarship.** This scholarship was initiated by John ("Jack") Chamberlain in memory of his wife Ruth. The scholarship provides support for one or more students in the Meijer Honors College who have shown significant promise, growth, or improvement, and have demonstrated a research or career interest in solving global problems (for example, issues of climate change, natural disasters, energy, population change, sustainability, etc.). Areas of study may include, but are not limited to, natural resources, biology, chemistry, or related sciences. The scholarship may be awarded for a maximum of two semesters, but may be renewable.

**Jonathan and Marcia White Endowed Honors College Scholarship.** This scholarship continues Jonathan's legacy of public service and commitment to advancing homeland security. It rewards bright students in the Meijer Honors College who are pursuing careers in national security or public service. The scholarship was established in recognition of Colonel Ralph Hauenstein's record of military and civilian service. Candidates must be in honors and enrolled for at least 12 credit hours per semester. The scholarship is renewable up to a total of six semesters.

For more information on applying and competing for the Lubbers, Meijer First Generation, or Zukaitis scholarships, contact an admissions counselor at [admissions@gvsu.edu](mailto:admissions@gvsu.edu) or (616) 331-2025 or (800) 748-0246. For the Chamberlain, White, and other scholarships, visit [gvsu.edu/financialaid](http://gvsu.edu/financialaid) or call (616) 331-3234 or (800) 748-0246.

## Student Organizations

**Honors Student Council** The HSC is responsible for contributing to Meijer Honors College governance and provides all honors students, not just those living in honors living centers, opportunities to be heard. HSC provides input to the university,

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

develops programming and student activities, and works to build community within the Meijer Honors College. It is an excellent place for honors students to make a difference in and outside of honors, as well as to develop leadership skills and experience.

### **Peer Mentor Program**

Upperclass honors students may apply to be peer mentors to incoming first-year students. Mentors assist students with the transition to the Meijer Honors College and university life in general, and act as ambassadors for the Meijer Honors College.

## **The Graduate School**

### **Administration**

Associate Vice Provost: Jeff Potteiger

### **Website**

[gvsu.edu/gs](http://gvsu.edu/gs)

### **Mission**

To define, support, and advance excellence in graduate education and the scholarly and research activities associated with it. To articulate a vision of excellence in our actions and policies that affect students, faculty, and curriculum. To advocate for graduate education and graduate students, faculty, and staff within the university in terms of resources, services, and other activities that support graduate student endeavors and goals; and encourage a diverse, inclusive, and connected graduate community.

## **Graduate Degree Programs Offered at Grand Valley**

Refer to the Graduate Information section of this catalog for a listing of all graduate degrees.

### **Overview**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

The Graduate School is located in the Richard M. DeVos Center, Robert C. Pew Grand Rapids Campus, located in downtown Grand Rapids, MI. The Pew Grand Rapids Campus is home base for most of Grand Valley State University's graduate degree programs. Many graduate programs and courses are offered in Grand Rapids so that they are more accessible to adult learners living or working throughout the Grand Rapids metropolitan area. Additionally, many graduate programs offer classes in outlying communities throughout northern, central, and southern Michigan.

The associate vice provost for The Graduate School works on behalf of all graduate students to ensure that Grand Valley's graduate programs are of the highest quality, that faculty members teaching graduate courses are well-qualified to teach at the graduate level, and that university policies and procedures are applied appropriately to graduate students. The associate vice provost for The Graduate School and staff members work closely with the Office of the Provost, the Graduate Council, the Office of Admissions, academic deans, department chairs, graduate program directors, the Center for Adult and Continuing Studies, the Office of the Registrar, the Division of Inclusion and Equity, the Student Services Division, and the Office of Financial Aid and Scholarships to advocate on behalf of graduate students and to provide leadership and vision for graduate education at Grand Valley.

Currently enrolled graduate students or those interested in graduate studies at Grand Valley are welcome to visit The Graduate School in DeVos Center for assistance, advice, or to provide feedback on any aspect of their graduate education. The phone number is (616) 331-7105. For general questions about the admission process for graduate students at Grand Valley, students should contact the associate director for graduate admissions at (616) 331-2025. For questions about a specific graduate degree program, contact the graduate program director for that program. Contact information for graduate program directors may be found on The Graduate School website.

## Awards

**Graduate School Citations for Academic Excellence:** The associate vice provost for The Graduate School presents awards to outstanding graduate students recognized for their academic achievement. Nominations for the awards are submitted to The Graduate School by the graduate program director in the student's area of study. Awards are presented twice per year at the Graduate Student Celebration, held at the end of the fall semester for students who graduated the previous spring/summer and in the fall semester, and in April for students graduating at the end of the winter semester. Awardees receive a certificate and an honors cord, which can be worn at the Commencement ceremony. The Graduate School Citations for Academic Excellence include university-wide recognition for excellence in the following categories:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- Academic Excellence in a Degree Program Award
- Outstanding Doctoral Dissertation Award
- Outstanding Master's Thesis Award
- Outstanding Final Project Award
- Outstanding Publication Award
- Award for Excellence Service to the Community or Profession
- Award for Excellence in Leadership and Service to Grand Valley
- Award for Excellence in Promoting Inclusion and Diversity at Grand Valley
- Award for Excellence in Sustainability

## **Graduate Assistantships**

The Graduate School is responsible for the overall administration of the university's graduate assistantship (GA) program and policies. Assistantships provide graduate students with part-time, paid work experiences in their field of study and allow them to expand and apply the knowledge and skills they learn in the classroom in a work setting. Graduate assistants typically work either 10 or 20 hours per week, depending on the terms of their appointment. Under the GA program, faculty and university staff members benefit as well, in that they receive assistance with research activities, special projects, and assignments that require the advanced skills that graduate students possess. Students receive tuition support as well as a stipend, which may help them lower the overall cost of attending graduate school.

Students interested in a graduate assistantship should first discuss their interest with their academic advisor or graduate program director, as students often find assistantships within their programs. Other academic and nonacademic units may have positions available as well. While The Graduate School administers the policies and makes the final determination as to the students' eligibility for an assistantship appointment, the advertisement of positions and the selection process are performed by the hiring unit. More information on graduate assistantships may be found in the Costs and Financial Aid and Graduate Information sections of the catalog or on The Graduate School's website.

## **Graduate Council**

The Graduate School provides administrative support to the Graduate Council, which is part of university faculty governance. The Graduate Council is responsible for oversight of university policies relating to graduate education, graduate academic program review, and the review and approval of the graduate curriculum. The Graduate Council's voting membership is made up of elected faculty representatives from each college and the university library, along with two graduate students who are elected by the Graduate Student Association.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Graduate Student Association**

The Graduate School actively supports the Graduate Student Association (GSA), the universitywide organization for graduate students at Grand Valley. This includes cohosting many professional development events, promoting social events, and providing guidance for the GSA. The GSA appoints two graduate students to serve as voting members of the Graduate Council, a university governance body that provides graduate program review and develops graduate-level academic policies. The GSA also appoints graduate student representatives to serve on the following University Standing Committees: Academic Standards and Policies Committee, Campus Life Committee, Equity and Inclusion Committee, Faculty Salary and Budget Committee, Faculty Teaching and Learning Center Advisory Committee, Faculty Facilities and Planning Advisory Committee, Online Education Council, University Assessment Committee, University Academic Senate, and University Library Advisory Committee. Each year, the GSA awards outstanding faculty in three categories: inclusion, mentorship, and teaching. The collaboration between The Graduate School and the GSA provides all graduate students with opportunities for success beyond the classroom.

## **Center for Adult and Continuing Studies**

### **Administration**

Executive Director: Simone Jonaitis

### **Website**

[gvsu.edu/learn](http://gvsu.edu/learn)

### **Mission**

The Center for Adult and Continuing Studies provides lifelong learners with access to relevant, inclusive, high-quality educational opportunities by responding to lifelong learning needs of individuals and communities.

## **Program Information**

The Center for Adult and Continuing Studies coordinates academic programs, services, and professional development for learners throughout the state of Michigan and beyond. For more information about programs and services available at Grand

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Valley's campuses and regional sites throughout Michigan, please contact us by phone at (616) 331-7180 or on the Web at [gvsu.edu/learn](http://gvsu.edu/learn).

Additional details about professional development opportunities can be found in the Community Resources section of the catalog.

**Pre-admission and transfer advising:** The staff at the center recognize the unique needs of the nontraditional student and the multiple time constraints and demands of an individual's experience. Professional advisors are available to help students with individual support prior to and while attending GVSU. Services include transfer advising, adult and veteran support, and help with navigating the academic and cultural landscape of the university.

**Accelerated degree completion for adults:** The center also manages and supports a unique accelerated degree completion program specifically designed for the adult learner. The degree completion is offered online in six-week sessions. Details can be found online at [gvsu.edu/complete](http://gvsu.edu/complete).

For more information, please contact (616) 331-7180, email [ceinfo@gvsu.edu](mailto:ceinfo@gvsu.edu), or schedule an appointment online at [gvsu.edu/complete/lets-get-started-2.htm](http://gvsu.edu/complete/lets-get-started-2.htm).

### **Traverse City**

Grand Valley State University offers degree completion and a full range of services to Northern Michigan. The Traverse City Regional Center, located at the Northwestern Michigan College University Center, offers undergraduate degrees in allied health and integrative studies. Students can earn a master's degree in education and physician assistant studies. Individuals and organizations seeking additional information about Grand Valley in Northern Michigan can call (231) 995-1785 or visit [gvsu.edu/learn/traverse](http://gvsu.edu/learn/traverse).

## **Scholarships**

### **Grand Forum Scholarship for Continuing Education**

This scholarship provides financial assistance to persons whose college education was interrupted for one or more reasons and who wish to continue to pursue earning a college degree at Grand Valley. Candidates must be returning as undergraduate students. Candidates must have a minimum of 24 prior credits at Grand Valley and be enrolled as a degree-seeking student with at least three credit hours. They must demonstrate financial need as defined by filing the Free Application for Federal Student Aid (FAFSA). Scholarship amount varies and cannot exceed the cost of three credits.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

# University Libraries

## Administration

Dean: Annie Bélanger

Associate Dean of Curation, Publishing, and Preservation Services: Jeffrey Daniels

Interim Associate Dean of Curriculum, Research, and User Services: Jon Jeffryes

## Website

[gvsu.edu/library](http://gvsu.edu/library)

## Mission

Grand Valley State University Libraries purposefully collect, teach, display, discover, disseminate, and preserve information, in all its forms, to support the university curriculum and fuel the intellectual life of the university. We connect scholars and learners to resources. We create spaces and programs that inspire the university community and promote inquiry as an essential life skill.

## About University Libraries

University Libraries offers dynamic and diverse opportunities for research, collaboration, and individual study. From four unique locations, the libraries serve the entire Grand Valley community. Each library is uniquely tailored to its location and the programs it serves, with daily deliveries of physical materials between all university library locations.

University Libraries are committed to inclusion, diversity, equity, and accessibility. We strive to provide an environment in which all members of the campus community feel welcome, safe, supported, respected, and valued. All library staff and faculty are active in the ongoing work of identifying and eliminating barriers to ensure that all members of the library community are able to fully participate in library spaces and services. We work to ensure that our tools, devices, services, and environments are available and usable by as many people as possible.

### Allendale Campus Libraries

- **Mary Idema Pew Library Learning and Information Commons:** Collections, library services, group and individual study spaces, Knowledge Market (peer support), café,

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

popular reading, learn labs, events and exhibits, IT Help Desk, Technology Showcase, Center for Undergraduate Scholar Engagement

- **Seidman House:** Special Collections and University Archives contain rare books, manuscripts, photographs, archives; quiet study spaces with natural light and scenic views of the ravines

## Robert C. Pew Grand Rapids Campus Library

- **Steelcase Library in the Richard M. DeVos Center, Building A:** Specialized services and collections for professional programs, Knowledge Market (peer support), collaborative workspaces, reading room, popular reading, learn lab
- **Curriculum Materials Collection in the Steelcase Library:** K-12 educational resources, equipment, and services

## Health Campus Library

- **Frey Foundation Learning Commons in the Daniel and Pamella DeVos Center for Interprofessional Health:** Specialized collections and services for nursing and health professional programs, includes study spaces

## Library Collections

University Libraries house a rich and robust collection of resources in multiple formats that support the research and scholarship activities of students, faculty, and staff, including more than 400,000 physical resources, over 1,000,000 e-book titles, more than 120,000 e-journal titles, over 250,000 streaming media files and more than 300 databases. [gvsu.edu/library/find-materials-2.htm](http://gvsu.edu/library/find-materials-2.htm)

- **Special Collections and University Archives:** Seidman House on the Allendale Campus contains both the University Archives and Special Collections, including rare books, Michigan novels, the Harvey Lemmen Collection on Lincoln and the Civil War, the Johnson Center Philanthropy Archives, and the papers of acclaimed Michigan author Jim Harrison, among others.
- **Scholarly Communications and Open Education Resources:** ScholarWorks@GVSU is an open-access repository maintained by Grand Valley libraries that showcases and maintains works by Grand Valley faculty and student researchers. Open Educational Resources (OER) are textbooks and other educational materials that are open and free to use. Scholarworks currently hosts 25 open textbooks and 26 open journals.
- **Curriculum Materials:** The Curriculum Materials Library at the Steelcase Library in the DeVos Center holds a diverse collection of high-quality instructional materials for preschool through grade 12. This specialized collection also includes puppets, an Ellison die-cut machine, and a laminator.
- **Digital Collections:** University Libraries' Digital Collections contain a selection of photographs, correspondence, diaries, interviews, and publications from the holdings of the libraries' Special Collections and University Archives and other university entities.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

This expanding resource makes unique or rare materials from Grand Valley collections available electronically to students, faculty members, administrators, researchers, and the general public. [gvsu.edu/library/digitalcollections](http://gvsu.edu/library/digitalcollections)

- **Government Documents:** Grand Valley has been a part of the Federal Depository Library Program since 1963.

### **Document Delivery**

University Libraries' Document Delivery and Interlibrary Loan service can locate resources that are within and outside of the University Libraries' collections. Electronic copies of articles and book chapters can be requested via the libraries' discovery system and delivered to email within a few days. Books and other items can be borrowed from other libraries, with delivery usually within a week to a selected library location or home address.

### **Knowledge Market**

The Knowledge Market has highly trained student employee/peer consultants who can help students improve their skills. Consultants work one-on-one with individual students or small student groups to develop research strategies, analyze data, improve writing, or polish presentations. Knowledge Market services are available at the Mary Idema Pew Library and the Steelcase Library and online at [gvsu.edu/library/km/online-support-41.htm](http://gvsu.edu/library/km/online-support-41.htm).

### **Distance and Hybrid Learning**

University Libraries knows that distance education students have different needs than on-campus students. Library services at Grand Valley are available to the distance education community; the libraries also work hard to meet the needs of all distance learners through remote services such as chat/text help, online consultations, and off-campus book delivery.

### **Liaison Librarians**

Liaison librarians provide specialized instruction and consultations for all Grand Valley majors and programs. Students can schedule an appointment to meet with a liaison librarian to learn more about how to use the libraries and for specific research or assignment-related assistance. Liaison librarians work closely with faculty throughout the university to develop and provide course-specific information literacy instruction, both in-person and online.

The University Libraries has desktop and laptop computers, as well as printing, scanning, and copy stations.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Library users can request materials online via the libraries' website; connect with library staff via chat, email, text, or phone; or visit in person at the service desk. Students can make an appointment with a liaison librarian for research assistance.

Group study, collaborative group work areas, mobile and wall whiteboards, quiet study areas, reading rooms, desk carrels, and soft seating are available in a variety of options across locations. Check with each library location for specific availability.

The **IT HelpDesk** is located in the Mary Idema Pew Library, Atrium Level. Students can receive hardware and software troubleshooting services.

The **Center for Undergraduate Scholar Engagement**, located in room 230 of the Mary Idema Pew Library, provides support for undergraduates to pursue the research and creative practice in their discipline. Curious students are connected with ways to discover, research, and explore. Students work with faculty on student- or faculty-initiated research.

The **Technology Showcase**, located on the Atrium level of the Mary Idema Pew Library, provides faculty, staff, and students with an interactive and engaging environment to discover, learn, and share how innovative, emerging technologies can enhance teaching and improve student learning at Grand Valley. The showcase also offers 3-D printing.

## Admissions

### Undergraduate Admissions

#### Freshman Applicants

Grand Valley State University welcomes qualified students to submit their applications. Admission decisions are selective based on the secondary school record, grades earned as well as courses selected, the personal data submitted on the application, and ACT or SAT results. Incoming freshmen for Fall 2022 may apply as a test optional applicant and submit test scores as a supplement to their application at a later date.

Freshmen are normally expected to be graduates of accredited high schools or preparatory schools. A strong high school background in basic academic subjects is important in a student's preparation for college study. The admission requirements are designed to ensure that students who are admitted to Grand Valley have the ability to

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

successfully complete academic work and fully use the educational opportunities available.

Grand Valley grants admission to students who are prepared to meet the challenges of a rigorous university curriculum. Admission at Grand Valley is selective. Each application for admission is carefully reviewed and academic performance, as well as other criteria presented by prospective students, is considered in the evaluation. Applicants will be reviewed using a combination of high school courses completed, cumulative grade point average, standardized test scores (when presented for Fall 2022 applicants), grade point trend, rank in class, and other factors.

A total of 20 units is required (a unit is the satisfactory completion of one year's work). Exceptions to these requirements will be considered in relation to other credentials presented.

## **Admissions**

A single deficiency in an academic area will not necessarily mean a student is refused admission. However, students who are missing a number of courses will be at a disadvantage. We recommend that high school students who plan to attend Grand Valley prepare by completing the following high school program. **High school coursework is the single most important factor in consideration for freshman admission.** High school preparation should include the following:

- Four years of English, including composition
- Three years of science, including two years of laboratory science
- Three years of college preparatory mathematics, including two years of algebra
- Three years of social sciences
- Two years of a single foreign language

Further, we recommend elective courses in computer science and the fine arts. We also strongly recommend a fourth year of mathematics and additional science courses. Results of the ACT or SAT will be required before an admission decision is rendered unless the applicant has graduated from high school three or more years previously or is an applicant for the class beginning Fall 2021 and chooses to submit a test-optional application.

The requirement of high school graduation may be waived for adults, provided there is evidence that they are likely to be successful in college. This evidence will in most cases take the form of the General Educational Development (GED) test.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Students are encouraged to apply early in the fall of their senior year. The admissions counseling staff welcomes the opportunity to meet with prospective students. Appointments should be arranged in advance at [gvsu.edu/visit](http://gvsu.edu/visit). Please contact the Admissions Office at (616) 331-2025 or toll-free (800) 748-0246 with questions.

### **Admissions Office**

Grand Valley State University  
1 Campus Drive  
300 Arend and Nancy Lubbers Student Services Center  
Allendale, MI 49401-9403  
Web: [gvsu.edu/admissions](http://gvsu.edu/admissions)  
Email: [admissions@gvsu.edu](mailto:admissions@gvsu.edu)

To be considered for freshman admission, you must submit:

- Completed undergraduate application
- \$30 nonrefundable application fee
- Official high school transcript
- Official results of the ACT or SAT (optional for the class applying for Fall 2022 admission)

Applications will be reviewed as soon as all information has arrived, and the applicant can expect a decision shortly thereafter. The Admissions Office may withhold a decision for additional information or for further testing. Applicants will be notified to provide any additional information. Applications for admission must be completed at least 30 days before the final day of registration. However, admission to any semester is subject to earlier closing without notice.

All documents and supporting data required for admission become the property of Grand Valley State University and will not be returned to the applicant.

## **Concurrent Enrollment with Community Colleges**

Concurrent enrollment allows students at both Grand Valley State University and community colleges to make full use of the variety of courses offered by both institutions. Through concurrent enrollment, students have more scheduling options, more choice of course locations, and many more courses available. Students may take courses at both institutions simultaneously or alternate enrollment between them. Financial aid may also be available to students who qualify.

Students must be admitted to both institutions. Please refer to the Transfer Applicant or Nondegree-seeking Applicants section of the Grand Valley State University

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Undergraduate and Graduate Catalog for specific admissions requirements to Grand Valley State University.

## **Frederik Meijer Honors College**

The Grand Valley State University Frederik Meijer Honors College is intended for students who, in their previous academic pursuits, have demonstrated a distinctly high level of intelligence, motivation, creativity, and academic achievement. The college provides its students with special academic opportunities and challenges.

High school students admitted to Grand Valley are typically invited to join the Meijer Honors College if they have a 3.5 or better high school GPA and an ACT score of at least 28 or an SAT score of 1300 (test scores are optional for the class applying for Fall 2021 admission).

Transfer students who wish to enter the Meijer Honors College may apply for admission if they have a 3.5 or better college GPA. Applicants should contact the director of the Meijer Honors College.

For more information about the Meijer Honors College, consult the Frederik Meijer Honors College section in the catalog.

## **High School Dual-enrollment Program**

Some high school students may be eligible for concurrent enrollment in Grand Valley courses. Qualification and admission will be based on the following factors:

- An appointment with an admissions counselor is required each semester prior to enrollment
- Completed nondegree-seeking application
- Official high school transcript
- An overall GPA of 3.0 or above in high school coursework
- Official results of ACT or SAT if available
- Completed Grand Valley Dual Enrollment Form including all appropriate signatures
- Limitation of two classes per semester
- Permission from the Admissions Office must be obtained for future semesters at Grand Valley while still in high school
- Students qualifying for dual-enrollment assistance from their high school must present a dual-enrollment authorization form prior to enrollment
- Students must earn at least a 2.0 in each dual-enrollment class if they wish to continue taking dual-enrollment courses at Grand Valley State University

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

A decision on admission will be made when all information has arrived. The Admissions Office may withhold a decision for further information or until an interview has been held. Applicants will be notified to submit any additional information.

## International Students

Grand Valley hosts more than 300 international students from more than 70 countries. Students will find a safe and welcoming environment with many on-campus activities. To be considered for admission, international applicants must submit all of the following documents to the Admissions Office by **October 15 for the winter semester (January)** or by **May 1 for the fall semester (August)**:

- Completed international admission application
- \$30 nonrefundable application fee
- Record of English proficiency. Students may satisfy the English proficiency requirements with these tests:
  - Duolingo: 105
  - IELTS: 6.5
  - PTE: 53
  - TOEFL: 80
  - ELS Level 112: (undergraduate and the following graduate programs: computer and information systems, cell and molecular biology, health informatics and bioinformatics, biostatistics)
- Undergraduate students from the following countries do not need to take the TOEFL or IELTS but will need to take the SAT or ACT exams:
  - Antigua and Barbuda
  - Australia
  - Bahamas
  - Barbados
  - Belize
  - Bermuda
  - Botswana
  - Canada
  - Dominica
  - Fiji
  - Gambia
  - Ghana
  - Grand Cayman Islands
  - Grenada
  - Guyana
  - Ireland
  - Jamaica
  - Kenya
  - Lesotho

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- Liberia
- Malawi
- New Zealand
- Nigeria
- Sierra Leone
- South Africa
- Saint Kitts and Nevis
- Saint Lucia
- Saint Vincent and the Grenadines
- Swaziland
- Tanzania
- Trinidad and Tobago
- Uganda
- United Kingdom
- British Virgin Islands
- Zambia
- Zimbabwe
- Verification of financial support: Applicants and their sponsor must complete and sign the Financial Support Form and submit original bank statements verifying that the necessary amount of support is available. Applicants must demonstrate that they have full financial support as part of the application process.
- Original or certified true copies of all certificates and grade reports of secondary and postsecondary work. If the credentials are not in English, they must be accompanied by an English translation. Typically, transcript evaluations are not considered an official transcript. However, some graduate departments will require a transcript evaluation along with an official transcript for admission.
- Personal statement: Please write a one- to two-page personal statement about your goals and reasons for wanting to enter Grand Valley State University.

Please note some graduate programs may require additional tests or documents for admission. Additional graduate requirements can be found on The Graduate School website at [gvsu.edu/gs](http://gvsu.edu/gs).

Partial tuition scholarships are available to qualified admitted international students. Students who apply for fall admission and submit all required admission documents by May 1 will be considered for scholarships. Graduate students can be considered for graduate assistantships after admission.

All documents and supporting data required for admission become the property of Grand Valley State University and will not be returned to the applicant.

## **Transfer Applicants**

A transfer applicant is someone who has attended another college or university after graduation from high school. The applicant will be evaluated on previous coursework

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

at the college level. High school performance will also be reviewed for those who have earned fewer than 30 semester hours (45 quarter hours) of college-level coursework.

To be considered for transfer admission, you must submit the following:

- Completed undergraduate application
- \$30 nonrefundable application fee
- Official transcripts from *all* previous colleges (transcripts must be sent directly from the colleges to the Grand Valley State University Admissions Office)

Applicants who have earned fewer than 30 semester hours (45 quarter hours) at the time of application must also submit the following:

- Official high school transcript
- Official results of ACT or SAT

Applications will be reviewed as soon as all information has arrived, and the applicant can expect a decision shortly thereafter. The Admissions Office may withhold a decision for additional information. Applicants will be notified to provide any additional information. Applications for admission must be completed at least 30 days before the final day of registration. However, admission to any semester is subject to earlier closing without notice.

All documents and supporting data required for admission become the property of Grand Valley State University and will not be returned to the applicant.

Transfer students must complete a minimum of 12 hours in the unit conferring the major (six for the minor). Some programs have higher requirements; transfer students should consult descriptions of specific major requirements.

## **Reverse Transfer Agreement**

Grand Valley State University has signed agreements with all Michigan community colleges whereby students who transferred to Grand Valley from a participating community college without receiving their associate degree may qualify to complete this degree while attending Grand Valley. An email will be sent from the registrar at the end of each semester to students who meet the following criteria:

- Transferred a minimum of 45 credit hours from the community college to Grand Valley
- Have a combined total of at least 55 credits completed, including both those from the community college and Grand Valley
- Are in good academic standing

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Students who want to request their record be reviewed by a community college official should complete the Reverse Transfer Agreement Transcript Release form available on the registrar's website. Degree program advisors at the community college will

- audit the record to see if the student qualifies for the award of the associate degree and
- notify the student of the results of the review.

Additional information or questions should be directed to the Student Assistance Center at (616) 331-3327 or sent by email to [regdept@gvsu.edu](mailto:regdept@gvsu.edu).

## **Transfer of Credit**

Grand Valley makes every effort to transfer credit for academic work completed at other institutions. In general, courses completed with a D grade at a regionally or nationally accredited institution will transfer when the overall GPA of all previous work, as calculated by Grand Valley, is C or better. Transfer credit is typically determined by the offering of an equivalent course at Grand Valley. Limited transfer credit may be awarded from technical or terminal associate degree programs. Credit from nonaccredited colleges may, under special circumstances, be granted if it is germane to a student's program. Approval for such credit must be given by the director of the Student Academic Success Center. Such credit will be validated after 15 semester hours of satisfactory work have been completed at Grand Valley (2.0 GPA or higher). Transfer credit will be granted only to those students admitted as degree-seeking.

Transfer students admitted as degree-seeking will receive a Transfer Credit Statement/Degree Audit, which indicates how coursework completed at other colleges and universities will transfer to Grand Valley on a course-by-course basis. Total credits transferred are recorded on the student's academic record and will apply toward Grand Valley degree requirements; grades are not transferred.

For information governing the use of transfer credit to fulfill degree requirements, see the Academic Policies and Regulations section of the Grand Valley State University Undergraduate and Graduate Catalog.

## **Transfers from Michigan Community Colleges**

Grand Valley State University is a member of the Michigan Association of Collegiate Registrars and Admissions Officers (MACRAO), which has formulated an agreement between two- and four-year institutions. Students who transfer to Grand Valley and have fulfilled the Michigan Transfer Agreement (MTA) or the MACRAO transfer

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

agreement through a Michigan public community college have satisfied the Foundations categories of the General Education Program and one Supplemental Writing Skills (SWS) course. However, transfer students with an MTA or MACRAO will still need to complete the following requirements: one SWS course in their major or division, the General Education Program's two-course Cultures requirement, and the two-course Issues requirement. For specific course information, please refer to [gvsu.edu/gened](http://gvsu.edu/gened).

## **Undergraduate Guest Student Applicants**

Nondegree-seeking admissions status is for degree-seeking students from another college or university who want to transfer the credits earned at Grand Valley to their home institution.

Application requirements and limitations:

- Eligible to reenroll at their home institution
- Completed official Guest Application

## **Undergraduate Nondegree-seeking Applicants**

The nondegree-seeking admission status is designed for persons who, at the time of admission, are not interested in obtaining a degree from Grand Valley.

Application requirements and limitations:

- Graduation from high school three or more years previous to their first enrollment
- A maximum of 30 semester hours earned as a nondegree-seeking undergraduate student may apply toward a Grand Valley degree program
- Applications must be complete at least 30 days before the final day of registration

## **Credit by Examination**

In some cases, students may be granted advanced placement or receive college credit by examination. Tests are available to determine levels of competence in certain subject areas. Grand Valley encourages prospective students to investigate their use.

Additional information on credit by examination can be found in the General Academic Regulations section of the Grand Valley State University Undergraduate and Graduate Catalog.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## Special Entrance Requirements for Certain Undergraduate and Graduate Programs

The standards for entry into the following majors and programs exceed the minimum requirements for admission to Grand Valley. Students must fulfill the additional requirements before they may declare a major in any of these noted areas. Please refer to the department entries for admission requirements and application deadline.

Allied health sciences (certain emphases only)	Medical laboratory science
Applied food and nutrition	Music
Art education	Nursing
Athletic training, MAT	Occupational safety and health management
Audiology, Au.D.	Occupational therapy (M.S.)
Cardiovascular sonography	Physical therapy (D.P.T.)
Communication sciences and disorders	Physician assistant studies (M.P.A.S.)
Computer science	Police academy (MCOLES)
Cybersecurity	Professional science masters (M.S.)
Dance	Radiation therapy
Diagnostic medical sonography	Recreational therapy
Education	Respiratory care
Engineering	Seidman College of Business programs
Film and video production	Social work
Health information management	Studio art (all emphases)
Information systems	
Information technology	

## Undergraduate Appeal of Admissions Decisions

Applicants denied admission may appeal that decision in writing to the director of admissions within 30 days of notification. It is important to note that an appeal will be heard only when new or additional information is present.

## Graduate Admissions

The graduate degree programs at Grand Valley are designed for students who are interested in expanding their professional preparation and development or continuing

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

their education. Applicants for graduate admission must meet the following university minimum requirements to be considered:

- Earned a baccalaureate degree from a regionally accredited college or university in the United States, or the equivalent of this degree from another country.
- Demonstrated ability to pursue graduate work successfully. Graduate programs generally require an undergraduate grade point average of at least 3.0 on a 4.0 scale.

## **Degree-seeking Domestic Students**

Students who meet the following university requirements and the additional requirements of their chosen program will be considered for degree-seeking status:

1. A baccalaureate degree from an accredited institution of higher education.
2. Submission of all required admission materials, including:
  - a. Completed graduate application for admission.
  - b. \$30 nonrefundable application fee (unless applicant has previously applied to Grand Valley State University).
  - c. Official copies of transcripts from all institutions of higher education previously attended. Transcripts must be sent from those institutions directly to the Grand Valley Admissions Office. GVSU does not require official transcripts from GVSU.
  - d. Record of English proficiency for applicants whose native language is not English. Students may satisfy the English proficiency requirements with these tests:
    - Duolingo: 105
    - TOEFL: 80
    - IELTS: 6.5
    - MELAB: 77
    - PTE Academic: 53
3. Additional requirements and application materials specific to the graduate program.

## **Degree-seeking International Students**

Students who meet the following university requirements and the additional requirements of their chosen program will be considered for degree-seeking status:

1. Completed international admission application.
2. Submission of all required admission materials, including:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

a. \$30 nonrefundable application fee (unless applicant has previously applied to Grand Valley State University).

b. Record of English proficiency for applicants whose native language is not English. Students may satisfy the English proficiency requirements with these tests:

- Duolingo: 105
- TOEFL: 80
- IELTS: 6.5
- MELAB: 77
- PTE Academic: 53

c. Verification of financial support.

d. Original or certified true copies of all certificates and grade reports of secondary and postsecondary work. If the credentials are not in English, they must be accompanied by an English translation.

3. Additional requirements and application materials specific to the graduate program.

You must submit a completed application form and all required documentation to the Admissions Office before your application file receives admissions consideration. Applicants whose files are incomplete will not be considered for full admission. The webpage for graduate admission information is [gvsu.edu/admissions/graduate](http://gvsu.edu/admissions/graduate).

You can monitor your application status by calling the Admissions Office at (800) 748-0246 or (616) 331-2025. All documents and supporting data required for admittance become the property of Grand Valley State University and will not be returned to the applicant.

## Graduate Admissions Status

**Full Admission:** Indicates that applicants fully meet all the entrance criteria, including degree(s) required, GPA requirement(s), test score requirement(s), letters of recommendation, and official transcript(s) of all previous coursework completed. Only graduate degree candidates who have achieved full admission status will be granted their degree. This status signifies that all required documents (including final transcripts) are on file with the university.

**Provisional Admission:** Applicants who must submit additional application document(s) before achieving full admission status. The deadline for submitting missing documents is the last day of classes of their first semester of enrollment. Examples of missing documents may include:

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

- a. Official transcripts or admission test scores.
- b. Certified copies or official verification of professional licenses or certifications.
- c. Letters of recommendation.
- d. Other documents required by their department.

**Conditional Admission:** Applicants who must meet specific conditions set by the degree program before attaining full admission status. Individual graduate programs determine the parameters of conditional admission and set the deadline(s) by which the conditions need to be met. Examples of specific conditions include:

**a. Curriculum deficiencies:** Applicants who are not admissible or are marginally admissible to a graduate program because they have not completed prerequisites or background courses required for success in the graduate program.

**b. Academic deficiencies:** Applicants whose credentials may be marginally acceptable. Although the graduate program may agree to admit such a candidate with reservation, the program may identify grade conditions that need to be met.

**c. Nonstandard evidence of the potential for success in graduate work:** Applicants do not meet the standard admission criteria, but other significant evidence exists of candidates' potential for success in a graduate program. Examples of such evidence include:

- Candidates' maturation subsequent to their previous academic record.
- Candidates' significant professional and other accomplishments related to the program's discipline(s) and subsequent to a marginal academic record.
- Standardized admission test scores that are not representative of a candidates' aptitude for graduate work.
- Candidates' prior academic performance was negatively affected by significant nonacademic factors or influences that are no longer present.

**Denied Admission:** Indicates that applicants are not granted admission to a degree program under any status.

**Degree-seeking Student:** Applicants who have been granted admission to a degree program under full, provisional, or conditional status.

**Nondegree-seeking Student:** Applicants who have earned a bachelor's degree and are not enrolled in a graduate program can take classes at Grand Valley as a nondegree-seeking student. Information about course offerings can be found in the GVSU Undergraduate and Graduate Catalog.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- Students should complete the nondegree-seeking graduate application
  - for personal development without completing a graduate degree nor receiving a graduate certificate or
  - for completion of prerequisites required for admission to their chosen graduate program.
- Nondegree-seeking students are not eligible for federal or state financial assistance.
- A maximum of six to 12 credit hours taken as nondegree may be applied to a graduate degree, depending on the program of interest. Refer to the GVSU Undergraduate and Graduate Catalog for specific requirements.
- All College of Education students seeking a degree, endorsement, approval, licensure, or certificate change must be formally admitted to graduate study by applying for degree-seeking graduate admission.

### **Changing Status from Nondegree-seeking to Degree-seeking**

You may seek a change in status by

1. submitting all required admission materials and
2. submitting a degree-seeking application form to the Admissions Office.
  - Students may complete the graduate application by submitting a graduate online application or printing, filling out, and mailing the graduate paper application.

### **Appeal of Admissions Decisions - Graduate**

Admissions decisions may be appealed to the director of the graduate program and then to the dean of the college in which the program resides. Students who are nondegree-seeking may appeal an admissions decision to the associate vice provost for The Graduate School.

### **Petition to Return**

Following a voluntary absence of two or more consecutive semesters or sessions, a graduate student must complete a Petition to Return form. Graduate students are reminded that following a voluntary absence of 24 consecutive months they must follow the Grand Valley State University Undergraduate and Graduate Catalog requirements in effect at the time of their return to Grand Valley. Such students should meet with their graduate program advisor to revise their plan of study.

Graduate students who wish to return to Grand Valley following an academic dismissal must submit a written appeal to the dean of the academic college in which the graduate program resides.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Graduate students who wish to change to a different graduate degree program within Grand Valley must complete the application process for that program and be formally accepted into the program. No additional application fee is required, and the applicant need not supply duplicate copies of official transcripts already on file.

## Costs and Financial Aid

### Costs

Tuition is based on the classification of the student and the course: undergraduate or graduate, lower or upper division, resident or nonresident of Michigan.

Tuition rates and fees are set by the Board of Trustees. The rates listed here are for the 2021-2022 academic year and can also be found online at [gvsu.edu/tuition](http://gvsu.edu/tuition). A per credit hour or per course surcharge will be assessed for certain classes to offset higher costs. For more information about special course charges, go to [gvsu.edu/tuitionExt.htm](http://gvsu.edu/tuitionExt.htm).

Tuition for lower division (0-54 earned credits) undergraduate students who are Michigan residents taking anywhere from 12 to 15 credit hours is \$6,780 per semester. Tuition is \$570 per credit hour for fewer than 12 credits and for each credit over 15. Tuition for upper division (55 or more earned credits) undergraduate students who are Michigan residents taking anywhere from 12 to 15 credit hours is \$7,120 per semester. Tuition is \$598 per credit hour for fewer than 12 credits and for each credit over 15.

For lower division (0-54 earned credits) nonresident undergraduate students, tuition is \$9,648 total per semester for anywhere from 12 to 15 credits and \$811 per credit for fewer than 12 credits and for each credit over 15. For upper division (55 or more earned credits) nonresident undergraduate students, tuition is \$9,980 total per semester for anywhere from 12 to 15 credits and \$838 per credit for fewer than 12 credits and for each credit over 15.

Master's-level tuition ranges from \$708-\$773 per credit hour. Doctoral-level tuition ranges from \$867-\$894 per credit hour. Rates are based on academic program and there are no separate rates based on residency status. Visit [gvsu.edu/tuition](http://gvsu.edu/tuition) for a listing of graduate and doctoral program tuition rates.

The previously listed tuition rates apply to all students registering for credit courses, including guests, visitors, and all categories of students who are not pursuing a degree

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

at Grand Valley State University. Rates for noncredit courses in special programs apart from the regular university curriculum are published with the announcements of such programs.

Rates of tuition and fees are those in effect at the time of publication of the Grand Valley State University Undergraduate and Graduate Catalog. They are subject to change at any time by Grand Valley's Board of Trustees.

## **Fees**

Late registration (allowed only in the first five days of the semester) requires a \$50 late fee. Fees for resident and nonresident are the same.

Schedule revision, or drop/add, is held concurrently with all registrations. A student may drop or add any course for which prerequisites have been met and capacity permits. Additional tuition charges are due when a student adds a credit. Under exceptional circumstances, a student may be allowed to add a course after the deadline. The completed transaction, accompanied by support from the instructor, department chair, and collegial dean, must include a \$25 late add fee and any additional tuition. Specific dates and times for all registrations are set by the registrar and listed in the schedule of courses. For more information on financial regulations regarding late registration and dropping or withdrawing from classes, click on the Policies section on the Office of Financial Aid and Scholarships website at [gvsu.edu/financialaid](http://gvsu.edu/financialaid).

## **Parking**

Students wishing to park on either the Allendale or Grand Rapids campuses must purchase a parking permit. Permits can be ordered electronically at [gvsu.edu/parking](http://gvsu.edu/parking). The permit costs range from \$105 to \$240 per semester, depending on the student's choice of parking permit. The permit charge will be billed directly to the student account and the charge will be based on the credit hours enrolled per semester.

## **Residency**

Because students normally come to Grand Valley State University for the primary or sole purpose of attending the institution, rather than establishing a domicile in Michigan, those who enroll as nonresident students will continue to be classified as such throughout their attendance unless they demonstrate that they have permanently abandoned their previous home and permanently established Michigan residency. See

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

section on Michigan Residence Requirements for Grand Valley's policy for determining residency.

## **Tuition and Fees Refund Policy**

Students who reduce their number of credit hours or withdraw from Grand Valley may be eligible, upon application to the office of the registrar, to receive a refund of tuition. The amount of refund will be based on the following schedule:

1. Students withdrawing before the start of the semester and during the first week of classes are eligible for a full 100-percent refund of the applicable credit hours assessed. All financial aid awarded to the student will be reduced based on the required federal Return of Title IV (R2T4) calculation. Students should expect to have a portion of their financial aid returned. (See Financial Aid and Complete Enrollment Withdrawal section.)
2. Students withdrawing during the second week of classes in a shortened session (spring or summer) and in the second, third, and fourth weeks of classes in a full session are eligible for a 75-percent tuition refund of the applicable credit hours assessed.
3. Students withdrawing after the second week of classes in a shortened session (spring or summer) and the fourth week of classes in a full session are not eligible for a tuition refund.
4. Students who withdraw completely and are eligible for a 100-percent refund of tuition will be eligible for a full refund of their assessed credit hours and other mandatory fees. Students withdrawing completely during the 75-percent refund period will be eligible for a 75-percent refund of their assessed credit hours and other mandatory fees. There will be no refund of these fees after the last date for a 75-percent refund as stated in the Annual Class Schedule online.

Students who have financial aid should talk to the Office of Financial Aid and Scholarships before dropping/withdrawing from classes to understand how their aid will be affected.

A specific schedule of refunds, with qualifying dates, is published each semester in Grand Valley's official Annual Class Schedule.

The refund is based on the date of receipt of the completed class drop or withdrawal form in the office of the registrar. If a course does not begin during the first week of the start of the semester, refunds will be based on the date of the first class meeting.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

When Grand Valley State University cancels a course or when it is determined that a student has registered for a course he or she was not eligible to take, a full refund will be made regardless of the date.

In cases in which financial aid was used to pay for all or part of tuition, the refund will be used to repay the sponsor first and then the student, when appropriate. Refer to the Repayment of Unearned Federal Student Aid section of this catalog for details of this procedure.

## **Tuition Refund Appeals**

Student applications for refund of tuition are reviewed weekly by the Tuition Refund Appeals Committee. The applicant is notified in writing following the meeting. Approved refunds will follow the normal refund process returning federal and institutional funds as dictated by policy.

## **Financial Aid**

### **Financial Aid and Complete Enrollment Withdrawal from University/Repayment of Unearned Federal Student Aid**

For any student who officially withdraws, federal regulations require that any unearned funds be returned based on the withdrawal (R2T4) calculation as soon as possible but no later than 45 days after being notified of your complete withdrawal. This federal calculation will determine the amount of unearned federal financial aid funds that must be returned to the Department of Education. The statute makes clear that federal funds are awarded to a student under the assumption that the student will attend for the entire period for which the assistance is awarded. When a student ceases academic attendance before the end of that period, the student has not earned all of the federal financial aid and therefore may not be eligible for the full amount of the federal funds awarded. The Office of Financial Aid and Scholarships must determine that the student began attendance in the courses for which they were paid Title IV aid. Examples of academic activity which show that the student commenced attendance include: attending class, completing an assignment, participating in an online discussion, etc. The amount of federal funds earned by the student is determined by multiplying the percentage of the enrollment period completed by the total amount of federal loans and grants disbursed. If a student completely withdraws before 60 percent of the semester is completed, the student may be required to repay a portion of the federal financial aid. If the percentage of the enrollment period completed is more than 60 percent, the student has earned 100 percent of the aid. Students who

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

completely withdraw will be billed for any institutional charges that remain as well as the amount of the unearned federal student aid that has been given to them.

If the student performs an official complete withdrawal during the drop/add (100-percent refund) period, Grand Valley will return all financial aid funds prior to releasing any refund of tuition. A student may contact our office to request an R2T4 calculation for the purposes of receiving earned Title IV aid up to the date of withdrawal. This request must be made in time for us to perform the calculation before the 30th day following official notification of withdrawal. For each applicable course, the student must submit written documentation confirming that academic activity began. In cases where a student owes a balance, we will complete the calculation, if requested, and apply any earned aid toward their semester balance if applicable.

Students who stop attending but do not officially go through withdrawal procedures are considered to have unofficially withdrawn. If an unofficial complete withdrawal is determined to have taken place, federal regulation requires that we complete a federal Return of Title IV (R2T4) calculation to determine the amount of unearned federal financial aid funds that must be returned to the Department of Education. The calculation will be completed within 30 days of identifying the unofficial complete withdrawal. In many cases, this would be the end of the semester after grades have been reported by faculty and are published. Grand Valley faculty report a last date of academic activity (LDAA) for all students who completely withdraw. Our office will use the LDAA to calculate the amount of unearned aid.

## **Receiving Financial Aid for Repeated Courses**

The Office of Financial Aid and Scholarships is required to monitor and adjust a student's enrollment level for federal student aid if, or when, they repeat coursework for credit that they have already earned.

- A student may receive aid when repeating a course for the first time.
- A student may receive aid when repeating a course that was previously failed, regardless of the number of times the course was attempted and failed.
- A student may receive aid to repeat a previously passed course one additional time. For this purpose, a passing grade is defined as D- or better.
- If a student retakes a course that is not aid eligible, the credit hours will be excluded from the total enrollment for the semester.
- Students will receive an e-mail notification from our office if they are enrolled in a course that would need to be excluded from their eligible enrollment.

## **Financial Aid for Students**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

At Grand Valley State University, more than \$300 million in financial aid was awarded to more than 22,200 students. More than \$99 million of that was in the form of scholarships and grant assistance. Even though Grand Valley believes that the responsibility for financing a college education rests with students and their families, large amounts of aid are available. A student who receives a scholarship or grant may need to be willing to borrow and work to cover the remainder of his or her educational costs. In fact, because no one program can cover all college expenses, aid programs are usually combined in "packages" suited to the student's needs. This means that students receive aid in a variety of forms. Rarely would a student receive all one type of aid, a grant for example, but may receive a mixture of grant, scholarship, student employment, and loan.

To be considered for aid, students must be admitted as degree-seeking students. The financial aid students receive is based on their enrollment status each semester. Financial aid awards will be adjusted based on the number of enrolled credits. The majority of financial aid programs require at least half-time enrollment (six credits per semester for undergraduate students and four and one-half credits per semester for graduate students).

To maintain and renew aid, students must make satisfactory academic progress. For most federal and state aid, need must be demonstrated by submitting a Free Application for Federal Student Aid (FAFSA). Students are encouraged to visit [studentaid.ed.gov/sa](http://studentaid.ed.gov/sa) to file the FAFSA online and utilize the IRS Data Retrieval Tool to import their tax information. Contact the Office of Financial Aid and Scholarships if you need assistance in accessing or completing this application.

## **Application Procedure**

All financial aid is awarded for the academic year beginning with the fall semester. Students must reapply for financial aid every year.

We encourage students to file the FAFSA for the following academic year by the Grand Valley State University priority deadline of March 1. Students who file after March 1 may not receive full grant funds (see application dates in the next section). An individual must be a degree-seeking student to be eligible to receive financial assistance. Most aid is awarded to students attending at least half-time (six or more credit hours for undergraduate students), although students attending less than half-time may be considered for the Federal Pell Grant program. Continuing education students (part-time, nondegree-seeking students) are not eligible for federal financial aid; however, they may apply for and receive some types of alternative loan programs. These students, and all others, can also utilize the Grand Valley State University

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

tuition payment plan offered by the Student Accounts office. For additional information on alternative loan programs, contact the Office of Financial Aid and Scholarships. Financial aid for international students is limited based on federal guidelines.

Additional aid may be awarded for the spring/summer session depending on the availability of funds. If you are seeking a spring/summer award, you must complete the spring/summer application, which is available on the Office of Financial Aid and Scholarships website each February at [gvsu.edu/financialaid/summer](http://gvsu.edu/financialaid/summer).

If you wish to be considered for financial aid, please refer to the deadline dates listed and follow the four basic steps outlined here.

1. If you are a new student, you must submit application forms for admission to Grand Valley. It is recommended that you submit a complete application for admission by December 31 for the fall semester.
2. A Free Application for Federal Student Aid (FAFSA) form must be completed by you and/or your parents and/or your spouse. Applications must be submitted online at [studentaid.ed.gov/sa](http://studentaid.ed.gov/sa). In order for us to receive your FAFSA, you must list Grand Valley State University among your choice of schools. Our federal school code is 002268. The FAFSA is the only application for aid that Grand Valley requires.
3. In some cases, you or your parent may be required to submit additional information to the Office of Financial Aid and Scholarships to verify the accuracy of your financial aid application. The Office of Financial Aid and Scholarships may request additional information if, upon reviewing data you have presented, we believe further clarification of your financial situation is needed. Such additional information may include information about your household size, assets, or income.
4. Award notifications for new students will be mailed to your permanent address beginning in mid-January. Returning students will receive their award notification in May through myBanner.

## **Application Dates to Remember**

### **October 1**

- Free Application for Federal Student Aid (FAFSA) becomes available at [studentaid.ed.gov/sa](http://studentaid.ed.gov/sa).
- Grand Valley scholarship cycle begins. To apply for Grand Valley endowed and department scholarships, visit [gvsu.edu/myscholarships](http://gvsu.edu/myscholarships).

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **December 31**

- Incoming freshman applicants must submit a completed admission application by this date to be considered for the major scholarship programs offered by Grand Valley.

## **January**

- Entering freshman students and transfer students receive notification of their financial aid award.

## **February**

- The Spring/Summer Financial Aid Application becomes available to all students interested in receiving aid for the spring/summer semester. The online form is available at [gvsu.edu/financialaid/summer](http://gvsu.edu/financialaid/summer).

## **March 1**

- Incoming community college transfer applicants must submit a completed admission application by March 1 to be considered for Grand Valley incoming transfer merit scholarships.
- This is the priority deadline for filing the Free Application for Federal Student Aid (FAFSA). All students who want to receive federal financial aid must file this application and list Grand Valley as a college choice. Our federal school code is 002268.

## **May**

- Returning upperclass and graduate students receive notification of their financial aid award through myBanner.

## **Cost of Attendance and Student Budgets**

Before applying for financial aid, students and parents should assess all of the costs associated with attending Grand Valley. The following tables estimate the typical nine-month (two-semester) academic year expenses for single residents (living anywhere on or off campus except with parents or relatives) and commuting undergraduate students (living with parents or relatives). Some of the following expenses are discretionary (personal and miscellaneous, transportation, books, and supplies), therefore an average is used to determine the costs associated for such expenses. For more information regarding costs for graduate and doctoral level students, please visit [gvsu.edu/financialaid/budgets](http://gvsu.edu/financialaid/budgets).

**Residential Students**

**On-Campus**

**Off-Campus**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Tuition and fees* (Michigan resident)	\$13,642	\$13,642
Books and supplies	\$740	\$740
Personal and miscellaneous	\$2,086	\$2,086
Housing and dining*	\$9,880	\$7,264
Total	\$26,348	\$23,732

### **Commuting Students**

Tuition and fees*	\$13,642
Books and supplies	\$740
Personal and miscellaneous	\$2,086
Housing and dining*	\$1,872
Total	\$18,340

<b>Out-of-State Students</b>	<b>On-campus</b>	<b>Off-campus</b>
Tuition and fees* (Non-Michigan resident)	\$19,410	\$19,410
Books and supplies	\$740	\$740
Personal and miscellaneous	\$2,086	\$2,086
Housing and dining*	\$9,880	\$7,264
Total	\$32,116	\$29,500

\*Estimated tuition and fees and housing and dining charges. Actual charges are determined by the Grand Valley State University Board of Trustees. The rates listed here may change for the 2020-2021 academic year.

## **Financial Aid for Study Abroad**

Financial aid is available to assist in financing the cost of approved study abroad programs. Students may receive assistance for Grand Valley summer programs, as well as full-year and one-semester programs through exchanges and other individualized programs.

Students participating in study abroad programs receive financial aid in the amount they normally would receive if remaining on campus; however, students are generally able to borrow loan funds to assist in covering the additional costs. Limited scholarships and grants are available for some study abroad programs. Meeting with a financial aid counselor is highly encouraged. This helps facilitate discussions to ensure your study abroad is fully covered.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Students interested in a study abroad experience must contact the Padnos International Center regarding available program options and are encouraged to apply early for financial aid.

## Financial Aid Programs

At Grand Valley, financial aid includes scholarships, grants, loans, and student employment. This aid is usually combined in a "package" to offer the student flexibility in meeting their educational costs. This includes a combination of the various types of aid loans, jobs, scholarships, and grants put together for an award rather than just one of these sources. If you wish to apply for or renew financial assistance, you should review the following information on the types of available financial aid.

**1. Programs not based on need.** Each program requires different application procedures. Eligibility is determined jointly by the Office of Financial Aid and Scholarships and the agency or department funding the program.

**2. Programs based on need.** These require students to complete the Free Application for Federal Student Aid (FAFSA). Eligibility is determined by the Office of Financial Aid and Scholarships.

**3. Special programs.** These require students to apply directly to the agency or department responsible for determining eligibility and funding.

## Scholarships (Not Need-based)

### Incoming Merit Scholarships

Scholarship eligibility criteria indicated as follows are for freshman or transfer students entering in the 2021-2022 academic year. Scholarship information for future academic years may be found on our scholarship webpages at [gvsu.edu/scholarships](http://gvsu.edu/scholarships). Grand Valley offers a merit-based scholarship program. We determine initial eligibility for these scholarships at the time of admission, although final award decisions and the amount of some scholarships are made by the scholarship committee after the student has completed all required application materials. To be considered for the incoming freshman and incoming transfer scholarships, the Admissions Office must receive the student's completed admissions application and all supporting documents by December 31 for fall admission for incoming freshman and by March 1 for fall admission for incoming transfer scholarships. Final scholarship decisions are made by May 1.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Complete applications consist of an application for admission, official transcripts, official results of the ACT or SAT test, and a \$30 application fee. The merit-based scholarships are described as follows.

## **Incoming Freshmen Merit Scholarships**

**1. Awards of Distinction.** This group of scholarships includes Grand Valley's highest merit-based scholarships, ones that many students aspire to receive. They generally require high academic achievement and top scores on the ACT or SAT. Additional amounts of up to \$2,000 are awarded to students who are National Merit Finalists. Scholarship competitions typically take place in December and January.

**a. Presidential Scholarships.** To be considered for a presidential scholarship, you must have a 3.8 high school cumulative grade point average, a minimum 32 composite ACT score or a score of 1430 or higher on the SAT combined Evidence-based Reading and Writing and Math, and attend a scholarship competition. Awards range from \$4,000-\$7,000. Awards are made up to \$9,000-\$12,000 in combination with the Award for Excellence. Grand Valley must be the first institution you attend after graduation from high school. This award is renewable for three additional consecutive years provided you maintain full-time attendance and meet Financial Aid Satisfactory Academic Progress standards.

**b. Faculty Scholarships.** To be considered for a faculty scholarship, you must have a 3.6 high school grade point average, a minimum 30 composite ACT score or a score of 1370 or higher on the SAT combined Evidence-based Reading and Writing and Math, and attend a scholarship competition. Awards range from \$1,000-\$3,000. Awards are made up to \$6,000-\$8,000 in combination with the Award for Excellence. Grand Valley must be the first institution you attend after graduating from high school. This award is renewable for three additional consecutive years provided you maintain full-time attendance and meet Financial Aid Satisfactory Academic Progress standards.

## **2. Award for Excellence**

**a. Award for Excellence Scholarship.** This scholarship provides awards of \$5,000. You must be a graduate of a high school in Michigan and Grand Valley must be the first college you attend after graduation. All admitted freshman students will be considered for this scholarship. Students who receive this award must have a 3.5 or higher high school cumulative grade point average and a composite ACT score of 26 or higher or a score of 1240 or higher on the SAT combined Evidence-based Reading and Writing and Math. This scholarship is

renewable for three additional consecutive years provided you maintain full-time attendance and meet Financial Aid Satisfactory Academic Progress standards.

**b. Out-of-State Award for Excellence.** This scholarship provides awards of \$5,000 plus the difference between full-time Michigan resident tuition and nonresident tuition. Grand Valley must be the first college you attend after high school graduation. All admitted freshman students will be considered for this scholarship. Students who receive this award must have a 3.5 or higher high school cumulative grade point average and a composite ACT score of 26 or higher or a score of 1240 or higher on the SAT combined Evidence-based Reading and Writing and Math. This scholarship is renewable for three additional consecutive years provided you maintain full-time attendance and meet Financial Aid Satisfactory Academic Progress standards.

### 3. Laker Scholarship

**a. Laker Scholarship.** This scholarship provides awards of \$2,000. You must be a graduate of a high school in Michigan and Grand Valley must be the first college you attend after graduation. All admitted freshman students will be considered for this scholarship. Students who receive this award must have a 3.3 or higher high school cumulative grade point average. This scholarship cannot be combined with the Award for Excellence, faculty, or presidential scholarships. This scholarship is renewable for three additional consecutive years provided you maintain full-time attendance and meet Financial Aid Satisfactory Academic Progress standards.

**b. Out-of-State Laker Scholarship.** This scholarship provides awards of \$2,000 plus the difference between full-time Michigan resident tuition and nonresident tuition. Grand Valley must be the first college you attend after high school graduation. All admitted freshman students will be considered for this scholarship. Students who receive this award must have a 3.3 or higher high school cumulative grade point average. This scholarship cannot be combined with Award for Excellence, faculty, or presidential scholarships. This scholarship is renewable for three additional consecutive years provided you maintain full-time attendance and meet Financial Aid Satisfactory Academic Progress standards.

**4. "Lakers Go Abroad!" Scholarship.** This is a one-time \$2,000 award that recipients may use toward the cost of an approved, for-credit study abroad program outside of the U.S. within four years after initial enrollment at Grand Valley. GVSU must be the first institution students attend after graduating from high school. All admitted freshman students will be prompted to write an essay to be considered for

this scholarship when they complete a General Application in GVSU's myScholarships portal ([gvsu.edu/myscholarships](http://gvsu.edu/myscholarships)). Students must be meeting Financial Aid Satisfactory Academic Progress standards and be enrolled full-time during the semester they study abroad in order to use this scholarship.

**5. Early Awareness Scholarship.** Recipients of this scholarship will have at least two years of participation in one of the following programs: The Detroit Compact, Wade H. McCree Jr. Incentive Scholarship, Introspect Youth Services Inc., Ada S. McKinley Community Services Inc., TRIO Upward Bound, TRIO Talent Search, or GEAR UP while in high school. Students must have a completed admission application submitted by December 31 for the following fall semester. This scholarship cannot be combined with the Urban Schools Scholarship or a Native American Tuition Grant.

**a. Early Awareness Scholarship.** This scholarship provides awards of \$3,000. Students who receive this award must have a 3.3 or higher high school cumulative grade point average. This scholarship is renewable for three additional consecutive years provided the student maintains full-time attendance and meets Financial Aid Satisfactory Academic Progress standards.

**b. Out-of-State Early Awareness Scholarship.** This scholarship provides awards of \$3,000 plus the difference between full-time Michigan resident tuition and nonresident tuition. Students who receive this award must have a 3.3 or higher high school cumulative grade point average. This scholarship is renewable for three additional consecutive years provided the student maintains full-time attendance and meets Financial Aid Satisfactory Academic Progress standards.

**c. Early Awareness Transfer Scholarship.** This scholarship provides awards of \$3,000. Transfer students must have at least two years of participation in one of the programs listed previously. Students who receive this award must have a 3.0 community college cumulative grade point average and have completed 30 college credit hours at the time of application review. Students must have a completed admission application by March 1 and transfer directly from the community college. This scholarship is renewable for one consecutive year provided the student maintains full-time attendance and meets Financial Aid Satisfactory Academic Progress.

**6. Urban Schools Scholarship.** This scholarship is for students graduating from one of the following high schools. **Michigan:** Grand Rapids Public Schools, Detroit Public Schools, Arthur Hill, Benton Harbor High School, Detroit High School of Fine and Performing Arts, Detroit University Prep Academy, Detroit University Science

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

and Math, Flint Northern High School, Flint Northwestern High School, Flint Southwestern Classical Academy, John Pershing, JW Sexton, Northwestern, Pontiac High School, Saginaw High School, Southfield Arts and Technology High School, University High School, and University Prep Academy of Art & Design, and Western International. **Non-Michigan:** Chicago High School Agricultural, Curie, Gwendolyn Brooks, Hillcrest, Hyde Park Academy, John Hope College Preparatory, Jones College Prep, Kenwood Academy, Lane Tech, Morgan Park, Percy Julian, Proviso East, Proviso West, South Shore International College Prep High School, Thornridge, Thornton Fractional North High School, Thornwood, Westinghouse High School, and Whitney Young. This scholarship cannot be combined with the Early Awareness Scholarship or a Native American Tuition Grant.

**a. Urban Schools Scholarship.** This scholarship provides awards of \$3,000 to students graduating from one of the high schools previously listed. Students must have a 3.3 or higher high school cumulative grade point average. This scholarship is renewable for three additional consecutive years provided the student maintains full-time attendance and meets Financial Aid Satisfactory Academic Progress standards.

**b. Out-of-State Urban Schools Scholarship.** This scholarship provides awards of \$3,000 plus the difference between full-time Michigan resident tuition and nonresident tuition to students graduating from one of the high schools previously listed. Students must have a 3.3 or higher high school cumulative grade point average. This scholarship is renewable for three additional consecutive years provided the student maintains full-time attendance and meets Financial Aid Satisfactory Academic Progress standards.

**7. Alumni Heritage Scholarship.** The amount of this scholarship varies. This is a scholarship awarded to a child of a Grand Valley alumni. One or both parents must have graduated from Grand Valley with a bachelor or master's degree. Students who have stepparents or grandparents who are alumni are not eligible. Must be entering as a freshman with GVSU being the first college or university attended after high school, have at least a 3.3 high school cumulative grade point average, full-time enrollment and must not be the recipient of merit scholarships\* offered by Grand Valley. This scholarship is renewable for three additional consecutive years provided you maintain full-time attendance and meet Financial Aid Satisfactory Academic Progress standards.

\*Merit scholarships offered by GVSU are classified as the Laker, Award for Excellence, faculty, presidential, early awareness, and urban scholarships.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

\*If you are awarded more than one scholarship listed here that covers the difference between resident and nonresident tuition, you will only receive this differential once.

The previously listed scholarships are only for use in fall and winter semesters. The Office of Financial Aid and Scholarships will review each scholarship recipient at the end of winter semester for renewal for the next academic year. If a student fails to meet the renewal requirements, the scholarship will be canceled for the following academic year. A student can petition for reinstatement once they again meet the minimum requirements. The appeal for reinstatement form is available online at the Office of Financial Aid and Scholarships website ([gvsu.edu/financialaid](http://gvsu.edu/financialaid)).

## **Incoming Transfer Merit Scholarships**

**1. Awards for Excellence Transfer Scholarship.** This scholarship provides awards of \$2,000. You must have only attended an accredited community college in Michigan and completed 30 college credit hours at the time of application review. All credits earned must be from a Michigan Community College. All admitted transfer students with a completed admission application by March 1 for fall admission and November 1 for winter admission will be considered for this scholarship. Students who receive this scholarship must have a 3.5 or higher college cumulative grade point average. This scholarship is renewable for one additional consecutive year provided you maintain full-time attendance and meet Financial Aid Satisfactory Academic Progress standards.

**2. Transfer Student Early Awareness Scholarship.** Recipients of this scholarship will have at least two years of participation in one of the following programs: The Detroit Compact, Wade H. McCree Jr. Incentive Scholarship, Introspect Youth Services Inc., Ada S. McKinley Community Services Inc., TRIO Upward Bound, TRIO Talent Search, or GEAR UP while in high school. This scholarship cannot be combined with the Urban Schools Scholarship or a Native American Tuition Grant.

This scholarship provides awards of \$3,000. Transfer students must have at least two years of participation in one of the programs listed previously. Students who receive this award must have a 3.0 or higher community college cumulative grade point average and completed 30 college credit hours at the time of application review. Students must have a completed admission application by March 1 and transfer directly from the community college. This scholarship is renewable for one additional consecutive year provided you maintain full-time attendance and meet Financial Aid Satisfactory Academic Progress standards.

**3. Transfer Student Urban Schools Scholarship.** This scholarship is for students graduating from one of the following high schools. **Michigan:** Grand Rapids Public

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Schools, Detroit Public Schools, Arthur Hill, Benton Harbor High School, Detroit High School of Fine and Performing Arts, Detroit University Prep Academy, Detroit University Science and Math, Flint Northern High School, Flint Northwestern High School, Flint Southwestern Classical Academy, John Pershing, JW Sexton, Northwestern, Pontiac High School, Saginaw High School, Southfield Arts and Technology High School, University High School, and Western International. **Non-Michigan:** Chicago High School Agricultural, Curie, Gwendolyn Brooks, Hillcrest, Hyde Park Academy, John Hope College Preparatory, Jones College Prep, Kenwood Academy, Lane Tech, Morgan Park, Percy Julian, Proviso East, Proviso West, South Shore International College Prep High School, Thornridge, Thornton Fractional North High School, Thornwood, Westinghouse High School, and Whitney Young. This scholarship cannot be combined with the Early Awareness Scholarship or a Native American Tuition Grant.

This scholarship provides awards of \$3,000 to students graduating from one of the high schools previously listed. Students must have a 3.0 or higher community college cumulative grade point average and completed 30 college credit hours at the time of application review. They must have a completed admission application by March 1 and transfer directly from the community college. This scholarship is renewable for one additional consecutive year provided you maintain full-time attendance and meet Financial Aid Satisfactory Academic Progress standards.

**4. Phi Theta Kappa (PTK) Scholarships.** New entering transfer students who are members of the PTK Honor Society are eligible to apply for this scholarship, up to \$1,200. Applicants must possess a 3.5 cumulative grade point average or higher, be a member of the PTK fraternity, be a graduate of an accredited community college and have earned an associate degree, be admitted to Grand Valley, and enroll as a full-time student. Applicants must have a completed application for admission by March 1. Scholarship applications are submitted through myScholarships, the online scholarship portal at [gvsu.edu/myscholarships](http://gvsu.edu/myscholarships). Applicants include a letter of application indicating their educational and career goals, a letter of recommendation from their PTK chapter advisor, and a resume. The scholarship is renewable for one additional consecutive year provided the student maintains full-time attendance and meets Financial Aid Satisfactory Academic Progress standards.

**5. Distinguished Community College Graduate Scholarship.** This \$1,000 scholarship is awarded to select graduates of all Michigan community colleges. The respective community colleges select the recipients. Students must have at least a 3.5 cumulative grade point average, be completing their associate degree, matriculate directly to Grand Valley, and have a completed application for admission by March 1. This scholarship is renewable for one additional consecutive year provided you

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maintain full-time attendance and meet Financial Aid Satisfactory Academic Progress standards.

The previously listed scholarships are only for use in fall and winter semesters. The Office of Financial Aid and Scholarships will review each scholarship recipient at the end of winter semester for renewal for the next academic year. If a student fails to meet the renewal requirements, the scholarship will be canceled for the following academic year. A student can petition for reinstatement once they again meet the minimum requirements. The appeal for reinstatement form is available online at the Office of Financial Aid and Scholarships website ([gvsu.edu/financialaid](http://gvsu.edu/financialaid)).

## **Additional Grand Valley Scholarship Opportunities**

**1. Upperclass Honor Scholarships.** A limited number of scholarships up to \$1,000 are awarded annually to upperclass students not receiving scholarships from other sources. Students must be full-time undergraduates, have at least a 3.5 cumulative grade point average, and have completed at least 40 semester hours at Grand Valley, or if a transfer student, must have completed at least 15 hours at Grand Valley. Scholarship applications are submitted through myScholarships, the online scholarship portal at [gvsu.edu/myscholarships](http://gvsu.edu/myscholarships). Selection of upperclass honor award recipients are made by the Grand Valley Scholarship Committee. These scholarships may be renewed for one additional consecutive year for students who enroll full-time and meet Financial Aid Satisfactory Academic Progress standards. Students must have a completed application for admission by the March 1 deadline.

**2. Athletic Scholarships.** Scholarships are given to students participating in varsity sports. Awards are determined by the coaches. Athletic scholarships are awarded in all men's and women's varsity sports. Men: baseball, basketball, cross-country, football, golf, swimming and diving, track, and tennis. Women: basketball, cross-country, golf, lacrosse, softball, soccer, swimming and diving, tennis, track, and volleyball. If you think you would be eligible for athletic aid assistance, you should contact the appropriate Grand Valley coach for more information.

**3. Music and Dance Scholarships.** Talent awards are available to outstanding instrumentalists, pianists, singers, and dancers attending Grand Valley State University and participating in various performance groups, regardless of financial need or academic major. Contact the chair of the music department for more information.

**4. Fine Arts Scholarships.** These scholarships are for students majoring in the fine arts program at Grand Valley. Information and application forms for these

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

scholarships are available from the departmental offices. Selection of scholarship winners is made by a committee of fine arts faculty members.

**5. Detroit Promise Scholarships.** The four-year Detroit Promise is last dollar funding provided to eligible students to cover the costs of tuition and fees. Detroit Promise funding is not competitive. To qualify, students must: reside in the city of Detroit from ninth grade through 12th grade; attend all four years and graduate from any Detroit high school (DPS, EAA, charter, private, parochial, home school, etc.); have a 3.0 cumulative GPA as of February 1 of their senior year; have a minimum 21 ACT/1060 SAT as of senior year (can re-test through February); and meet Grand Valley admission requirements. Students must complete an official registration form online at [detroitchamber.com/profile](http://detroitchamber.com/profile). For more information, please contact the Detroit Chamber at (313) 964-4000.

**6. International Scholarships.** International students attending Grand Valley with an F-1 visa may qualify for scholarship funding. Students must submit applications to the Padnos International Center. For more information, visit [gvsu.edu/istudents](http://gvsu.edu/istudents).

**7. Laker Lifetime Learning (L3) Account.** All Grand Valley State University graduates who have been conferred a bachelor's, master's, or doctoral degree from GVSU are eligible. Each GVSU alum will have a \$1,000 lifetime award available to use to pay charges toward credit-bearing coursework for all future GVSU programs, including badges, certificates, advanced degrees, and additional bachelor's degrees. Funds will automatically be applied to a student's bill as they are enrolled. Current GVSU employees and graduate assistants receiving a tuition waiver or reduction are not eligible to receive funds from the account. For more information, visit [gvsu.edu/l3](http://gvsu.edu/l3).

**8. Grand Valley Pledge.** Undergraduate degree-seeking freshman (beginning with Fall 2021) who meet the following qualifications will be automatically awarded full undergraduate tuition and course fees, renewable for up to four years in the form of institutional grants and/or scholarships. Students must live in one of the following Michigan counties: Calhoun, Grand Traverse, Kent, Muskegon, Ottawa, or Wayne. The FAFSA must show the following: family adjusted gross Income (AGI) of \$0-\$50,000 and family assets of \$50,000 or less. The Grand Valley Pledge is renewable for an additional three years as long as students maintain Satisfactory Academic Progress, file a FAFSA annually, and continue to meet the family AGI and asset requirements as outlined previously. For more information and a list of frequently asked questions, please visit [gvsu.edu/gvpledge](http://gvsu.edu/gvpledge).

**9. LEADS Credit.** The Grand Valley LEADS program will help you take control of your future and reach your goals. Earn a bachelor's degree PLUS an online certificate

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

in one of four high-demand areas: leadership, data analytics, project management, or global communications. Take six-week classes with one rate for in-state or out-of-state students. Classes are three credits; \$500 per credit. Complete one class and the second class is free. The bachelors degree can be completed online with the option of two in-person, on-campus Saturday visits.

**10. Other Grand Valley State University Scholarship Programs.** Grand Valley offers an ever-increasing number of endowed, departmental, and annually funded scholarships. Please refer to our scholarship website at [gvsu.edu/scholarships](http://gvsu.edu/scholarships) for more information or to apply through myScholarships, our online application database. The scholarship cycle begins October 1 and ends March 1 for most scholarships.

## **Grants (Need-based Aid)**

Grant programs are considered "gift" assistance and do not require repayment.

**1. Grand Valley Need-based Grant Programs.** These grants are available to full-time undergraduate students with exceptional unmet need after all other financial aid is awarded and is based on availability of funds. To apply, you must complete the FAFSA. Priority given to students who file their FAFSA by March 1 each year.

**2. Federal Pell Grant.** This program is the main source of need-based federal financial aid grant funds. To apply for a Federal Pell Grant, you must submit the FAFSA and indicate on this form that you wish Grand Valley State University to receive your application. The Office of Financial Aid and Scholarships in turn will notify you of the exact amount of the grant, which is determined from a payment schedule published by the U.S. Department of Education. No specific GPA is required for renewal; however, students must be making Financial Aid Satisfactory Academic Progress to remain eligible.

**3. Federal Supplemental Educational Opportunity Grants (SEOG).** These federal grants are awarded to undergraduate students with exceptional unmet financial need. No specific GPA is required for renewal; however, students must be making Financial Aid Satisfactory Academic Progress to remain eligible. Priority is given to students who qualify for the Federal Pell Grant program.

**4. Michigan Competitive Scholarship.** This state scholarship program is available to undergraduate students pursuing their first degree. Students must demonstrate both financial need and merit. Eligible applicants must complete the FAFSA by March 1 for priority consideration. Ending with the Class of 2016, students must achieve a qualifying ACT score of at least 23 (composite). Starting with the Class of 2017, an ACT score will not be considered. Students must achieve a qualifying score of at least

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1200 on the SAT. Please visit [michigan.gov/missg](http://michigan.gov/missg) for all eligibility requirements. Awards from this program are subject to state funding.

**5. Federal TEACH Grant.** The federal Teacher Education Assistance for College and Higher (TEACH) Education Grant program provides grants of up to \$4,000 per year to students who intend to teach in specified content areas in a public or private elementary or secondary school that serves students from low-income families. Contact the Office of Financial Aid and Scholarships for more information.

**6. Native American Tuition Benefit.** Students who are certified by the Michigan Intertribal Council to be a member of a federally recognized tribe and a Michigan resident are eligible for a tuition benefit equal to their tuition costs. Students who believe they are eligible Native Americans can contact the Michigan Intertribal Council at (800) 562-4957 for an application and additional information. Students must be meeting institutional eligibility requirements to qualify.

## **Student Loans (Need-based)**

Student loans are a resource available to those who qualify to provide financial support for earning a college degree. Student loans require repayment for the amount borrowed plus interest.

**1. Federal Direct Subsidized Loan.** **Subsidized loans are awarded based on students financial need. Interest does not accrue on these loans when students enrollment status is at least half-time or greater and during the grace period.** Students who complete the Free Application for Federal Student Aid (FAFSA) and are eligible will be notified by the Office of Financial Aid and Scholarships. For more information regarding student eligibility, interest rates, origination fees, repayment, loan limits, and other requirements for borrowing subsidized loans please visit [studentaid.gov/understand-aid/types/loans/subsidized-unsubsidized](http://studentaid.gov/understand-aid/types/loans/subsidized-unsubsidized).

**2. Federal Nursing Loan.** These federal loans are to assist with educational expenses for undergraduate and graduate students who are admitted to the Kirkhof College of Nursing at Grand Valley, have financial need, are U.S. citizens, meet Financial Aid Satisfactory Academic Progress requirements, and are not in default on previous federal loan programs. The interest rate is fixed at 5 percent and does not accrue while you are enrolled at least half-time in most institutions of higher education. Students must complete the Free Application for Federal Student Aid (FAFSA). The Grand Valley Office of Financial Aid and Scholarships will notify eligible students.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Student Loans (Not Need-based)**

**1. Federal Direct Unsubsidized Loan.** Unsubsidized loans are not awarded based on student's financial need. Interest accrues immediately following disbursement regardless of a student's enrollment status or grace period. Eligibility is determined by taking the cost of attendance and subtracting all need-based aid awarded. Students must complete the Free Application for Federal Student Aid (FAFSA) and list Grand Valley as a college choice. For more information regarding student eligibility, interest rates, origination fees, repayment, loan limits, and other requirements for borrowing unsubsidized loans please visit [studentaid.gov/understand-aid/types/loans/subsidized-unsubsidized](http://studentaid.gov/understand-aid/types/loans/subsidized-unsubsidized).

**2. Federal Direct Parent PLUS/Grad PLUS Loan.** PLUS loans are not based on student's financial need. PLUS loans are federal loans that parents of dependent undergraduate students or graduate or professional students can use to help pay for college or career school. Interest accrues immediately following disbursement regardless of a student's enrollment status or grace period. Students must complete a Free Application for Federal Student Aid (FAFSA) to qualify. For more information regarding student eligibility, interest rates, origination fees, repayment, loan limits, and other requirements for borrowing PLUS loans, please visit [studentaid.gov/understand-aid/types/loans/plus](http://studentaid.gov/understand-aid/types/loans/plus).

**3. Alternative Loan Programs.** Alternative loans are nonfederal loans to supplement financial aid for students and their families. A student, parent, or sponsor may borrow a loan up to the cost of attendance minus other financial aid awarded. Fixed and variable interest rates are subject to a credit check, and the repayment plan and grace periods are at the discretion of the lender. Students have the option to pay on the loan and interest while in school to help reduce loan debt or to defer repayment until after graduation.

Contact the Office of Financial Aid and Scholarships or visit our website [gvsu.edu/financialaid](http://gvsu.edu/financialaid) for more information.

## **Student Employment**

Student Employment assists students in obtaining employment that will help finance their education and develop valuable work skills for their future career choice. Student Employment works with all university departments and the community to create part-time and summer employment opportunities for students. The Student Employment Office is part of the Office of Financial Aid and Scholarships and administers the Federal Work-Study Program at Grand Valley.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Federal Work-Study Program:**

Federal Work-Study is a federally funded program that is awarded to students based on demonstrating financial need by filing the FAFSA. Students awarded Federal Work-Study must apply and be hired for Federal Work-Study positions through Handshake. If a student does not have Federal Work-Study on their financial aid award, they can still apply for jobs on campus. Many jobs do not require Federal Work-Study. All student employees receive biweekly paychecks. Federal Work-Study awards do not pay toward a student's bill.

Students considering on-campus jobs should search and apply for jobs under on-campus student employment in Handshake. Students can visit [gvsu.edu/studentjobs](http://gvsu.edu/studentjobs) to create a new login or use an existing login to access Handshake. Handshake is the job-sharing platform that GVSU uses to help students find jobs and connect with their future employers. For more information, contact Student Employment at (616) 331-3238, [studentjobs@gvsu.edu](mailto:studentjobs@gvsu.edu), or visit us at 100 Arend and Nancy Lubbers Student Services Center.

## **MoneySmart Lakers**

MoneySmart Lakers is a financial education program on campus specifically focused on educating students about financial skills for their future. This program provides students with the tools and resources to help them understand their personal finances and to help them develop their money management skills. MoneySmart Lakers provides on-demand presentations, interactive events, and individual appointments to address the financial literacy needs of the community.

Topics addressed by MoneySmart Lakers include:

- Creating a spending plan/budget
- Learning how to build and maintain good credit
- Understanding loans
- Financing your education
- Wealth building

For more information, please visit the MoneySmart Lakers website at [gvsu.edu/moneysmart](http://gvsu.edu/moneysmart), email [moneysmart@gvsu.edu](mailto:moneysmart@gvsu.edu), or call the office at (616) 331-3234.

## **Payment Options**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

The Student Accounts Office is responsible for all student accounts, billing, collections, and Perkins Loan repayment. Payment options are as follows:

- Credit card (\$20 fee)
- Electronic check (no fee)
- Cash
- Check or money order

### **Additional Payment Options**

- **Grand Valley Deferment Plan.** The deferment plan covers all current semester charges on the student account after financial aid has been applied. Past due balance cannot be included in the deferment plan and must be paid on or before the payment due date. There is a \$40 nonrefundable fee to utilize the deferment plan. Students can enroll in myBanner under Student Account. Contact the Student Accounts Office for more information at (616) 331-2209 or toll-free at (800) 789-1923.
- **Company Deferment Plan.** This plan is for students who qualify for their employer's tuition reimbursement program and allows the amount of tuition and fees paid for by the employer to be deferred until the end of the semester. Any amount of tuition, fees, and other charges (including parking permits) not paid for by the employer must be received by the tuition deadline and included with an application for enrollment in the deferment plan. For more information, visit [gvsu.edu/studentaccounts](http://gvsu.edu/studentaccounts).
- **Western Union Payments for International Students.** This payment option allows students to pay their student account balance in the currency of their choice and provides a simple and reliable way of initiating payments electronically. For payment support, contact Western Union Business Solutions at (402) 884-3041 or [studentinquiries@westernunion.com](mailto:studentinquiries@westernunion.com).

### **Guardian/Family Access (Proxy)**

Students are able to grant proxy access to allow secure payments through Guardian/Family Access. If someone other than the student typically makes a payment on the student account, we highly recommend they set up proxy access so the proxy can make a payment with their own login and password. For more information, please visit [gvsu.edu/registrar/family](http://gvsu.edu/registrar/family).

### **Emergency Student Options**

**Grand Valley Short-term Loans.** For a small service fee, short-term loans of up to \$500 are available for books and other emergencies. Repayment dates are determined by the Office of Financial Aid and Scholarships at the time of application but do not

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

exceed 60 days or the end of the semester (whichever comes first). Students need to be in good standing with the institution to apply for this loan. Applications and general policies regarding short-term loans are available at the Office of Financial Aid and Scholarships.

## Special Programs

### Michigan Works!

The workforce development system, Michigan Works!, provides financial assistance designed to prepare individuals for entry into the labor force. Go to [michiganworks.org](http://michiganworks.org) to find out more about these funding options and the steps necessary to receive this financial assistance.

### Private Scholarships

A limited number of scholarships are available from private sources. Contact organizations in your community that may provide scholarships, especially those in which you and/or your parents are active. Your local high school guidance office is also a source of this information. Scholarships may have deadlines beginning as early as October 1 for the following year, so it is important to begin your search as early as possible.

### Tribal Grants

Financial assistance may be available for Native American students who are affiliated with a tribe. For more information on requirements and application materials, contact your tribal higher education officer.

### Veterans Benefits

**Chapter 31 and Chapter 33 Penalty Waiver:** Pursuant to the Servicemembers Improved Transition through Reforms for Ensuring Progress (SIT-REP) Act, any student who receives educational assistance under Chapter 31 or 33 through the Department of Veterans Affairs will not be assessed any late fees, denied of access to classes, libraries, or other instructional facilities, or be required to borrow additional funds because of the student's inability to meet their financial obligations to Grand Valley State University as a result of the delayed disbursement of any payment provided through the Department of Veterans Affairs.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

**Michigan Public Act 245** provides partial tuition payment to students from Michigan who are children of veterans who died in service or were totally disabled because of service causes. You can request an application and review further information at [michigan.gov/mistudentaid](http://michigan.gov/mistudentaid).

**Veterans Administration Benefits:** Information about education benefits offered by the U.S. Department of Veterans Affairs (VA) is available at the official U.S. government website: [benefits.va.gov/gibill](http://benefits.va.gov/gibill). The GI Bill® is a registered trademark of the VA.

**Veterans Readjustment Benefits Act (GI Bill)** provides educational benefits for servicemen and women who have served on active duty. You can obtain further information from the Veterans Administration office nearest your home or by calling them. They also have a website you can go to for more information, visit [va.gov](http://va.gov).

## **Vocational Rehabilitation**

The Michigan Department of Education, Bureau of Rehabilitation Services, provides services and financial assistance to students with certain disabilities. You can obtain information by calling your local Bureau of Rehabilitation office or writing to Michigan Rehabilitation Services, Box 30010, Lansing, MI 48909 or calling (517) 373-3390. For a listing of district offices, call (800) 605-6722. To renew vocational rehabilitation assistance, you must submit the necessary financial aid forms each year and make arrangements for a review of your case with your vocational rehabilitation counselor.

## **Enrollment Requirements for Disbursement of Aid**

Your financial aid award is based on full-time enrollment, regardless of the plans you indicated on the FAFSA. Specific funds, however, have enrollment requirements and will apply toward your bill and be backed off your bill as your enrollment changes (i.e. as you drop and add credits). For more information, please visit: [gvsu.edu/financialaid/enrollment](http://gvsu.edu/financialaid/enrollment).

The following funds will pay on your bill as long as you are enrolled for at least one credit:

- Grand Finish grant
- Some private (nonfederal) loans

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

- Some private scholarships

The following funds will pay on your bill as long as you are enrolled at least half-time (six or more credits as an undergraduate; four and one-half credits or more as a graduate):

- Federal Direct Subsidized Loans
- Federal Direct Unsubsidized Loans
- Federal Direct PLUS Loans
- Some private loans

The following funds will be prorated based on your enrollment:

- Michigan Competitive Scholarship
- Federal Work-Study
- Federal Pell Grant
- Federal TEACH Grant
- Federal Supplemental Educational Opportunity Grant

The remaining funds require full-time enrollment of 12 or more credits to pay on your bill:

- Federal nursing loan
- Grand Valley grants
- Grand Valley scholarships
- Some private scholarships

## **Satisfactory Academic Progress (SAP)**

Federal regulations require institutions to monitor the academic progress of financial aid recipients. Grand Valley's Satisfactory Academic Progress policy is to provide financial aid to students capable of remaining in good academic standing and who make adequate progress toward a degree. Students must meet the academic requirements as follows to remain eligible for financial aid.

### **Undergraduate Students**

- Maintain a minimum 1.5 cumulative GVSU grade point average for 0-24 credits completed
- Maintain a minimum 1.8 cumulative GVSU grade point average for 25-54 credits completed
- Maintain a minimum 2.0 cumulative GVSU grade point average for 55+ credits completed

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- Complete and pass a minimum of two-thirds of all attempted credit hours (will include only credits enrolled in at the end of the 100 percent drop/add period each semester)
- Complete all degree requirements within 150 percent of the minimum number of credit hours required to graduate (based on 120 credit hours required to graduate x 1.5 = 180 attempted cumulative credit hours)

## **Second Undergraduate Students**

- Maintain a minimum 2.0 cumulative GVSU grade point average
- Complete and pass a minimum of two-thirds of all attempted undergraduate credit hours (will include only credits enrolled in at the end of the 100-percent drop/add period each semester)
- Complete all subsequent undergraduate degree requirements within 270 attempted cumulative credit hours. An additional 90 credits will be allowed for a subsequent undergraduate degree. First bachelor degree students must not exceed 180 attempted cumulative credit hours, which is 150 percent of the minimum requirement to obtain an undergraduate degree.

## **Graduate Students**

- Maintain a minimum 3.0 cumulative GVSU grade point average
- Complete and pass a minimum of two-thirds of all attempted graduate credit hours (will include only credits enrolled in at the end of the 100 percent drop/add period each semester)
- Complete all degree requirements within 150 percent of the minimum number of credit hours required to graduate (based on 60 credit hours required to graduate x 1.5 = 90 attempted cumulative credit hours)

## **Doctoral Students**

- Maintain a minimum 3.0 cumulative GVSU grade point average
- Complete and pass a minimum of two-thirds of all attempted credit hours (will include only credits enrolled in at the end of the 100 percent drop/add period each semester)
- Complete all degree requirements within 150 percent of the minimum number of credit hours required to graduate (based on 120 credits required to graduate x 1.5 = 180 attempted cumulative credit hours)

## **General Provisions and Information**

- Grand Valley must take into consideration all attempted credits, regardless if financial aid was received for those credits.
- Transfer credits accepted at GVSU are used to calculate the student's remaining eligibility under the maximum time frame and included in the completion rate calculation. Transfer credits accepted at GVSU are counted as both attempted and earned in the calculation of completion rate. Transfer courses are not used in the calculation of cumulative GVSU GPA.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- Satisfactory academic progress will be determined at the end of each semester for all enrolled students regardless of whether or not financial aid was received that semester.
- Repeat classes increase the total attempted hours, but do not increase the total number of credits completed.
- All courses, including incomplete credits, repeated credits, and remedial credits are evaluated for completion rate.
- For all students, grades of W, NC, F, X, or I will be considered as hours attempted, but not considered as successfully completed credits.
- Credit hours earned by testing or other nonstandard means will be included in calculating the 150-percent required credit limit for undergraduate, graduate, and doctoral students.
- All credit hours attempted through international programs and through concurrent enrollment agreements count in both attempted and earned calculations.
- If a student notifies the Office of Financial Aid and Scholarships that a grade from a prior-term course has been changed retroactively, we will conduct a review of the student's SAP status, in light of the updated grade information.
- If a student elects to double major, complete more than one degree at a time, and/or start a degree and then change majors, all classes previously taken will still be used in the evaluation of SAP. Each time a degree is conferred, the student's SAP status resets and only classes taken from that point forward are included in SAP calculations.

## Appeal Process and Definitions

**Financial Aid Warning.** Students who fail to meet the previously listed academic progress standards will be placed on SAP financial aid warning for **one semester**. Students receive a warning status after having been in a SAP eligible status. If a student is unable to regain eligibility by meeting the minimum SAP requirements after one semester (while on warning status), they will no longer be eligible for aid and have the option of completing the Satisfactory Academic Progress Appeal Form. All appeal forms should be turned in to the financial aid office by the last day of the fourth week of classes to allow the committee time to review the request prior to the end of the drop/add period of the semester which the appeal is being requested. The form is available on the financial aid website. Students must submit the form, an Academic Plan (myPath), and a statement explaining why the student failed to meet the requirements, what steps the student has taken to be successful, and the student's goals for the future. A student may submit an appeal based on the death of a relative, an injury or illness of the student, or other special circumstance.

**Financial Aid Probation.** Students who were placed on SAP warning status who were unable to meet the minimum requirements will be given the option of appealing to the SAP Appeals Committee to request an exception to receive financial aid for one additional semester. While on probation, a student must meet the following requirements to maintain financial aid eligibility:

- Undergraduate: Earn a 2.5 semester GPA or a 2.0 cumulative GPA

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- Graduate/Doctoral: Earn a 3.0 semester GPA or a 3.0 cumulative GPA
- Complete all credits the student is still registered for at the end of the drop/add period

Failure to meet the financial aid probationary GPA and/or credit completion requirement while on financial aid probation will result in the loss of eligibility for continued financial aid.

**Financial Aid Academic Plan.** Students who were unable to regain and meet overall SAP standards after having been on Warning and Probation status may be placed in an Academic Plan status. An Academic Plan is intended to support and encourage students to successfully progress toward earning their degree, and can be met by adhering to the following:

- Undergraduate: Earn a 2.5 semester GPA or a 2.0 cumulative GPA
- Graduate/Doctoral: Earn a 3.0 semester GPA or a 3.0 cumulative GPA
- Complete all credits the student is still registered for at the end of the drop/add period

**Financial Aid Ineligible.** If students were unable to meet overall eligibility or the minimum required of their Probation or Academic Plan, they will not be eligible to receive aid for subsequent semesters without an additional appeal, which may require a meeting with a financial aid administrator. Students may regain financial aid eligibility by achieving the minimum requirements at their own expense.

Note: Refer to the Academic Policies and Regulations for the Academic Review Policy. These are separate from and different than the financial aid satisfactory academic progress requirements discussed previously.

## **Terms and Conditions Governing Acceptance of Award**

Grand Valley State University's Office of Financial Aid and Scholarships makes every effort to provide timely and accurate information in your award notification. The university also reserves the right to change without notice any award due to federal, state, or university changes in policies, procedures, or regulations.

In accepting your financial aid award offer, you are stating that you have met and will continue to meet all the following conditions of acceptance set by federal regulations and Grand Valley policies:

- The information submitted on your aid application is correct and complete.
- You will notify Grand Valley's Office of Financial Aid and Scholarships if you receive assistance not originally on your award notification (e.g. an outside scholarship). A reduction of other aid may be necessary even if funds have already been disbursed.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- You will use the financial aid awarded to you only for payment of tuition, books, housing costs, transportation, and other related educational expenses.
- Financial aid disbursements will begin on the 10th day preceding the first day of classes of any given semester. After this day, semester financial aid disbursements will be applied to student accounts daily.
- You agree that financial aid awarded to you may be used as a credit toward payment of all tuition, fees, room, board, and all other charges that may be due or past due on your student account.
- You will maintain Satisfactory Academic Progress toward your degree according to the policy of the Grand Valley Office of Financial Aid and Scholarships.
- You will maintain the minimum credit hour(s) that you have registered for after the 100-percent refund period each semester. Your award will be based on full time attendance and will be adjusted after the 100-percent tuition refund period each semester. If you drop below the number of credit hours upon which your award was based or withdraw completely from your courses, you may be expected to repay all or part of your award.
- You will notify the Office of Financial Aid and Scholarships if you do not plan to enroll in a semester for which you have been awarded aid.
- You are not in default on educational loans and do not owe a balance as a result of returned aid for any federal funds received at GVSU or elsewhere.
- You must meet all the requirements regarding registering for selective service, citizenship status, and drug conviction status.
- You will respond promptly to any requests for additional information. Failure to do so may result in you being billed for a portion or all of the aid disbursed to you or will delay additional disbursements.
- You will immediately notify the Grand Valley Registrar's Office if you withdraw from the university. You may be billed for part or all of your financial aid. The bill will depend on the date of your withdrawal and the percentage and amount of institutional refund to be received.
- You agree to repay to GVSU any financial aid funds disbursed to you in error. If a mistake was made, whether by you, GVSU, or another agency, federal regulations require that the mistake be corrected and funds be billed back as necessary.
- If you are incarcerated or become incarcerated while you are in attendance at GVSU and receiving financial aid, you must notify the Office of Financial Aid and Scholarships. If your parent participates in the Federal Direct PLUS Loan program, and your parent is incarcerated or becomes incarcerated during an academic year in which he/she has borrowed the PLUS on your behalf, your parent must notify the Office of Financial Aid and Scholarships.

## **Academic Policies and Regulations**

### **General Academic Policies**

#### **Application for Degree**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Grand Valley State University awards baccalaureate, master's, and doctoral degrees four times each year: at the conclusion of the fall semester (December), at the conclusion of the winter semester (April), at the conclusion of the spring session (June), and at the conclusion of the summer session (August).

Degree candidates must notify the registrar of their intention to graduate by completing an electronic application in myBanner prior to the semester in which their degree requirements will be complete.

Degree candidates will be allowed 30 business days after the last day of the semester or session to complete all requirements and provide evidence of satisfactory completion to the registrar. No degree will be awarded until all temporary grades are removed. After the 30-day deadline, all remaining candidates will be dropped from candidacy status, and those students must reapply for some subsequent degree date. The candidacy deadline for each semester is listed in the schedule of classes on the Web. Exceptions to this policy will be based solely on extenuating circumstances beyond the control of the student. Any request for an exception must be made in writing to the registrar.

## **Commencement**

Information concerning Commencement announcements, caps and gowns, invitations, tickets, time and place, assembling, and other relevant items will be mailed to all eligible degree candidates (see Application for Degree section, previously listed) by the Office of Student Life prior to the event.

## **Definitions**

### **Credit Hour**

Courses at Grand Valley are categorized into one of several course "activity" types. For each course activity type, the university has identified the number of hours students are expected to devote to the course per semester per credit. The definitions do not include homework, reading, studying, or other student preparatory activities. Furthermore, the definitions do not cover faculty workload expectations. In the definitions, a semester is assumed to be a typical 15-week instructional semester. Courses offered in other time frames can be scaled accordingly. As an example, the most common course is a three-credit lecture/discussion. According to the definition, the university expects 45 student contact hours per semester for this course. For additional information, please view the UCC definition at [gvsu.edu/facultygov](http://gvsu.edu/facultygov).

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

The University Curriculum Committee (UCC) makes exceptions to the policy based on accreditation standards and practice in the discipline. Please view the UCC definition and programmatic exceptions for additional information at [gvsu.edu/facultygov](http://gvsu.edu/facultygov).

## Semester Hour

The unit of credit is the semester hour; the number of semester hours of credit given for a course generally indicates the number of periods a class meets each week.

## Grading System

Grade	Quality Points	Grade	Significance
A	4	CR	Credit
A-	3.7	NC	No Credit
B+	3.3	I	Incomplete
B	3	W	Withdrawal
B-	2.7	AU	Audit
C+	2.3	X	Deferred
C	2	NR	No Report
C-	1.7	P	Pass
D+	1.3	PS	Pass
D	1	PD	Pass with Distinction
F	0	R	Research

determine academic standing, eligibility to participate in certain curricular and cocurricular programs, academic honors, and academic standing, which may include probation, jeopardy of dismissal, or dismissal. A minimum GPA of 2.0 for undergraduate students and 3.0 for graduate students is required for graduation. Some programs require a GPA in excess of the minimum to satisfy major requirements.

Credit at the graduate student level will be awarded for grades of C (2.0) or better. This includes all graduate coursework and core, background, and foundation courses. Grades below C will be calculated in a student's GPA, but the credits will not count toward the degree.

Please refer to each academic section for specific requirements.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Auditing a Course**

Any student may register to take a course on an audit or noncredit basis, provided admission and course prerequisites have been met. Students who wish to audit a course must indicate their intent to the Registrar's Office during the first five class days of the semester. Changes from credit to audit and vice versa will not be allowed after the first week of the semester. Tuition costs for auditing are the same as for credit.

## **Credit/No-Credit Grade**

All coursework will be graded (A through F) unless the appropriate faculty body within a college, the dean of the college, and the Curriculum Committee have approved proposals on an individual course basis that the course be conducted on a credit/no-credit basis.

Undergraduate students may elect certain undergraduate coursework on a credit/no-credit basis. A maximum of 10 semester hours of major, minor, or cognate courses within the major may be taken on a credit/no-credit basis only with the consent of the student's major department. A maximum of 25 percent of a student's hours of Grand Valley courses earned to fulfill graduation requirements may be taken on a credit/no-credit basis (credit = C or above for undergraduate courses, credit = B or above for graduate courses). Courses that are graded CR/NC as the standard grading scheme (e.g., internships) do not count in the maximums stated previously. Consent is unnecessary if the course is an elective, a general education course, or a B.S. or B.A. degree requirement. Changes from a grade to credit/no-credit and vice versa will not be allowed after the first week of the semester.

## **Deferred Grade**

The grade of X (deferred) is a temporary grade that may be given only in a course that cannot be completed in one semester. Such courses are usually research projects. This grade is given only for work that is satisfactory in every respect but for which students need more than one semester to complete. An X grade must be removed within two calendar years from the date of assignment. If not, it will be changed to NC. A student cannot graduate with an X grade on their record.

## **Graduate Project, Thesis, and Dissertation Grades**

The grades PS (pass), PD (pass with distinction), W (withdrawal), and NC (no credit) are the only grades that may be assigned as the final grade for a graduate project,

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

thesis, or dissertation. The withdrawal grade is available only for students who wish to voluntarily and permanently terminate their degree program. The pass with distinction grade may only be awarded for a project, thesis, or dissertation that is exceptional in its significance and presentation and unanimously recommended by the project, thesis, or dissertation committee.

## **Incomplete Grade**

The grade of I, incomplete, indicates that a student was doing satisfactory work, but due to nonacademic reasons beyond the student's control, the student was unable to complete the remaining requirements of the course. A student cannot graduate with an incomplete on their record. The grade of incomplete is only appropriate when all of the following conditions are met: (a) the student is doing satisfactory work in the course and the unfinished requirements can be clearly delineated, (b) the unfinished requirements constitute a relatively small part of the course, and the incomplete is requested in the last 20 percent of the semester, and (c) the student has justifiable reason(s) why the work cannot be completed by the end of the semester.

An Incomplete Grade Form must be submitted to the department chair and to the Dean's Office. A student is expected to complete course requirements according to the following schedule: fall semester incompletes, end of winter semester; winter and spring/summer incompletes, end of fall semester. Instructors are required to file a change of grade form or request an extension of the I grade at the end of each semester. An extension may be granted by the instructor under exceptional circumstances, such as illness or call to military service.

The Registrar's Office will notify the student, the instructor, and the appropriate dean's office six weeks prior to deadline for a grade change. If the instructor is not available during the process for removing the incomplete, the unit head shall decide on how to proceed. A student for whom the incomplete course was a prerequisite may take a subsequent course only if the instructor of the course and the instructor who granted the incomplete both grant permission.

## **Research Grade**

The grade of R (research) is the only grade that may be assigned each semester to a continuous enrollment course for a graduate project, thesis, or dissertation (xxx-696, xxx-796). The R grade is permanent and not affected by the final grade assigned to the project, thesis, or dissertation.

## **Registration**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

**New undergraduate students:** Course selection is completed during the New Student Advising and Registration program. Complete orientation/registration information is mailed to all new students before their intended term of entry.

**New graduate students:** Complete registration information is sent to all new students before their intended term of entry.

**Advance registration:** Intended primarily for all currently enrolled and former students and is normally held mid-to-late March for the upcoming spring/summer, fall, and winter semesters.

**Late registration:** Occurs once the semester has begun. Any student who adds a new schedule (without existing registrations) at that time will be assessed a \$50 nonrefundable late registration fee. Courses beginning after the fifth class day and workshops or similar offerings without a prescribed registration process will be free of the late fee assessment on the first class day.

**Schedule revision or drop/add:** This is held concurrently with all registrations. A student may drop or add any course for which prerequisites have been met and capacity permits. Additional tuition charges may be due when a student adds credits. Under exceptional circumstances, a student may be allowed to add a course after the deadline. The completed transaction, accompanied by support from the instructor, department chair, and college dean, must include a \$25 late add fee and any additional tuition. Specific dates and times for all registrations are set by the registrar and listed in the schedule of courses and in the academic calendar. For more information on the financial regulations regarding late registration and dropping or withdrawing from classes, click on the Important Policies section on the Financial Aid website.

**Registering for two sections of the same course:** Students may not be simultaneously enrolled in two sections of the same course unless specifically designated as repeatable for credit by a department or unit.

## **Duplicate Registration**

Students who register for the same class in multiple future semesters will be dropped from the class(es) for all subsequent terms.

## **Electronic Overrides**

If a course requires a registration permit, is closed, or prevents registration based on major, class, prerequisite etc., students may request a registration override through the

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

myBanner system. The department offering the course evaluates the request for an electronic override and determines if an override will be granted. Once the electronic override is entered into the Banner system, the student can register for that class. The issuance of an electronic override does not automatically register the student in the course.

## Prerequisites

Prerequisite courses provide the background necessary for successful performance in a course. The university uses an automated check of students' records, including transfer work and test scores at the time of registration to determine whether students have successfully completed the prerequisites for certain courses. The online catalog lists prerequisites in the course descriptions.

**Prerequisite checking applies to all students regardless of their level or college. Prerequisites are enforced by the Banner student information system at the time of registration.**

Students will be permitted to register if they have satisfactorily completed or are currently enrolled in the prerequisites for the course or have departmental approval to be in the course.

### **Satisfactory completion means**

- meeting the minimum acceptable passing grade requirement as indicated in the course description by completion of a Grand Valley State University course or an equivalent transfer class or
- having a test score that meets the requirement.

If you have **not satisfactorily** completed or are **not registered** for the prerequisite, you will receive a prerequisite error message when you attempt to register for the class.

## Residence Requirements - Michigan

The following brief summary of the policy adopted by the Board of Trustees of Grand Valley State University applies to all students.

Because students normally come to Grand Valley State University for the primary or sole purpose of attending the institution rather than establishing a domicile in Michigan, those who enroll in Grand Valley as nonresidents will

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

continue to be so classified throughout their attendance as students unless and until they demonstrate that their previous domicile has been abandoned and a Michigan domicile established. No students shall be eligible for classification or reclassification as a resident unless they shall be domiciled in Michigan and have resided in Michigan continuously for not less than six months immediately preceding the first day of classes of the semester for which classification or reclassification is sought.

For purposes of the regulations, resident students are defined as students domiciled in the State of Michigan. Nonresident students are defined as those whose domicile is elsewhere. Students shall not be considered domiciled in Michigan unless they are in continuous physical residence in this state and intend to make Michigan their permanent home, not only while in attendance at Grand Valley but indefinitely thereafter as well, and have no domicile or intent to be domiciled elsewhere.

The residence of a student who otherwise would be classified as a nonresident will follow that of his or her spouse if the spouse is classified as a resident, after the student has met the six-month domicile requirement.

Non-U.S. citizens who have been lawfully admitted for permanent residence in the United States shall not, by reason of that status alone, be disqualified from classification or reclassification as resident. However, non-U.S. citizens who are present in the United States on a temporary or student visa shall not be eligible for classification or reclassification as residents.

- Individuals who are on active duty service in the U.S. military, reservists of the same, or U.S. veterans and their spouses or dependents are considered residents for tuition purposes.
- Certain individuals may be eligible for consideration as resident students if they graduated from a Michigan high school after attending three years and are not legal residents of the United States; this eligibility extends for 28 months following high school or community college graduation.

It is the responsibility of the student to register under the proper residence classification, to advise the registrar of possible changes in residence, and to furnish all requested information pertinent thereto.

Application for reclassification must be filed no later than 10 calendar days following the first day of classes of the semester for which such reclassification is sought. Such application shall set forth in writing a complete statement of the facts upon which the application is based, together with affidavits or other supporting documentary

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evidence. Failure to file such an application on time shall constitute a waiver of all claims to reclassification or rebates for such semester.

Copies of the complete policy are available upon request from the registrar. Address all questions, concerns, and appeals of status to the registrar. The Residency Appeal Board will hear appeals of reclassification decisions.

## **Dual-level Enrollment Policy**

Undergraduate students at Grand Valley State University may register for graduate credit prior to completing a baccalaureate degree. To do so, students must have earned a minimum of 85 semester hours, have a minimum 3.0 grade point average, demonstrated potential to succeed at the graduate level as determined by the graduate program director of the graduate program offering the course or be admitted to a graduate degree program, and receive approval from their undergraduate advisor, the course instructor, and the graduate program director of the graduate program offering the course.

Students wishing to apply for dual enrollment must obtain a Dual-level Enrollment Request form from the registrar's webpage and indicate on the form that they are currently

- (1) an undergraduate student requesting the designation of a graduate course as part of the undergraduate program (this course may not be used as part of some future graduate program at Grand Valley) or
- (2) an undergraduate student requesting enrollment in a graduate course to be designated as part of a future program (a student may count a maximum of nine graduate credits toward the graduate degree).

The completed form must be submitted to the Registrar's Office by the close of business on the fifth day of the semester in which the student wishes to enroll in the course.

## **Repeat Course Policy**

A student may repeat any course one time. When repeating a course, the grade earned shall be the grade of record but the grades of all courses attempted will remain on a student's official transcript.

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

Students who repeat a course will have only the grade and credit of the most recent instance of the course counted toward their GPA and earned hours, regardless of whether the most recent grade is lower or higher. Grades of I, W, AU, CR, or NC do not replace an earlier grade.

Repeating a course more than once is allowed only with the approval of the student's academic advisor. In cases when the course is not in the student's academic advisor's unit, approval to repeat the course must be approved by the appropriate unit head of the department where the course is offered.

Please note: Many undergraduate secondary admission programs and postgraduate professional programs routinely recalculate students' undergraduate GPAs to include repeated coursework. The inclusion of repeated grades may lower your overall GPA when applying to such programs. Students should consult with prospective programs regarding their policies before applying.

Students working toward completion of a program of study at GVSU can count courses transferred in as a repeat for an equivalent course taken at GVSU. In this case, the grade earned at GVSU will be excluded from GPA calculations. GVSU will not post transfer coursework to a GVSU transcript after a degree has been completed, unless the coursework pertains to a GVSU program of study at the same level (undergraduate or graduate) to which the student has already been admitted.

For additional information regarding changes in federal regulations and impacts on financial aid for repeating courses, please check the Important Policies section on the Financial Aid website.

## **Course Repeat Appeal Process**

If an advisor for undergraduate students/programs declines a student's request to repeat a course more than once, the student may appeal the decision by putting the request and the rationale for the request in writing and submitting both to the unit head of the program in which the course is located. If the unit head declines the appeal, or is the original decision maker, the student may then submit the appeal to the dean of the college in which the course is located.

## **Reporting**

## **End-of-Term Grades**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Final grades are reported at the conclusion of each academic term and become part of the official record of the student. Final grade reports are available on the Web within one week of the last day of the examination period unless interrupted by university closure for holidays.

## **Midterm Grades**

Grades are reported by the registrar at midterm and at the conclusion of the semester. Midterm grades are reported for all undergraduate students who are in their first two semesters at Grand Valley and for any undergraduate student in other than good standing. Midterm grades will be available on the Web but not recorded on the student's official transcript.

## **Transcripts**

Transcripts of students' academic records are available from the Registrar's Office. Requests for an official transcript bearing the signature of the registrar and the university seal will be prepared and processed electronically or mailed within one business day. Unofficial transcripts will be prepared immediately for currently enrolled students. Unofficial transcripts are available at any time on the Web at no charge through myBanner. No transcripts will be released if a student has an encumbrance or indebtedness to Grand Valley State University. To comply with the federal mandate, transcripts will not be released without a signed, written request from the student.

## **Student Information**

### **Academic Grievance Procedures**

Academic grievances are generally defined as those involving (a) procedures, policies, and grades in courses, (b) major, minor, or program (graduate or undergraduate) degree requirements, (c) general undergraduate university graduation requirements, such as general education, total credit, or residency requirements, or (d) graduate degree requirements, such as total credit or residency requirements. Filing of a grievance is required by the end of the following regular semester after notification of grade or receipt of adverse decision. Appeals of decisions must take place 30 days after receipt of notification.

**A. Resolution of an academic grievance involving procedures, policies, and grades in individual courses.** The resolution of academic grievances is based on two

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

principles: first, that the resolution of a grievance should be sought at the lowest possible level, and second, that pathways for appeal exist for both faculty members and students. Resolution should be pursued as follows:

1. An appeal to the instructor. Normally, the instructor must respond to an appeal within 30 days of receipt of the appeal.
2. If the grievance is not resolved to the student's satisfaction, a further appeal could be made to the unit head who may request that the appeal be put in writing. Both the student and the faculty member will be notified in writing of the unit head's decision, within 30 days of receipt of the appeal.
3. If the disposition by the unit head is not acceptable to either party, an appeal in writing may be made by either party to the dean of the college. If the dean feels that there is some merit in the written grievance, he or she may establish a committee to review the grievance and make a recommendation within 30 days to the dean. Such a committee may include a representative of the dean's office, a faculty representative from the college of the course under appeal, and a student representative. If a student representative is to be included in the committee, the student that is a party to the appeal must sign a FERPA release/waiver prior to the committee convening. Within 30 days of receiving the committee's recommendation in the latter procedure, the dean shall rule on the grievance. Both the student and the faculty member will be notified in writing of the dean's decision. The dean's review and judgment in the case will be final.

**B. Resolution of an academic grievance involving fulfillment of program, major, or minor degree requirements** should be pursued as follows:

1. An appeal to the unit head or graduate program director.
2. If the grievance is not resolved to the student's satisfaction at this level, an appeal to the dean of the college would be possible, in the same manner as outlined in (A).

**C. Resolution of an academic grievance involving fulfillment of general undergraduate university requirements,** should be pursued as follows:

1. a) For general education, an appeal should be made to the general education director.  
b) For residency requirements, students should contact their academic advisor to request the appropriate approvals for the student's program.  
c) For supplemental writing skills (SWS) requirements, an appeal should be made to the director of SWS.
2. If at this point the grievance is still not resolved to the student's satisfaction, a further written appeal could be made to the provost or the provost's designate. In this case, the provost or designate may establish a committee to review the grievance and make a recommendation within 30 days. Such a committee shall include a representative of the provost's office, a faculty representative related to the student's

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

major, and a faculty representative from outside the student's college. Upon receiving the committee's recommendation, the provost will render a final judgment in the case.

**D. Exceptions to institutional graduate degree requirements sought by individual students will be determined by the dean and the provost or the provost's designate.**

The student filing the grievance may have an observer from the Dean of Students Office or a person of their choice attend any meeting at which the student appears. The faculty member involved in the grievance may have an observer of their choice attend any meeting at which the faculty member appears.

## **Academic Honesty**

### **Integrity of Scholarship and Grades**

#### **Truth and Honesty**

The principles of truth and honesty are recognized as fundamental to a community of teachers and scholars. The university expects that both faculty members and students will honor these principles and in so doing protect the validity of university grades. This means that all academic work will be done by the student to whom it is assigned without unauthorized aid of any kind. Instructors, for their part, will exercise care in the planning and supervision of academic work, so that honest effort will be positively encouraged. Compliance shall include compliance with the following specific rules:

1. No student shall knowingly, without authorization, procure, provide, or accept any materials that contain questions or answers to any examination or assignment.
2. No student shall, without authorization, complete, in part or in total, any examination or assignment for another person.
3. No student shall, without authorization, allow any examination or assignment to be completed, in part or in total, by another person.
4. No student shall knowingly plagiarize or copy the work of another person and submit it as his or her own.
5. No student shall submit work that has been previously graded or is being submitted concurrently to more than one course without authorization from the instructor(s) of the class(es) to which the student wishes to submit it.

#### **Plagiarism**

Any ideas or material taken from another source for either written or oral presentation must be fully acknowledged. Offering the work of someone else as one's own is plagiarism. The language or ideas taken from another may range from isolated formulas, sentences, or paragraphs to entire articles copied from books, periodicals, speeches, or the writing of other students. The offering of materials assembled or collected by others in the form of projects or collections without acknowledgment also

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is considered plagiarism. Any student who fails to give credit in written or oral work for the ideas or materials that have been taken from another is guilty of plagiarism.

Such activity may result in failure of a specific assignment, an entire course, or, if flagrant, dismissal from Grand Valley. For further information, see the Student Code.

### **Policy on Research Integrity**

The university has developed policies and procedures to comply with the federal government regulations regarding dealing with and reporting possible research misconduct. Allegations of misconduct should be referred to the appropriate dean or appointing officer or the provost and vice president for Academic Affairs, or the research integrity officer (excerpted from Grand Valley State University Policy and Procedures for Handling Allegations of Misconduct in Research, for the complete policy refer to the Faculty Handbook). Students involved in research, who suspect that an incident of misconduct has occurred, should report the incident to the dean of their academic college or the research integrity officer.

### **Complaints**

A student who has a concern that has not been addressed by a policy in this section may present their case in writing to the registrar. The registrar will acknowledge receipt of the complaint and respond regarding the disposition and assignment of resolution within 10 calendar days.

### **Health Insurance Portability and Accountability Act Law**

Health Insurance Portability and Accountability Act (HIPAA) law is a federal law related to health insurance and medical privacy. Students who have access to protected health information through clinical placements must be trained in HIPAA compliance. Students who have access to certain health-related information through their placements are required to receive training on HIPAA privacy practices. If you are not sure whether you should receive training in this area, please contact your major advisor.

### **Records: Statement of Policy**

It is the charge of the registrar to maintain complete and accurate academic records for Grand Valley State University and its past and current student populations. Much of the record keeping is required by either state or federal mandate. Grand Valley adheres to the compliance guidelines of the Family Educational Rights and Privacy

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Act (FERPA) of 1974, as amended. A statement of the compliance policy is available in the Registrar's Office.

## Responsibilities

Each student must fulfill all general and specific requirements and abide by all pertinent academic regulations to earn a degree at Grand Valley State University. It is the responsibility of the student to learn the requirements, policies, and procedures governing the program being followed and to act accordingly.

## Uniform Course Numbering System

### 1. Uniform Course Numbering Guidelines

Category	Description
000-099	Credit in these courses does not apply to the minimum 120 credits required for the baccalaureate degree.
100-199	Introductory courses, generally without prerequisites, primarily for first-year undergraduate students.
200-299	Courses primarily for second-year undergraduate students.
300-399	Courses primarily for third- and fourth-year undergraduate students.
400-499	Advanced courses primarily for fourth-year undergraduate students.
500-599	Courses primarily for first-year graduate students or prerequisites for 600- and 700-level courses.
600-699	Courses primarily for graduate students admissible to graduate programs or prerequisites for 700-level courses.
700-799	Courses primarily for advanced graduate students in postgraduate, graduate, and postdoctoral programs.

### 2. Reserved Undergraduate Course Numbers

- a. The numbers 180, 280, 380, and 480 are reserved for use only as special topics courses.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- b. The numbers 399 and 499 are reserved for use only as independent study and research courses.
- c. The number 490 is reserved for use only as an internship or practicum course.
- d. The number 495 is reserved for use only as a Capstone course.

### **3. Reserved Graduate Course Numbers**

- a. The numbers 680 and 780 are to be used for graduate special topics courses.
- b. The numbers 690 and 790 are to be used for graduate research preparation courses.
- c. The numbers 693 and 793 are to be used for graduate project courses.
- d. The numbers 695 and 795 are to be used for graduate thesis/dissertation courses.
- e. The numbers 696 and 796 are to be used for graduate thesis/dissertation continuous enrollment courses.
- f. The numbers 697 and 797 are to be used for professional learning credit.
- g. The numbers 699 and 799 are to be used for graduate independent study courses.

## **U.S. Department of Veterans Affairs: Certification for Benefits**

Grand Valley complies in full with all reporting requirements outlined by the U.S. Department of Veterans Affairs. Enrollment, academic status, progress toward degree, conduct, attendance, and graduation requirements are monitored and reported for all benefit recipient students. All eligibility and certifications are handled through the Registrar's Office. Questions should be directed to that office.

## **Withdrawal From Grand Valley State University**

Students withdrawing from Grand Valley during an academic term must obtain a Complete Withdrawal Form from the Registrar's Office and, if applicable, have it

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signed by the director of the Student Academic Success Center. The completed form must be returned to the Registrar's Office. Any refunds will be based on the date the completed form is filed with the Registrar's Office.

Graduate students must follow the Graduate Academic Policy on Course Withdrawals.

Students in good standing who wish to return to Grand Valley after an absence of two or more semesters must submit a Petition to Return form to the Registrar's Office prior to registration. The form can be obtained from the Office of Admissions, the Registrar's Office, or the Registrar's Office website.

## **Withdrawal From a Graduate Course**

For information on withdrawal from a graduate course, please refer to the section in the catalog on Graduate Academic Policies and Regulations.

## **Withdrawal From an Undergraduate Course**

A student may withdraw from a course and receive a grade of W when the completed Registration and Drop/Add Form is presented to the registrar by the end of the ninth week or dropped through self-service Banner. Students who do not withdraw before the deadline must accept a grade other than W depending on the instructor's judgment of their performance in the course(s) and any mitigating circumstances. Students who request an exception of the withdrawal deadline due to extenuating circumstances must present their explanation of appeal attached to a Registration and Drop-Add Form signed by their professor and department chair along with at least one statement of support from the professor or department chair to the director of the Student Academic Success Center. Students should continue attending class until notification of a final decision about their appeal is received.

For additional information regarding late registration and dropping or withdrawing from classes throughout the academic year, please check the Important Policies section on the Financial Aid website.

# **Undergraduate Academic Policies and Regulations**

## **Classification of Students**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Freshman: 0 to 24.99 semester credits  
Sophomore: 25 to 54.99 semester credits  
Junior: 55 to 84.99 semester credits  
Senior: 85 or more semester credits

## Academic Review Policy

Beginning with the fall semester 2002, the following system has been used to evaluate the academic progress of all undergraduate students. Using either the narrative or the table that follows, students can check their credits earned, cumulative grade point average (GPA), and current GPA to readily determine their academic standing. The table that follows lists semester hours earned (including hours in transfer) and the minimum GPA for good standing, probation, jeopardy of dismissal, and dismissal.

1. **Good Standing:** Each student must have a cumulative GPA of a 2.000 or higher to be in good standing.
2. **Academic Probation:** A freshman with a cumulative GPA between 1.501 and 1.999 will be placed on probation. A sophomore with a cumulative GPA between 1.801 and 1.999 will be placed on probation.
3. **Jeopardy of Dismissal:** A freshman whose cumulative GPA is 1.500 or lower and a sophomore whose cumulative GPA is 1.800 or lower will be placed in jeopardy of dismissal. Juniors and seniors whose cumulative GPA is below 2.000 will be placed in jeopardy of dismissal.
4. **Dismissal:** Students in jeopardy of dismissal have one semester to raise their cumulative GPA above the dismissal level. If the student's cumulative GPA does not rise above the dismissal level and if the current semester GPA is less than a 2.500, the student will be dismissed.
5. **Readmission Following Dismissal:** A dismissed student may apply for readmission after a period of one calendar year. Evidence of maturity and improved attitude toward academics and the written support of the student's academic advisor must accompany the application for readmission. The Petition to Return form and supporting documentation must be submitted to the registrar not less than 10 days before the first day of classes for the semester of intended return. Petitions are reviewed by the Academic Review Committee on a continual basis. Approval of a petition allows the student to enroll on a conditional basis, as stipulated by the committee. The academic standing for a readmitted student will be jeopardy of dismissal.
6. **Due Process Through Appeal:** If a student believes that his or her academic status is in error, he or she may submit a written appeal including written support of his or her academic advisor to the Academic Review Committee, c/o the registrar. It is in the student's interest to appeal immediately if he or she intends to do so, but a student may do so no later than the first class day of the subsequent semester. All appeals will be considered by the Academic Review Committee.

\*Including transfer credit hours.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

# Undergraduate Academic Forgiveness Policy

This program is intended to supplement and not replace other mechanisms that already exist (withdrawals, faculty mentoring program, etc.). Student must choose their best option in consultation with an advisor.

## Eligibility for the Program

1. Student has not performed well in a major they have selected (abandoned major) and wishes to change or has already changed to a different major (new major). **Additional eligibility criteria apply as described in the following section.**
2. Student must demonstrate, through developing an academic plan in consultation with a professional advisor, how they intend to progress in a new major.
3. The courses that may be subject to academic forgiveness must meet the criteria specified in the Terms of Academic Forgiveness. Students should consult an advisor to determine if academic forgiveness is an appropriate option.

## Terms of Academic Forgiveness

1. Academic forgiveness can be granted only once in the student's undergraduate experience.
2. A student granted academic forgiveness will benefit from their improved GPA. The new GPA will include all courses taken by the student except for the forgiven courses, which will be entirely excluded from the GPA calculation.
3. Application must list a minimum of two different courses qualifying for academic forgiveness.
4. Academic forgiveness can be granted for a maximum of 16 unique credit hours.
5. All instances of a forgiven repeated course will be excluded from GPA. The number of forgiven credits will be equal to a single instance of this course in the transcript.
6. Forgiven courses must be required or prerequisite for the abandoned major and not required or prerequisite for the final major. Courses taken only to fulfill general education or Meijer Honors College requirements do not qualify.
7. Forgiven courses (if passing grade was earned) will no longer count toward general education, SWS, or other university degree requirements (such as 120 credit hours for graduation).
8. Academic forgiveness cannot be used for courses in which academic misconduct occurred.

## Dean's List

Undergraduates who earn 12 or more grade point credits with a grade point average of 3.5 or higher in any semester earn a place on the Grand Valley State University Dean's List. (A grade of CR does not count toward the total credits required.) The

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

deans send each student a personal letter and the honor is noted on the student's permanent record.

## Graduation Honors

Graduation honors will be based on the cumulative grade point average, including the final semester. The following scale is in effect for bachelor's degrees awarded Fall 2021, Winter 2022, and Summer 2022:

**Summa cum laude:** 4.000

**Magna cum laude:** 3.928-3.999

**Cum laude:** 3.849-3.927

Cut-off points are determined based on the distribution of GPAs for baccalaureate graduates in the previous calendar year (e.g. 2021-2022 cut-off points are set by examining final GPAs from 2020 graduates). **Summa cum laude** requires a GPA of 4.000. **Magna cum laude** requires a GPA above the previous year's 95th percentile (but below 4.000). **Cum laude** requires a GPA above the previous year's 90th percentile (but below the magna cum laude cut-off).

## Class Attendance

At Grand Valley, regular attendance in class and other course activities is considered an essential part of the students' educational experience and a requirement for an adequate evaluation of student academic progress.

Coursework missed because of excused absences should be made up to the satisfaction of the instructor. Although makeup work will not remove the full adverse effect of the absence in all cases, faculty members will make reasonable accommodations for students when an absence is excused. The accommodations available will vary with course and program. The degree of the effect upon grades will vary with the nature and amount of work missed and must be measured according to the instructor's best judgment. In case of excessive absences, the instructor may refuse to grant credit for the course. Under some circumstances, an incomplete grade followed by a resolution according to university policy, or withdrawal from the course, is appropriate.

Absences due to the following reasons should be treated as excused: 1) absences of students who miss class due to active participation in an intercollegiate event; 2) absences due to the observance of religious holidays, see PC 9.6, Religious Inclusion Policy; 3) absences due to military duty; 4) absences due to jury duty, or appearance

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in court or other government hearings; 5) student medical conditions that preclude class attendance; 6) birth or adoption of child; and 7) absences due to attendance at an academic and/or professional conference. Instructors have discretion to determine whether absences for other reasons should be treated as excused (e.g. study abroad program).

## Student Credit Load

Most courses carry three hours of credit. To complete a bachelor's degree in four years, a student should carry a minimum of 15 hours each semester. First-semester freshmen and students on academic probation may not carry loads greater than 20 credits per semester.

Students who elect to take an extended course load of 20 credits or more must acquire approval from the director of the Student Academic Success Center.

## Advising/Degree Audit

All undergraduate programs recommend that their degree-seeking students meet with an assigned faculty advisor or advising center professional advisor at least once per year, to ensure that there is a clear understanding of program requirements. Students can view their progress toward graduation at any time by using the myPath degree audit system.

## Credit by Examination

In some cases, degree-seeking students may be granted advanced placement or receive college credit by examination. Tests are available to determine levels of competence in certain subject areas. The following tests are available:

**Advanced Placement Program (AP):** AP is a program sponsored by the College Entrance Examination Board (CEEB). Generally, credit is granted for scores of 3, 4, or 5 but is determined by the appropriate academic department.

**College Level Examination Program (CLEP):** Credit is granted for subject examinations offered by CLEP; however, no credit is granted for the CLEP general examinations. Required minimum scores are available on request from the Admissions Office or the Registrar's Office. Native speakers of a language other than English will not be granted CLEP or AP exam credit for that language.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

**Defense Activity for Nontraditional Educational Support (DANTES):** Grand Valley will accept for credit certain DANTES college-level courses and college subject matter examinations. Specifics are available upon request from the office of Admissions or the Registrar's Office. There is no limit to the number of DANTES credits that can be applied.

**International Baccalaureate (IB):** Credit is granted for higher level IB exam results (in most subjects). The minimum score is 4. Details of the credit granted are available from the Admissions Office or the Registrar's Office.

Credit by examination in any of the noted programs has the following limitations:

1. Examination credit will be awarded if the student has not previously registered for the course in question at Grand Valley or elsewhere.
2. The credits, while counting toward graduation, will not be used in computing the GPA.
3. Students must earn the last 30 credits toward their degree at Grand Valley; therefore, a student nearing graduation must get a Residency Waiver approved before the CLEP exam is taken.
4. The maximum amount of credit by examination that may be applied toward the baccalaureate is 32 hours. This is inclusive of any combination from Advanced Placement, CLEP, and International Baccalaureate credits awarded.

## **Concurrent Enrollment with Michigan Community Colleges**

Concurrent enrollment allows students at both Grand Valley State University and those attending Michigan community colleges to make full use of the variety of courses offered by both institutions. Through concurrent enrollment, students have more scheduling options, more choice of course locations, and many more courses available. Students may take courses at both institutions simultaneously or alternate enrollment between them. Financial aid may also be available to students who qualify.

Students must be admitted to both institutions. Students will follow the policies in place at each school they attend. Grand Valley has waived the rule that requires a student to have satisfied the Michigan Transfer Agreement (MTA) degree prior to taking their first course at Grand Valley. The benefits of the MTA agreement will be honored upon verification of completion of the degree. Refer to the General Education Requirements section for further clarification.

## **Internships**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

An internship is experiential learning for credit taking place outside the classroom and directed by a field supervisor and a Grand Valley State University faculty member. A student may enroll for a maximum of 15 credits of internship. An internship must be planned with a faculty advisor the semester before it takes place.

## **New Student Advising and Registration**

Attendance at an orientation program is required of all degree-seeking undergraduate students before their first semester of attendance. The purposes are to welcome new students, to introduce them to each other and to faculty members with whom they will be working, and to assist them in planning programs of study. The final step of new student advising and registration is the preparation of a schedule of classes approved by a faculty advisor and completion of the registration process. A schedule of the new student advising and registration dates is mailed to all new students well in advance of their term of entrance.

## **Transitions**

All new students are expected to participate in Transitions, the fall orientation program offered prior to the first day of classes. This exciting program helps students meet new people, get acclimated to campus, and prepare for a successful university experience.

## **Degree Requirements**

The following requirements apply to all undergraduate degree-seeking students:

1. A minimum of 120 semester hours
2. A cumulative GPA of at least 2.0
3. A graduation major with at least a 2.0 average
4. A minor, if elected, with a 2.0 GPA
5. General education requirements
6. Cognate for Bachelor of Arts or core for Bachelor of Science degree
7. Capstone course
8. The last 30 semester hours toward a baccalaureate degree must be earned in Grand Valley courses
9. A minimum of 58 semester hours must be earned at a senior institution
10. A minimum of 12 Grand Valley earned semester hours must be included in the major (six for the minor)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **1. Semester Hours Requirements**

Students are required to complete at least 120 semester hours of credit for graduation. Courses taken after summer 1983 numbered below 100 do not apply toward the 120 needed for graduation.

## **2. Cumulative**

For graduation, a student must earn a cumulative GPA of at least a 2.0 based on all coursework attempted at Grand Valley. Some major programs stipulate a GPA requirement exceeding the minimum. Refer to the department entries for specifics.

## **3. Major**

A student must elect a major in one or more of the academic units empowered to present candidates for the undergraduate degree. A cumulative GPA of 2.0 in the major is the required minimum for graduation. Some majors stipulate requirements exceeding the minimum. Refer to the department entries for program specifics.

## **4. Minor**

A minor is required for select programs for graduation. Any student may choose to complete a minor. If a student chooses to complete a minor, a cumulative GPA of 2.0 is the required minimum for graduation. Some minors stipulate requirements that exceed the minimum. Refer to the department entries for program specifics.

## **5. General Education Requirements**

Ensuring that undergraduate students receive a broad general education has been a primary goal of colleges and universities since their inception. In this era of increasing specialization and growing demand for professional expertise, it is vital that we continue to emphasize the value of general learning.

## **6. B.A. and B.S. Degree Requirements**

All Bachelor of Arts degree programs must include at least three courses that focus on culture, arts, philosophy, or language. At least two courses must be outside of the general education Foundations category. All Bachelor of Arts programs must require third-semester proficiency in a classical or modern language.

All Bachelor of Science degree programs must include at least three courses that focus on mathematics, statistics, quantitative reasoning, or scientific analysis. At least two courses must be outside of the general education Foundations category. At least one course must build upon the expertise developed in the general education Mathematical Sciences category by requiring a general education Mathematical Sciences course as a prerequisite.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **7. Capstone Course**

Each undergraduate major curriculum must include a Capstone experience (generally a senior-level course of three credits) with four general criteria: breadth (students must draw on several courses within their major), integration/synthesis (students combine different skills and areas of knowledge into a single experience), application (e.g., students use their knowledge and skills to examine an issue and produce a substantial outcome), and transition (e.g., students reflect on and gain knowledge and skills that prepare them to move from college to the world beyond).

## **8. Required Hours at Grand Valley**

Graduation from Grand Valley State University requires that the completion of the last 30 semester hours toward a baccalaureate degree must be earned at Grand Valley or in Grand Valley programs and courses taught off campus by Grand Valley faculty members.

## **9. Senior Institution Requirement**

Regardless of the number of transfer credits accepted by Grand Valley from junior or community colleges, a baccalaureate degree must include a minimum of 58 semester hours from a senior (four-year, degree-granting) institution.

## **10. Transfer Hours for Major and Minor**

Regardless of the number of transfer hours accepted by Grand Valley from other institutions, transfer students must complete a minimum of 12 hours in the unit conferring the major (six for the minor).

Grand Valley maintains that a complete education involves more than preparation for a particular career. A career occurs in the context of a life, and a sound general education helps one "make a life" as well as "make a living." The university remains committed to assuring that all undergraduate students, regardless of academic major or intended profession, receive a broad education rooted in the arts and sciences.

The focus of our General Education Program is to provide students with an education that balances depth with breadth, the specialized with the general. The General Education Program helps students become literate in a sophisticated way in a number of disciplines, and it fosters their ability to make connections across various domains of knowledge. Such preparation will provide students with the general knowledge and skills necessary to participate intelligently in the discourses that shape local, national, professional, and global communities.

Teaching in the liberal tradition is at the heart of Grand Valley's identity, and this focus is critical in our General Education Program. Liberal education transcends the acquisition of information; it goes beyond the factual to ask important evaluative and

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philosophical questions. Liberal learning holds the fundamental principles and suppositions of a body of knowledge up to inquiry, question, and discussion. It helps a person recognize the assumptions under which he/she operates and encourages the examination and questioning of those assumptions. Liberal learning begins in the General Education Program and continues through more specialized studies comprising each student's major and minor areas of study.

Grand Valley is dedicated to making sure that our students, via their academic majors, become competent specialists in their fields of endeavor. An equally pressing priority is that our graduates also possess the marks of a generally educated person and that they will have acquired the broad knowledge and life skills that will allow them to be informed and thoughtful people. These ideals co-exist within our institution, and together they produce people who can contribute to their own well-being, their communities, their professions, and the world in which they live.

The General Education Program provides a broad-based liberal education experience that fosters lifelong learning and informed citizenship. The program prepares students for intelligent participation in public dialogs that consider the issues of humane living and responsible action in local, national, and global communities.

Refer to [gvsu.edu/gened](http://gvsu.edu/gened) for more information.

## **Student Learning Outcomes of The General Education Program**

The General Education Program teaches the knowledge and skills needed to intelligently participate in public discourse.

### **Knowledge Outcomes**

Graduates will know:

1. about the major areas of human investigation and accomplishment the arts, the humanities, the mathematical sciences, the natural sciences, and the social sciences.
2. about their own culture and the culture of others; and
3. how academic study connects to issues in the world.

### **Skills Outcomes**

Graduates are proficient in the following:

1. Collaboration: Effectively work on a team.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

2. **Critical Thinking:** Comprehensively evaluate issues, ideas, artifacts, or events before forming a conclusion.
3. **Ethical Reasoning:** Apply ethical principles and codes of conduct to decision making.
4. **Information Literacy:** Identify the need for information; access, evaluate, and use information effectively, ethically, and legally.
5. **Integration:** Apply knowledge from experiences and multiple disciplines to new, complex situation.
6. **Oral Communication:** Effectively prepare and deliver a formal oral presentation.
7. **Problem Solving:** Design and evaluate an approach to answer an open-ended question or achieve a desired goal.
8. **Quantitative Literacy:** Work effectively with numerical data.
9. **Written Communication:** Write effectively for multiple purposes and audiences.

## **Requirements of The General Education Program**

### **Foundations**

Courses in the Foundations category introduce you to the major areas of human thought and endeavor. These courses present the academic disciplines as different ways of looking at the world, they introduce you to the varied methods used to create knowledge, and they acquaint you with major questions and principles of the field.

Requirements include the following:

1. Arts (one course)
2. Historical Perspectives (one course)
3. Mathematical Sciences (one course)
4. Life Sciences (one course, either the Life Sciences or the Physical Sciences course must contain a lab)
5. Physical Sciences (one course, either the Physical Sciences or the Life Sciences course must contain a lab)
6. Philosophy and Literature (one course)
7. Social and Behavioral Sciences (two courses from two different disciplines)
8. Writing (one course)

### **Cultures**

Courses in the Cultures category prompt you to recognize yourself as a cultural being, and to understand the diverse ways in which people organize life and perceive the world. It enhances your ability to live and work intelligently, responsibly, and cooperatively in a multicultural nation and an interdependent world.

Requirements include the following:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

1. U.S. Diversity (one course)
2. Global Perspectives (one course)

Courses with a Cultures designation may count for Foundations or Issues credit in addition to Cultures credit. See the specific course for details.

## **Issues**

Courses in the Issues category provide you with opportunities to integrate learning and cocurricular experiences and then to build connections between prior understanding and new learning. Issues courses are problem-solving courses that encourage cross-disciplinary collaboration within each class. They also develop your understanding of some of the most compelling issues of our time: globalization, health, human rights, identity, sustainability, and the connected topics of information, innovation, or technology.

Requirements include the following:

- Two courses (two courses from two different disciplines)
- Courses can be within the same Issue or be from different Issues
- If a course is cross-listed in two disciplines/course prefixes, your second course must be taken from a third discipline/course prefix.
- Issues courses must be taken at GVSU (except study abroad, see [gvsu.edu/studyabroad](http://gvsu.edu/studyabroad)).
- Issues courses have a junior standing prerequisite (you must have completed at least 55 credits prior to taking an Issues course; you can register for the class while the final credits are in progress).

## **I. Foundations**

Arts\*

(One course)

ART 101 - Introduction to Art

ART 153 - Making and Meaning in Art and Design

ART 159 - Drawing Fundamentals

ART 231 - Integrating the Visual Arts Across Disciplines

ART 260 - Introduction to Painting

ART 270 - Introduction to Sculpture

ART 271 - Digital 3D Modeling and Design

ART 275 - Introduction to Ceramics

CLA 250 - Classical Art and Archaeology

DAN 200 - Introduction to Dance

FVP 225 - Film Culture

JPN 222 - Early Modern Japanese Literature and Theatre

MUS 100 - Introduction to Music Literature

MUS 128 - Strum and Drum for Everyone

MUS 129 - Fundamentals of Music

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

MUS 218 - World Music  
PHI 220 – Aesthetics  
PHO 175 - Understanding Still Photography  
THE 101 - Introduction to Theatre  
THE 161 - Theatre Production  
WGS 255 - Gender and Popular Culture  
WRT 219 - Introduction to Creative Writing

Philosophy and Literature\*

(One course)

CHI 236 - Popular Chinese Fiction  
CLA 101 - Greek and Roman Mythology  
CLA 201 - Classical Literature  
CLA 231 - Health and Science in Antiquity  
COM 202 - Critical Interpretation  
EDF 215 - Introduction to Philosophies of Early Childhood  
ENG 105 - Literatures in English  
ENG 112 - Much Ado About Shakespeare  
ENG 115 - Introduction to Science Fiction  
ENG 203 - World Literature  
ENG/AAA 231 - Early African American Literature  
INT 100 - Introduction to Liberal Education  
JPN 221 - Pre-modern Japanese Literature and Culture (to 1600)  
JPN 224 - Post-World War II Japan through Literature and Film  
PHI 101 - Introduction to Philosophy  
PHI 102 - Ethics  
PHI 202 - Ethics of Health  
PHI 204 - Knowledge, Politics, and Social Media  
PLS/HRT 105 - Introduction to Human Rights

Historical Perspectives\*

(One course)

ANT 215 - Origins of Civilization  
CLA 121 - Greek Civilization  
CLA 131 - Introduction to Roman Civilization  
EAS 201 - East Asia in the Contemporary World  
GSI/HST 202 - History of Global Change and Social Transformation  
HSC 201 - The Scientific Revolution  
HSC 202 - The Technological Revolution  
HST 101 - Introduction to World Civilizations  
HST 102 - Introduction to European Civilizations  
HST 103 - Introduction to American Civilizations  
HST 203 - World History to 1500 A.D.  
HST 204 - World History since 1500  
HST 205 - American History to 1877  
HST 206 - American History since 1877

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

HST 207 - European Civilization to the Later Middle Ages  
HST 208 - European Civilization since the Later Middle Ages  
HST 211 - History of Islamic Civilization  
HST 212 - India: History and Civilization  
HST 230 - Latin America in World History  
HST 240 - A History of East Asia to 1800  
HST 241 - A History of East Asia since 1800  
MES 201 - Introduction to the Middle East  
REL 200 - Understanding Religions in Human Experience  
WGS 224 - Introduction to LGBTQ Studies

#### Mathematical Sciences\*

(One course or MTH 126 + STA 126)

CIS 101 - Thriving in Our Digital World  
CIS 160 - Learn to Code in Python  
GPY 200 - Computer Cartography  
MTH 122 - College Algebra  
MTH 123 - Trigonometry  
MTH 124 - Precalculus: Functions and Models  
MTH 125 - Survey of Calculus  
MTH 126 - Mathematics for Elementary Teachers  
MTH 131 - Introduction to Mathematics  
MTH 201 - Calculus I  
PHI 103 - Logic  
STA 126 - Statistics for Elementary Teachers  
STA 215 - Introductory Applied Statistics

The prerequisite to all Mathematical Sciences courses is MTH 110 or its equivalent.

You must take both MTH 126 and STA 126 in order to receive Mathematical Sciences credit.

#### Physical Sciences\*

(One course, either the Physical Science or the Life Science must contain a lab)

CHM 102 - Chemistry and Society  
CHM 111 - Introduction to Green Chemistry  
GEO 100 - Environmental Geology  
GEO 103 - Oceans  
GEO 105 - Living with the Great Lakes

#### Lab Courses:

CHM 109 - Introductory Chemistry  
CHM 115 - Principles of Chemistry I  
CHM 201 - Introduction to Chemical Sciences  
GEO 111 - Exploring the Earth  
NRM 140 - The Climatic Factor  
PHY 105 - Descriptive Astronomy  
PHY 201 - Inquiry: The Mechanical and Thermal World  
PHY 220 - General Physics I

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

PHY 230 - Principles of Physics I  
SCI 226 - Integrated Physical Science for K-8 Teachers

Life Sciences\*

(One course, either the Life Science or the Physical Science must contain a lab)

ANT 206 - Human Origins  
BIO 105 - Environmental Science  
BMS 100 - Human Health and Disease  
CMB 155 - Introduction to Cell and Molecular Biology

Lab Courses:

BIO 104 - Biology for the 21st Century  
BIO 107 - Great Lakes and Other Water Resources  
BIO 109 - Plants in the World  
BIO 120 - General Biology I  
BMS 202 - Anatomy and Physiology  
CMB 140 - Living foods: Ferment them yourself!  
CMB 150 - Biotechnology and Society  
SCI 225 - Integrated Life Science for K-8 Teachers

Social and Behavioral Sciences\*

(Two courses, each from a different discipline/course prefix)

AAA 200 - Understanding Africa  
AAA 201 - Introduction to African American Studies  
ANT 204 - Introduction to Cultural Anthropology  
ANT 207 - Language and Culture  
ANT 220 - Introduction to Archaeology  
CJ 101 - Justice and Society  
DS 201 - Digital Identities and Communities  
ECO 100 - Current Economic Issues  
ECO 210 - Introductory Macroeconomics  
ECO 211 - Introductory Microeconomics  
EDF 115 - Introduction to Education: A critical exploration of schooling in America  
GPY 111 - Cities, Towns, and Villages  
GPY 220 - Cultural Geography  
GPY 235 - World Regional Geography  
GSI 201 - (Dis)Order and (In)Justice: An Introduction to Global Studies  
GSI/PLS 215 - Global Migration  
GSI 290 - Changemakers! Introduction to Social Impact  
INT 201 - Diversity in the United States  
LAS 210 - Exploring Latin America  
LAS 220 - Introduction to Latino/a Studies  
LS 101 - Law in Our Lives  
PNH 270 - Public and Nonprofit Administration  
PED 207 - Personal Health and Wellness  
PLS 102 - American Government and Politics

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

PLS 103 - Issues in World Politics  
PLS 211 - International Relations  
PSY 101 - Introductory Psychology  
REL 100 - Religions of the World  
SOC 101 - Introduction to Sociology  
SOC 105 - Social Problems  
SOC 287 - Sociology of Religion  
SW 150 - Human Needs in a Complex Society  
WGS 200 - Introduction to Gender Studies

## Writing

(One course)

Students must receive a grade of C (not C-) or better to fulfill this requirement.

WRT 130 - Strategies in Writing - Stretch II

WRT 150 - Strategies in Writing

## II. Cultures

Global Perspectives\*\*

(One course)

AAA 200 - Understanding Africa

AAA 300 - U.S.-Africa Relations

AAA 302 - African Diaspora

AAA/PLS 319 - African Politics

AAA/ENG 337 - Contemporary Black Literature

ANT 204 - Introduction to Cultural Anthropology

ANT 215 - Origins of Civilization

ANT 315 - Comparative Religions

ANT 340 - Culture and Environment

ANT 345 - Perspectives on Globalization

ARA 202 - Intermediate Arabic II: Language and Culture

ART 322 - Goths and Gothic: Medieval Art

ART 323 - Rethinking Renaissance Art

ART 422 - Art and the Worlds of Islam

CHI 202 - Intermediate Chinese II: Language and Culture

CHI 236 - Popular Chinese Fiction

CHI 323 - Late Imperial Chinese Culture

CHI 324 - Contemporary Chinese Culture

EAS 201 - East Asia in the Contemporary World

ECO 349 - Emerging Markets Issues

ECO 369 - International Economic Issues

EDF 316 - Global Perspectives on Education

EGR/NRM 406 - Renewable Energy Systems: Structure, Policy, and Analysis

ENG 204 - World Mythology

ENG/AAA 231 - Early African American Literature

ENG 355 - Teaching English Learners, PK-6

FRE 202 - Intermediate French II: Language and Culture

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

GER 202 - Intermediate German II: Language and Culture  
GPY 235 - World Regional Geography  
GPY/PNH 324 - Urbanization  
GPY 350 - Geography of Russia and Its Neighbors  
GPY 351 - Geography of Africa  
GPY/LAS 352 - Geography of Latin America  
GPY 356 - Geography of Europe  
GPY/ENS 362 - Farmers, Crops, and our Challenging Agricultural World  
GRK 202 - Intermediate Greek II  
GSI 201 - (Dis)Order and (In)Justice: An Introduction to Global Studies  
GSI/HST 202 - History of Global Change and Social Transformation  
GSI/PLS 215 - Global Migration  
HSC 201 - The Scientific Revolution  
HST 101 - Introduction to World Civilizations  
HST 102 - Introduction to European Civilizations  
HST 203 - World History to 1500 A.D.  
HST 204 - World History Since 1500  
HST 208 - European Civilization since the Later Middle Ages  
HST 211 - History of Islamic Civilization  
HST 212 - India: History and Civilization  
HST 230 - Latin America in World History  
HST 240 - A History of East Asia to 1800  
HST 241 - A History of East Asia since 1800  
HST 310 - Cultural and Social Topics in Nonwestern History  
HST 332 - Emergence of Modern India and South Asia  
HST 342 - History of Buddhism and East Asian Religions  
HTM 175 - International Food and Culture  
HTM 202 - International Tourism  
INT 400 - Global Visionary Thinkers  
ITA 202 - Intermediate Italian II: Language and Culture  
JPN 202 - Intermediate Japanese II: Language and Culture  
JPN 221 - Pre-modern Japanese Literature and Culture (to 1600)  
JPN 222 - Early Modern Japanese Literature and Theatre  
JPN 224 - Post-World War II Japan through Literature and Film  
JPN 323 - Modern Japanese Literature and Film  
LAS 210 - Exploring Latin America  
LAT 202 - Intermediate Latin II  
MES 201 - Introduction to the Middle East  
MGT 303 - International Business and Culture  
MGT 466 - International Management and Multinational Corporations  
MUS 218 - World Music  
PHI 210 - Eastern Philosophy  
PHI 240 - Middle Eastern Philosophy  
PHI 250 - Existentialism  
PHI 400 - Wisdom of the East: Advanced Topics in Asian Philosophy  
PLS 103 - Issues in World Politics

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

PLS 211 - International Relations  
PLS 281 - Comparative Political Systems: Canada  
PLS 283 - Chinese Politics and U.S.-China Relations  
PLS 284 - Latin American Politics  
PSY 355 - Psychology and Culture  
REL 100 - Religions of the World  
REL 300 - Religions in the World Today: Theories, Methods, and Issues  
REL 306 - Hinduism and South Asian Religions  
REL 335 - Sacred Texts – Global Contexts  
RUS 202 - Intermediate Russian II: Language and Culture  
SOC/WGS 350 - Family and Gender in the Developing World  
SPA 202 - Intermediate Spanish II: Language and Culture  
WGS 450 - Global Feminisms

U.S. Diversity\*

(One course)

AAA 201 - Introduction to African American Studies  
AAA/WGS 352 - Black Women's Culture and Communities  
AAA 355 - History of the Underground Railroad  
ANT 207 - Language and Culture  
ANT 311 - Native Peoples of North America  
ANT 375 - Language, Identity, and Diversity  
ART 425 - Depicting a Nation: 19th Century American Art  
CMJ 290 - Media History  
EDF 315 - Diverse Perspectives on Education  
ENG 335 - Literature of American Minorities  
GPY 353 - Geography of the United States and Canada  
HST 103 - Introduction to American Civilizations  
HST 205 - American History to 1877  
HST 206 - American History Since 1877  
HST 314 - African American History  
INT 201 - Diversity in the United States  
INT/HRT 320 - Voices of the Civil Rights Movement in the United States  
INT 350 - The Immigrant Experience in the U.S.  
INT 401 - Visionary Thinkers in the American Mosaic  
ITC 100 - Intro to Intercultural Competence  
LAS 220 - Introduction to Latino/a Studies  
LAS 373 - Latinos/as in West Michigan  
MES 202 - Arab Americans  
MGT 355 - The Diversified Workforce  
MUS 219 - Jazz History  
MUS 300 - Exploring American Music  
PHI 230 - American Philosophy  
REL 340 - Religion and Popular Culture in the United States  
SOC 105 - Social Problems  
SOC 285 - Families in Society

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

SOC 287 - Sociology of Religion  
SOC 313 - Race and Ethnicity  
SOC/WGS 317 - Sociology of Gender  
SOC/WGS 318 - Sociology of Sexuality  
SOC 322 - Sociology of Community  
SOC 381 - Class, Race, Gender, and Sexuality  
SPA 313 - U.S.-Latino/a Civilization and Culture  
SW 355 - Addressing Ageism in Health and Human Services  
WGS 255 - Gender and Popular Culture

### **III. Issues**

The following rules apply to Issues courses:

- You may choose your Issues courses from the same category (Globalization, Health, etc.) or from two different categories.
- You must choose two courses from two different disciplines/course prefixes.
- If a course is cross-listed in two disciplines/course prefixes, your second course must be taken from a third discipline/course prefix.
- Issues courses must be taken at Grand Valley State University (except for study abroad, see [gvsu.edu/studyabroad](http://gvsu.edu/studyabroad)).

Issues courses have a junior standing prerequisite. For class standing, a junior is defined as a student who has earned 55 to 84 credits. For prerequisite checking, a student must have completed or will have completed at least 55 credits prior to taking the course. However, they can register for the class while the final credits are in progress.

Issue: Globalization\*

AAA/HST 357 - The Black Diaspora and the Meaning of Sports, 1800 to the Present  
AAA/PLS 319 - African Politics  
AHS 330 - Health Care: A Global Perspective  
ANT 345 - Perspectives on Globalization  
ART 323 - Rethinking Renaissance Art  
ART 422 - Art and the Worlds of Islam  
CHI 324 - Contemporary Chinese Culture  
CJ/DS 335 - Digital Crime, Media and Culture  
CLA 301 - Re-imagining the Classics  
CLA 302 - The Stages of Greek and Roman Drama  
ECO 349 - Emerging Markets Issues  
ECO 365 - Comparative Economic Systems  
EDF 316 - Global Perspectives on Education  
GPY 335 - Globalization and Development  
GPY 350 - Geopolitics, Energy, and Environment of Russia and Central Eurasia  
GPY 354 - Geography and Globalization of Asia  
GPY/ENS 362 - Farmers, Crops and Our Challenging Agricultural World  
HST 332 - Emergence of Modern India and South Asia  
INT/HST/HRT 319 - Human Traffic and Trafficking  
INT 331 - Person and Profession in a Global Environment  
MGT 303 - International Business and Culture

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

MKT 359 - Multinational Marketing  
PNH 372 - International and Comparative Administration  
REL 335 - Sacred Texts – Global Contexts  
SOC 355 - Sociology of Work and Employment  
SOC 377 - Globalization: Structures and Movements  
STA 341 - Demographic Methods  
WRT 354 - Writing in the Global Context: Culture, Technology, and Language Practices

Issue: Health\*

AHS 340 - Health Care Management  
AHS 352 - Introduction to Holistic Health Care  
ANT 320 - Culture and Disease  
ART 350 - Learning to See: Visual Training for the Health Care Professional  
BIO 309 - Plants and Human Health  
BIO 325 - Human Sexuality  
BIO 328 - Biomedical Ethics  
CMB 350 - Foundations of Brewing  
ECO 343 - Health Economics  
ENG 386 - Literary Responses to Death and Dying  
HST 370 - History of Medicine and Health  
INT /WGS 326 - Sexuality, Justice, and Advocacy  
INT 342 - Food Matters  
MOV 350 - The Obesogenic Environment  
NUR 344 - Healthy Aging: A Lifelong Journey  
NUR 354 - Living with Life-Limiting Illness  
NUR 364 - Embracing Wicked Problems in Healthcare  
PSY 367 - Health Psychology  
RTX 302 - Leisure, Health, and Wellness  
SW 322 - Responding to Chronic Illness  
SW 344 - Responding to Loss, Death, and Grief  
SW 355 - Addressing Ageism in Health and Human Services

Issue: Human Rights\*

AAA/WGS 352 - Black Women's Culture and Communities  
ANT 421 - Anthropology of Social Movements  
CJ 325 - Criminal Justice and Human Rights  
CLA 367 - Thinking Like a (Roman) Lawyer  
EDI 312 - Child Guidance  
ENG 384 - Literature of War  
HST 318 - History of Democracy in America  
HST/LAS 372 - From Slavery to Freedom  
HST 378 - Contesting Human Rights  
INT/HRT 320 - Voices of the Civil Rights Movement in the United States  
INT 350 - The Immigrant Experience in the United States  
LAS 325 - Human Rights in Latin America  
LS/WGS 370 - Women and the Law

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MES 370 - Contemporary Issues in the Middle East: The Model Arab League  
MUS 301 - History of Rock and Roll  
PHI 320 - Social and Political Philosophy: Liberty and Justice  
PHI 325 - Ethics in Professional Life  
PHI 330 - Law, Philosophy, and Society  
PLS 339 - Democracy and the Authoritarian Challenge  
REL 300 - Religions in the World Today: Theories, Methods, and Issues  
SOC 306 - The Sociology of Human Rights  
SOC 313 - Race & Ethnicity  
WGS 310 - Sexual Orientation and the Law  
WGS 450 - Global Feminisms

Issue: Identity\*

AAA/ENG 337 - Contemporary Black Literature  
AAA 340 - African American Culture and Social Thought  
ANT 311 - Native Peoples of North America  
ANT 315 - Comparative Religions  
ANT 375 - Language, Identity, and Diversity  
ARA/MES 330 - Arab Identity in Literature and Culture  
ART 391 - Civic Studio  
ASL 421 - Deaf History and Culture  
BIO 311 - Who's Running Your Life: Genes, Evolution and Behavior  
BIO 329 - Evolution of Social Behavior  
CLA/WGS 325 - Body, Gender, Sexuality in Antiquity  
CLA 365 - Stoicism, Identity and the Happy Life  
COM 438 - Communication Ethics  
DS 340 - Identity and Representation in Digital Culture  
EAS 351 - Asian American Experiences  
ECO 350 - Economics of Gender  
EDF/IDS 325 - Learning from Detroit: Education and Community  
EDR 317 - Class-Conscious: Popular Culture, Schooling, and Identity  
EDS 317 - The Myth of Normal: Disability Studies in the 21st Century  
ENG 335 - Literature of American Minorities  
ENG 388 - Emigration and Immigration in Contemporary World Literature  
HST 308 - Social and Cultural Topics in U.S. History  
HST 311 - History of Religion in the United States  
HST 322 - American Identity and Sports  
HST 331 - Modern Latin America  
HST 342 - History of Buddhism and East Asian Religions  
HST/WGS 371 - Historical Perspectives on Gender and Sexualities  
HST 376 - History of Witch Hunts  
IDS 350 - Civil Discourse  
INT 314 - Life Journeys  
INT 325 - LGBTQ Identities  
JPN 323 - Modern Japanese Literature and Film  
LAS 373 - Latinos/as in West Michigan

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MLL 300 - What's Language Got to Do With It?: Exploring Identity through Language, Culture, and Literature  
MUS 300 - Exploring American Music  
PED 345 - Disability, Sport, and Physical Activity  
PHI 300 - Theories of Human Nature  
PHI 343 - Philosophy of Religion Revitalization  
PHI 370 - Sex Matters: Feminist Philosophy in the Contemporary World  
PLS 301 - Poverty, Inequality, and U.S. Public Policy  
PLS/WGS 334 - Sex, Power, and Politics  
REL 306 - Hinduism and South Asian Religions  
SOC/WGS - 317 Sociology of Gender  
SOC/WGS - 318 Sociology of Sexuality  
SOC 322 - Sociology of Community  
SOC/WGS - 350 Family and Gender in the Developing World  
SW 333 - Community Work with the Lesbian, Gay, Bisexual and Transgender Community

Issue: Information, Innovation, or Technology\*

ART 335 - Digital Creativity  
ART 392 - Curatorial Studio  
ART 394 - Interactive Studio  
CIS 310 - Introduction to the Structure and Mechanics of Social Networking  
CIS 320 - Visualization of Data and Information  
CIS 331 - Data Analysis Tools and Techniques  
CIS 358 - Information Assurance  
CMB 321 - Designing Our Future: Babies, Food, Medicine, and Biotechnology  
DS 350 - Social Media in Culture  
ECO 330 - Sports Economics  
EDT 312 - Children and Technology  
EDT 476 - Teaching with Technology  
EGR 302 - Engineering Decision-Making in Society  
ENG/DS 314 - Digital Literacies  
ENG 331 - Comics and Graphic Novels in Contemporary Culture  
GPY/MKT 365 - GIS for Economic and Business Decision Making  
GPY/ECO 385 - GIS in Urban and Regional Analysis  
INT 310 - Creativity  
INT 323 - Design Thinking to Meet Real World Needs  
INT 341 - Leadership for Social Change  
MTH 312 - Cryptography and Privacy  
REL 340 - Religion and Popular Culture in the United States  
SOC/INT 366 - American Society  
STA 340 - Statistics in the Media  
STA 345 - Statistics in Sports  
THE 325 - Theatre for Social Change

Issue: Sustainability\*

ANT 340 - Culture and Environment

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

BIO 319 - Global Agricultural Sustainability  
BIO 338 - Environmental Ethics  
ECO 345 - Environmental and Resource Economics  
EGR 306 - Urban Sustainability  
EGR/NRM 406 - Renewable Energy Systems: Structure, Policy, and Analysis  
ENG 382 - Literature and the Environment  
ENS 392 - Sustainable Agriculture: Ideas and Techniques  
GEO 360 - Earth Resources in Transition: Conventional to Sustainable  
GPY/PNH 324 - Urbanization  
GPY/LAS 361 - People, Environment, and Development in the Amazon  
GPY 363 - World Forests and Their Use  
GPY 410 - Landscape Analysis and Green Infrastructure  
GPY/ENS 412 - Global Environmental Change  
HTM 368 - Geotourism  
INT 322 - Wicked Problems of Sustainability  
INT 330 - The Idea of Nature  
NRM 451 - Natural Resource Policy  
PLS/ENS 303 - Introduction to U.S. Environmental Policy  
SOC 351 - Urban Sociology  
WGS 335 - Women, Health and Environment

Issue: Study Abroad

Details on completing a study abroad Issues course can be found at [gvsu.edu/studyabroad](http://gvsu.edu/studyabroad).

## **Supplemental Writing Skills (SWS)**

The university requires that all students take two Supplemental Writing Skills courses. These courses, which have Writing 150 or Writing 130 with a grade of C (not C-) or better as a prerequisite, are designated SWS in each semester's course schedule. Please read the schedule carefully, because not all sections of a multisection course are necessarily SWS sections. Those that are not designated SWS do not result in SWS credit. The SWS courses need not add to a student's program because they may also count as courses in general education or the major. Transfer students with a MACRAO must take one SWS course (normally in the student's major).

Courses that have received the SWS designation are not merely courses that require written assignments; they adhere to certain guidelines. Students turn in a total of at least 3,000 words of writing during the term. Part of that total may be essay exams, but a substantial amount of it is made up of finished essays or reports or research papers. The instructor works with the students on revising drafts of their papers, rather than simply grading the finished piece of writing. At least four hours of class time are devoted to writing instruction. For a three-credit course, at least one-third of the final grade is based on the writing assignments.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Students must pass the writing skills courses (Writing 150 or Writing 130 and the two SWS courses) with a grade of C or better in each course. Students with a grade of C- or lower in an SWS course may repeat the course or pass another SWS course with a grade of C or better before graduation. Transfer students with the MACRAO must pass one SWS course with a grade of C or better. Students may receive SWS credit for courses taken as credit/no-credit as long as the course has already been officially approved and designated as an SWS course.

Questions regarding the SWS program should be addressed to the University Writing Skills Committee.

[gvsu.edu/sws](http://gvsu.edu/sws)

## **Frederik Meijer Honors College**

Frederik Meijer Honors College students may satisfy their general education requirements through the Meijer Honors College curriculum.

## **Transfer Students**

Students who transfer to Grand Valley with the MACRAO approved associate of arts or science degree from a Michigan public community college have satisfied the Foundations of the General Education Program and one Supplemental Writing Skills (SWS) course. Transfer students with an MTA are required to complete the following requirements: one SWS course in their major or college and the Capstone course in that major and the B.A. or B.S. degree requirement where applicable. In addition, transfer students with an MTA must also fulfill the following general education requirements: the two-course Cultures requirement and two Issues courses.

## **Dual Majors**

In order to have dual majors recorded on the official record, a student must meet fully the requirements of each major. Students may complete a single course and that course may be applied to both majors. Dual majors may be awarded as long as there is a minimum of 60 credits across both majors. Students need to complete requirements for both majors. When course overlap occurs, students should see their advisor, who can help them obtain the proper approvals if substitution is appropriate.

## **Multiple Minors**

For a multiple minor, each minor must contain 20 credits that are not duplicated in the other.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Minor**

In order to have a minor recorded on the official record, a student must meet fully the requirements of the select minor. A minor must have a minimum of 20 required credits. The required 20 credits in the minor must also be unduplicated in relationship to the major.

## **Second Bachelor's Degree**

Under certain circumstances a student may earn two baccalaureate degrees. Students with a Grand Valley baccalaureate degree or Grand Valley students pursuing two degrees simultaneously at Grand Valley should note the following information:

1. They must meet all specified requirements for both degree programs.
2. They must complete a minimum of 30 semester hours in residence at Grand Valley beyond that required for the first degree.
3. A student who meets the separate requirements for each of the two degree programs but not the additional residence requirement may have both majors recorded on his/her academic record.
4. A student holding a baccalaureate degree from Grand Valley may not modify their undergraduate GPA for degree by pursuing additional coursework.

Students holding a baccalaureate degree from another regionally accredited institution should note the following information:

1. They must meet all specified requirements for a new major degree program.
2. General education requirements are regarded as satisfied by the first degree.
3. They must complete a minimum of 30 semester hours in residence at Grand Valley.
4. Transfer students must complete a minimum of 12 hours in the unit conferring the major (six for the minor).

## **Catalog Limitations and Guarantees**

A student may graduate under the catalog in effect at the time of his or her initial registration as a degree-seeking student at Grand Valley or under any succeeding catalog. However, no student may graduate under the requirements of a catalog that is more than eight years old. A student cannot declare a course, program, or degree once it has been discontinued even if it existed at the time of the student's entry.

# **Graduate Academic Policies and Regulations**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## Credit Load

Full-time graduate students register for nine or more credit hours per semester. For financial aid purposes, half-time graduate students register for four and one-half credit hours per semester. Permission from the dean of the appropriate college is required for more than 15 credit hours per semester.

## Independent Study

No independent study or individualized courses will be allowed in areas where courses exist and are taught at least once per year.

Only graduate degree-seeking students who have completed the core requirements or have special permission from the appropriate academic dean's office may take individualized graduate courses or do graduate-level independent projects.

All independent study topics and the amount of credit to be earned must be approved by the faculty member who agrees to supervise the work. A maximum of six hours of credit can be granted for independent study. The conditions, meeting times, workload, and subject matter concerned with the project are mutually agreed to by the initiating student and the assenting faculty member and are consistent with standards of quality education. Request forms can be obtained from the faculty member or the academic program office. Some departments may have further restrictions regarding independent study.

## Degree Requirements

In each of the graduate degree programs offered by Grand Valley, the university seeks to provide its students with intellectual challenge and opportunity for scholarly and professional growth. A graduate degree program is a carefully structured combination of courses and research designed on the whole to serve specific needs of the student.

Specific details of the graduate degree programs and regulations governing graduate work may be found in the department entries in this catalog or on the graduate degree program webpage. The following information briefly summarizes the institutional minimums for the master's, specialist, and doctoral degrees. In those graduate degree programs where the department requires more than the university minimum, the department requirements take precedence.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Credit at the graduate level will only be awarded for grades of C or better. This includes all graduate coursework and core, background, and foundation courses. Grades below C will be calculated in a student's GPA, but the credits will not count toward the graduate degree. Graduate students are expected to maintain a cumulative GPA of 3.0 (B) at all times. Additional information on GPA and grading requirements can be found in the Academic Review for Graduate Students section that follows.

# **Graduate Academic Policies**

## **Combined Degree Programs**

A student shall be considered a graduate student for purposes of rights (e.g. library privileges) and responsibilities (e.g. RCR training) at the time of admittance in a combined degree program.

A student shall be considered a graduate student for all purposes upon fulfillment of one of the following events: the award of a baccalaureate degree, the completion of 12 graduate credit hours or at the request of the graduate program director with the approval of the academic dean.

No more than six graduate credits of coursework taken prior to admission to a combined degree program may be counted toward the combined degree.

## **Graduate Academic Policy for the Award of a Graduate Degree**

1. The university may award a graduate degree only when a student meets all program requirements and their graduate program grade point average (GPA) is equal to or greater than a 3.0 (B) average.
2. Credit at the graduate level will only be awarded for grades of C or better. Grades below C will be calculated in a student's GPA, but the credits will not count toward the degree. Individual programs may have more stringent requirements, please refer to your specific program policies for more information.
3. The student must fulfill all requirements for the degree within a period of eight consecutive years. The date of entry into the first graduate course counted toward the degree is viewed as the starting point of the eight-year period.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

4. Master's programs may include some courses that are dual-numbered at the senior undergraduate and graduate level (maximum of nine credits may be counted toward the graduate degree). Such courses must be approved for dual listing and must follow the dual-listed course policy. Graduate students may not repeat for graduate credit dual-listed courses that were taken in their undergraduate program. If such a course is a master's program requirement, the department will make an appropriate substitution.

5. Candidates for advanced degrees must demonstrate not only their mastery of the subject matter but their ability to integrate and synthesize it. They must also demonstrate their ability to generate new knowledge and/or apply existing knowledge to specific practical situations in a culminating experience. This demonstration must take the form of a project, thesis, dissertation, internship, comprehensive examination, or a culminating experience course.

## **Graduate Academic Policy on the Minimum Number of Credits Required for the Award of a Master's Degree**

1. A minimum of 33 graduate-level credits must be earned for a master's degree to be awarded. Graduate-level credits for the master's degree are earned in those courses that are numbered 500 and above that do not meet the definition of a leveling\* course.

2. A cumulative GPA of at least a 3.0 is required of all candidates for the master's degree.

3. At least 24 credits must be earned at Grand Valley.

4. The following types of credit are NOT considered to be graduate-level credit for the purpose of this policy:

a. Credit earned for completion of a leveling course (defined as follows)

b. Credit that was earned more than eight years prior to the award of the degree

Exceptions to this provision may be granted for courses over eight-years old based on evidence provided by the student that demonstrates currency in the content of the course, and on the recommendation of the graduate program director for the degree sought, and with the approval of the associate vice provost for The Graduate School.

5. No more than nine credits earned from a dual-listed graduate course may be applied toward the graduate degree.

\*Definition: A leveling course is a course that is intended to provide knowledge skills and competencies expected of students entering a specific graduate degree program and that is routinely waived or not required for students with sufficient undergraduate coursework in the discipline or program area.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Graduate Academic Policy on the Minimum Number of Hours Required for the Specialist Degree**

1. A specialist degree program shall require a minimum of sixty (60) graduate credits beyond the baccalaureate degree.
2. Additionally, if a student has earned a master's degree prior to matriculating in the specialist program, the student must earn a minimum of thirty (30) graduate credits beyond the master's degree.
3. Credit earned in a leveling course as defined in the Graduate Academic Policy on the Minimum Number of Credits Required for the Master's Degree may not be counted toward the minimum credit required.
4. A minimum of twenty-four (24) of the required graduate credits must be earned at the university.

## **Graduate Academic Policy on the Minimum Number of Hours Required for an Earned Doctoral Degree**

1. Except as provided as follows, a graduate degree program shall require the following minimum number of graduate credits to award a doctoral degree:
  - a. Ninety (90) graduate credits beyond a baccalaureate degree
  - b. Additionally, if a student has earned a master's degree prior to matriculation in the doctoral program, at least forty-five (45) graduate credits beyond the master's degree
  - c. A minimum of forty-five (45) graduate credits earned at the university
2. A doctoral degree program may require fewer credits than specified previously only if consistent with academic and discipline-based norms.
  - a. Consistency with academic and discipline-based norms may be demonstrated by offering
    - i. authoritative evidence, such as accreditation, professional/academic association standards; and/or
    - ii. documentation of prevailing practices among similar degree titles and programs; or
    - iii. a thorough and convincing rationale for a new innovative doctoral degree program where similar programs do not exist.
  - b. A doctoral degree may NOT be awarded to a student who has earned fewer than

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- i. seventy-five (75) graduate credits beyond a baccalaureate degree; or
- ii. thirty (30) graduate credits beyond the master's degree, if a student has earned a master's degree prior to matriculating in the doctoral program; or
- iii. thirty (30) graduate credits at the university.

3. Credit earned in a leveling course as defined in the Graduate Academic Policy on the Minimum Number of Credits Required for the Master's Degree may not be counted toward the minimums specified in this policy.

## **Graduate Academic Policy on the Transfer of Credit to a Graduate Program**

1. Graduate credit from accredited institutions will be considered for transfer to a degree program where the credit
  - a. is relevant to the student's degree program as determined by the graduate program director of the program to which the credit would be applied; and
  - b. for which a grade of B (3.0) or above was earned; and
  - c. is applicable to any graduate degree at the institution from which the credit was awarded; and
  - d. is not a culminating experience; and
  - e. is not an independent learning, project, or similar experience.

Practicums, internships, clinical experiences, or fieldwork that are required of the program may be transferred upon approval of the graduate program director.

2. The acceptance of credit in transfer is at the discretion of the graduate program director of the degree program to which the credit will be applied.
3. The following is the maximum amount of transfer credit that may be applied to a graduate degree:
  - a. Nine credits for a degree program with a length of 33 credits
  - b. Thirty percent of the degree program for a degree program longer than 33 credits

4. Exceptions to this policy must be recommended by the graduate program director and approved by the associate vice provost for The Graduate School.

### 5. Definitions

- a. A culminating experience is a project, thesis, dissertation, internship, comprehensive examination, or a culminating experience course.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- b. The equivalent of graduate academic credit from an accredited institution is credit
- i. earned from an institution which the university has a formal agreement to accept the credit in transfer; or
  - ii. earned from an institution outside the United States that has been evaluated on a course-by-course basis as equivalent to graduate credit earned from an accredited institution. The evaluation must have been performed by a foreign transcript evaluation service approved by the associate vice provost for The Graduate School; or
  - iii. earned from an institution outside the United States, where the institution is recognized by the associate vice provost for The Graduate School as equivalent to a United States accredited institution. Transcripts of foreign institutions issued in languages other than English must be accompanied by a certified translation of the transcript in English.

## **Graduate Academic Policy on the Award of Academic Credit for Study Abroad Experiences**

1. Graduate academic credit may be awarded to a student enrolled in a graduate degree program for a study abroad experience for which the student received the prior approval of the graduate program director.

- a. The graduate program director, in consultation with the Padnos International Center, shall consider whether the study abroad experience
  - i. is consistent with the amount of credit to be awarded and
  - ii. is consistent in level and rigor with typical academic experiences for which graduate credit is awarded by a United States accredited institution.

b. The acceptance of study abroad credit to meet a requirement or as an elective in a graduate degree program is at the discretion of the graduate program director.

**Exception:** This provision (paragraph 1) does not apply to a GVSU-sponsored study abroad experience for which credit is specifically awarded for a university course that is listed as a requirement or elective in the graduate degree program.

2. The graduate program director, in consultation with the Padnos International Center, shall consider whether the student's academic performance in a completed study abroad experience is equivalent to a grade of B or higher at a United States

regionally accredited institution.

3. Graduate academic credit awarded by the university for a study abroad experience for which the student has obtained the prior approval of the graduate program director is deemed to be graduate credit earned in residence at the university regardless of whether another (e.g., host) institution has awarded credit for the same experience.
4. This policy does not apply to a completed study abroad experience for which the student has not obtained the prior approval of the graduate program director. The applicable policy in such cases is the Graduate Academic Policy for the Transfer of Credit to a Graduate Program.
5. Except for courses meeting the exception in 1.b. as listed previously, the graduate program director shall report each award of graduate credit for a study abroad experience to the associate vice provost for The Graduate School for final approval.

## **Converting Microcredentials Into Graduate Degree Credit**

1. A graduate student may convert graduate credit earned at GVSU as part of a microcredential (e.g. badge or certificate) into credits required for a graduate degree with approval of the graduate program director.
2. Students must be graduate degree candidates in good academic standing to have the credits from the microcredential counted toward a graduate degree.
3. Any credits from microcredentials counted toward a graduate degree must abide by the eight-year time limit for degree completion.
4. Students must complete all degree requirements (e.g. culminating experience, internship, clinical practicum) in order to receive a graduate degree.

## **Converting Professional Learning Into Graduate Degree Credit**

1. A student may earn a maximum of 20 percent of the total graduate credits required for the graduate degree for professional learning acquired through non-credit courses; structured, non-credit professional development program; and professional work experiences to fulfill required or elective courses.
2. A student must be a graduate degree candidate to have the approved credits recorded on the GVSU transcript. Credits for professional learning will count toward graduation but will not be used in computing the grade point average.
3. To be accepted as credits for professional learning (\*XXX 697 - Professional Learning), the dates for the non-credit coursework, professional development programs, and professional work experiences must abide by the eight-year time limit for degree completion.
4. Professional learning credits may not be used for a culminating experience.
5. Students are required to demonstrate competency in professional learning via one or both of the following mechanisms:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- a. Challenge Exam:  
A graduate program may offer oral, practical, and/or written challenge exams approved by their department curriculum committees to assess students' mastery and application of graduate level knowledge and skills.
  - b. Individualized Assessment:  
A graduate program may appoint a committee to conduct an individualized assessment. Such an assessment is to be based upon department and college criteria for demonstration of mastery and application of graduate level knowledge and skills. This type of assessment may include portfolio review, performance-based assessment, and demonstration.
6. The decision by the unit head and the graduate program director on the outcome of the graduate program's Challenge Exam or Individualized Assessment is final.
  7. With approval of the associate vice provost for The Graduate School, graduate programs may elect not to accept professional learning credits or have additional restrictions.

\*XXX refers to the standard discipline-based course prefix (e.g., CMB for Cell and Molecular Biology)

## **Policy for the Award of Two or More Graduate Degrees at the Same Level**

The university may award more than one graduate degree at the same level where

1. all stated requirements are met for each degree;
2. a minimum of two-thirds of the total graduate credits must be unique to each degree sought;
3. culminating experiences including courses, internships, clinicals, practica, projects, theses, or dissertations may not apply to both degrees; and
4. the award of two or more graduate degrees must be supported by the graduate program directors of the respective programs and approved by the associate vice provost for The Graduate School.

This policy does not apply to dual-degree programs within the university or offered in conjunction with another graduate institution under formal agreement with Grand Valley which have been specifically approved through the university curriculum approval process.

## **Responsible Conduct of Research for Graduate Students Policy**

Each graduate student must complete Responsible Conduct of Research (RCR) training prior to completion of 50 percent of the graduate degree program or prior to

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

engaging in any research activity (e.g. voluntary, independent, or supervised research, projects, theses, or dissertations).

Individual graduate programs must identify what type of minimal RCR training is required and when it will be required, with approval by the dean of The Graduate School. The following options are available:

- Online training from a Grand Valley State University approved provider
- An approved research methodology course
- An approved workshop or series of workshops
- An approved RCR course
- Additional RCR training may be required by individual graduate programs

## **Masters' Theses and Doctoral Dissertations Policy**

1. Masters' theses must be overseen and approved by a committee consisting of at least three members. Doctoral dissertations must be overseen and approved by a committee consisting of at least four members.
2. For the master's thesis, at least one committee member must be from outside the candidate's specific research topic of study. For the doctoral dissertation, at least one committee member must be from outside the candidate's program of study.
3. All committee members must hold graduate faculty member status (full, associate, or adjunct). The chair of the committee must hold full graduate faculty member status.
4. The associate vice provost for The Graduate School must approve individuals external to Grand Valley as members for thesis or dissertation committees. Qualified individuals will be given nontenure track graduate faculty status for three years from the time of approval to serve on thesis or dissertation committees.
5. Committee membership must be reviewed and approved by the graduate program director and unit head of the graduate program in which the student is enrolled.
6. The Graduate School will review the committee membership for adherence to policy.
7. Upon registering for the initial credit of 695 or 795, the student must complete a graduate school-sponsored thesis or dissertation workshop during the concurrent semester.
8. There must be an announced, public proposal of the thesis or dissertation.
9. There must be an announced, public defense of the completed thesis or dissertation.
10. All graduate students who are working on their thesis or dissertation and have completed all other credit requirements for their degree program must remain in continuous enrollment by enrolling in at least one thesis or dissertation credit for each subsequent semester until the completion of the thesis or dissertation.
11. The completed thesis or dissertation must adhere to the Grand Valley State University guidelines for the preparation of theses and dissertations as regularly

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

reviewed and approved by the Graduate Council.

12. After obtaining final approval from the committee and the appropriate academic dean, the completed thesis or dissertation is reviewed by The Graduate School for adherence to the Grand Valley State University guidelines for the preparation of theses and dissertations. Approval of The Graduate School is required before the thesis or dissertation is accepted by Grand Valley State University.

13. An electronic version of the completed approved thesis or dissertation must be submitted for inclusion in the Grand Valley institutional repository managed by the university library.

14. Exceptions to this policy require the approval of the associate vice provost for The Graduate School.

## **Continuous Enrollment Requirement for the Project, Thesis, or Dissertation Phase of Degree Programs**

### **Master's Programs**

To complete requirements for the degree, students in master's programs may select either a project or a thesis.<sup>1</sup>

1. Master's project: Students begin the master's project phase of their program by enrolling in xxx-693 (project). Thereafter, they must continue to enroll in either xxx<sup>2</sup>-693 or xxx-696 (continuous enrollment) for at least one credit every semester until they have completed all requirements for the project.

2. Master's thesis: Students begin the master's thesis phase of their program by enrolling in xxx-695 (thesis). Thereafter, they must continue to enroll in either xxx-695 or xxx-696 (continuous enrollment) for at least one credit every semester until they have completed all requirements for the thesis.

### **Doctoral Programs**

To complete requirements for the degree, students in a doctoral program may select either a project or a dissertation.<sup>1</sup>

1. Doctoral project: Students begin the doctoral project phase of their program by enrolling in xxx-793 (project). Thereafter, they must continue to enroll in either xxx<sup>2</sup>-793 or xxx-796 (continuous enrollment) for at least one credit every semester until they have completed all requirements for the project.

2. Doctoral dissertation: Students begin the doctoral dissertation phase of their program by enrolling in xxx-795 (dissertation). Thereafter, they must continue to enroll in either xxx-795 or xxx-796 (continuous enrollment) for at least one credit every semester until they have completed all requirements for the dissertation.

<sup>1</sup>Where it is an available option, students may formally select a nonproject, nonthesis, or nondissertation option for completing their degree program.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

<sup>2</sup>xxx refers to the standard discipline-based course prefix (e.g., CMB for cell and molecular biology).

## **Graduate Academic Policy on Course Withdrawals**

A graduate student may seek a timely withdrawal or late withdrawal from a course and receive a grade of W if the request is approved. For a full semester course, this policy differentiates between requests for a withdrawal made before the end of the ninth week of classes or after the ninth week. The university registrar shall determine the equivalent of the end of the ninth week of classes for a partial-semester (e.g., five week, six week) course. A withdrawal from one or more courses does not remove the student from the graduate program. To completely withdraw from a graduate degree program, a student must execute a program withdrawal request.

### **1. Course withdrawal in the first nine weeks of the semester**

A graduate student may withdraw from a course and receive a grade of W up to the end of the ninth week of class.

### **2. Course withdrawal after the first nine weeks of the semester (late withdrawal)**

After the ninth week of the semester, a degree-seeking graduate student may only withdraw from one or more courses and receive a grade of W with the approval of the course instructor, the director of the graduate program in which they are enrolled, and the associate vice provost for The Graduate School. After the ninth week of the semester, a nondegree-seeking graduate student may only withdraw from one or more courses and receive a grade of W with the approval of the course instructor and the associate vice provost for The Graduate School.

### **3. Program withdrawal**

A graduate student may elect to withdraw from a graduate program. Each program shall have a process for reviewing a program withdrawal request that has been approved by and filed with the associate vice provost for The Graduate School. A graduate student who has been granted a program withdrawal shall normally receive a W for the current semester courses, be classified by the university as a nondegree-seeking student, and must reapply for admission to the graduate degree program, if they desire to return. If the student wishes to apply to a different graduate program, they must meet all admission requirements for the new program.

## **Graduate Academic Policy on Leave of Absence**

1. A graduate student may request a leave of absence for a maximum of two years from a graduate degree program for good cause. Examples of cause include, but are

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

not limited to, medical issues, caring for family members, nonoptional military commitments, maternity, and work requirements.

2. The graduate student shall explain in writing to the graduate program director the reason for seeking a leave of absence and must specify the period for which the leave of absence is sought. The graduate student may provide materials supporting their request (e.g., military orders) if it is deemed necessary.

3. The graduate program director shall review the graduate student's written explanation and supporting materials, relevant circumstances and documentation, academic performance, and history in the program. After considering the results of this review, the graduate program director shall recommend to the associate vice provost for The Graduate School whether a leave of absence should be granted and the terms and conditions for return to the program.

4. The associate vice provost for The Graduate School shall render a decision after reviewing the graduate student's written request and the recommendation of the graduate program director. The decision by the associate vice provost for The Graduate School shall be final.

5. If the student is granted an immediate leave of absence, it shall have the effect of a course withdrawal for all courses in which the student is enrolled. Requesting a tuition reimbursement must be completed following university policy.

6. The student shall follow the graduate program and catalog requirements in effect at the time of re-enrollment.

7. At the discretion of the associate vice provost for The Graduate School, a leave of absence may be extended beyond the original time granted at the written request of the student. A student who does not enroll in classes or requests an extension at the end of the leave of absence may be required to reapply for admission at the discretion of their desired graduate program.

8. A leave of absence does not extend the eight-year time limit for the applicability of a graduate course toward a degree. Requesting an extension of the time limit must be completed following university policy.

9. A student in the dissertation or thesis phase of their graduate program is not required to maintain continuous enrollment in any semester for which a leave of absence has been granted.

10. Students who wish to take a semester away from their program and are not part of a cohort or structured program may not need to complete a Leave of Absence request and should contact the graduate program director prior to completing the request.

## **Graduate Academic Policy on the Incomplete Grade**

This is a temporary grade given for work that is lacking in quantity to meet course objectives. It may be assigned when illness, necessary absence, or other reasons generally beyond the control of the graduate student prevent completion of the course

requirements by the end of the semester. This incomplete (I) grade may not be given as a substitute for a failing grade or withdrawal. A graduate student is expected to complete course requirements according to the following schedule: fall semester incompletes, no later than the end of the subsequent winter semester; winter and spring/summer incompletes, no later than the end of the subsequent fall semester. Earlier deadlines can be set by the instructor or the graduate program director and must be communicated to the student in writing.

Instructors are required to file a change of grade form or request an extension of the I grade at the end of each semester. A student cannot graduate with an I grade on his/her record.

## **Academic Review for Graduate Students**

1. All graduate students are expected to maintain a minimum of a 3.0 graduate program grade point average at all times.
2. The academic review process will be conducted by the appropriate graduate program director for degree-seeking graduate students or by The Graduate School for nondegree graduate students. Academic review is applicable to a graduate student under any of the following conditions:
  - a. Earns any of the following grades in the previous semester:
    - i. A grade of **D** or **F**.
    - ii. The second or subsequent grade of **C** or lower in graduate courses in the student's program.
    - iii. The second or subsequent grade of **NC** in graduate courses in the student's program.
  - b. Performance is evaluated as unsatisfactory in a required clinical experience, internship, or practicum.
  - c. Earns semester or cumulative program grade point average below 3.0.
  - d. Has not met the conditions of a previously imposed academic probation with the time limits imposed.
  - e. By the end of the semester has more than two unresolved grades of **I** (incomplete) that were assigned in a previous semester.
3. Academic review may result in an academic warning, academic probation, or dismissal.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Graduate Dismissal**

A graduate student **shall** be dismissed from a graduate program under either of the following conditions:

- a. Earns a second or subsequent grade of **F** in any graduate course, including repeated courses.
- b. Has less than a 3.0 graduate program grade point average **AND** has accumulated nine or more hours for which a grade less than a **B-** was earned.

A graduate student who has been dismissed from a Grand Valley graduate program may not be admitted to a different graduate program and may not enroll in graduate courses without the permission of the associate vice provost for The Graduate School.

## **Appeals of Action Taken Under this Policy**

1. A degree-seeking or certificate-seeking graduate student may appeal an action taken under this policy using the graduate program's published process for appeals of academic decisions. If the program does not have a published appeals process, the appeal shall be to the dean of the college in which the graduate program is housed. The student may appeal the decision of the dean of the college and to the provost or the provost's designee. The result of each appeal shall be reported to the associate vice provost for The Graduate School.

2. A nondegree graduate student may petition the associate vice provost for The Graduate School for reconsideration of a decision. If such reconsideration is unsuccessful, the student may appeal the decision to the provost or provost's designee.

## **Effect of Grade Change**

If a review of the student's record or dismissal from graduate study is based on a grade that is subsequently changed, the student may appeal any adverse action taken.

## **Timing of Decisions**

All parties to the decision to take action under this policy shall act expeditiously to arrive at and communicate a decision to the student as soon as practicable. However, in order to afford due process and full consideration of the graduate student's record and circumstances, a decision to dismiss a student under this policy may occur in the semester after the student's performance or actions warranted dismissal. If the graduate student is enrolled in graduate courses at the time of the dismissal, the decision shall have the effect of a withdrawal from Grand Valley State University.

## **Graduate Academic Policy on Academic Renewal**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

A graduate student may request a "fresh start" when changing to a new graduate program leading to a graduate degree at Grand Valley State University. A fresh start is defined as beginning a new graduate program and having the prior graduate record exempt from the new graduate program grade point average (GPA) and academic review process. All graduate courses previously taken at Grand Valley State University, however, will remain on the student's academic record.

To be considered for a fresh start, the student must submit a petition to the associate vice provost for The Graduate School seeking readmission and must meet the following criteria:

1. The student has been recommended for admission into the new graduate program by the appropriate graduate program director.
2. A period of no less than one semester has passed since the student withdrew or was dismissed from a Grand Valley State University graduate program.
3. The student's previous graduate GPA is below the minimum required to earn a graduate degree (3.0 on a 4.0 scale).

The student will be subject to the following rules:

1. No courses completed in a previous Grand Valley State University graduate program will transfer or be applied to the requirements of the new program.
2. Only one fresh start will be granted to any one graduate student at Grand Valley State University.
3. Final approval for a fresh start resides with the associate vice provost for The Graduate School.

## Requests for Exception to Graduate Policies

**Requests for Exception to Graduate Policy:** The associate vice provost for The Graduate School is responsible for the review and final approval or denial of Petitions for Exception to graduate education policies. The student's academic advisor, graduate program director, or dean of the college where the program resides, must support all exceptions in order for the associate vice provost for The Graduate School to approve them. Information on Requests for Exceptions can be found on The Graduate School website.

Please refer to the Graduate Education Policies and Procedures Manual ([gvsu.edu/gs/manual](http://gvsu.edu/gs/manual)) or Graduate Academic Policies and Regulations section of the Grand Valley State University Undergraduate and Graduate Catalog for further information on academic review, probation, and dismissal.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

**Petition for Exception to 12-credit-hour Limit:** Grand Valley policy allows graduate students to take a maximum of 12 graduate credit hours without being admitted to a specific graduate program. Once the student gains admission to a graduate program, any credit hours beyond the limit must be granted an exception to the policy in order to be counted toward the degree. The student seeking this exception should contact his or her academic advisor to initiate the Petition for Exception.

**Petition for Exception to Eight-year Time Limit to Degree Completion:** All courses to be counted for a graduate degree at Grand Valley must be completed within eight years. This time limit is a way of ensuring the student's validity and currency of knowledge at the time of graduation. The student will be required to either repeat the course or take an approved substitute, if unable to demonstrate currency of knowledge. The start date for the eight-year time limit begins with the first course taken toward the degree planned program.

**Petition for Exception to Graduate Student Policies:** Students seeking to appeal other graduate academic policies must complete the appropriate Petition for Exception form as provided on The Graduate School webpage. The student's academic advisor, graduate program director, or dean of the college where the program resides must support all exceptions before approval by the associate vice provost for The Graduate School.

**Credit Overload:** Full-time graduate students register for nine to 15 credit hours per semester. Permission from the dean of the appropriate academic college is required for more than 15 hours per semester.

**Petition to Return:** Following a voluntary absence of two or more consecutive semesters, a graduate student must complete a Petition to Return form. Graduate students are reminded that following a voluntary absence of 24 consecutive months they must follow the Grand Valley State University Undergraduate and Graduate Catalog requirements in effect at the time of their return to Grand Valley. Such students should meet with their program advisor to revise their study plan.

Graduate students who wish to return to Grand Valley following an academic dismissal must submit a written appeal to the dean of the appropriate academic college. Graduate students who wish to change to a different program within Grand Valley must complete the application process for that program. No additional application fee is required, and the applicant need not supply duplicate copies of official transcripts already on file.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

# Catalog Limitations and Guarantees

Graduate students follow the requirements in the Grand Valley catalog at the time they were originally admitted into a program as degree-seeking students. Students who have not enrolled in Grand Valley for 24 consecutive months must follow the requirements in the Grand Valley catalog in effect at the time of their re-entry. All students have the option of using the program requirements in effect at the time of graduation. Any exceptions must be approved in writing by the faculty advisor and program director and filed in the appropriate program office.

# Undergraduate Information

## Undergraduate Policies and Regulations

Refer to the General and Undergraduate sections of the Academic Policies and Regulations section of this catalog for Undergraduate Policies and Regulations.

## Academic Advising and Student Instructional Support Information

### Academic Advising Mission

Academic advising engages students in the process of exploring and defining their academic and career goals and in creating effective strategies to achieve these goals.

" Through collaborative relationships with academic advisors, students are encouraged and supported as they develop the skills necessary to take responsibility for their own development and success.

" Academic advisors educate students by providing accessible, accurate, and timely information regarding academic requirements, university resources, and opportunities to develop critical thinking skills and enrich the college experience and their personal lives.

### Definition of Academic Advising

Academic advising is an integral part of a college education, establishing a collaborative relationship between students and their advisors to map out a meaningful and successful educational experience and help guide the students' paths

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

to graduation and a career. Academic advising centers and offices are listed as follows.

## **Academic Advising Centers/Offices**

### **Exploratory Study (Undecided) Advising**

C-1-140 MAK, (616) 331-8585, majors@gvsu.edu, gvsu.edu/exploratory

Exploratory advisors are available to help students who have not yet declared a major or are transitioning from one major to another. Advisors assist students with the process of choosing a major, monitor students' academic progress, and discuss other academically related concerns with students. Once students declare their major, they are referred to their major department for advising.

Contact information for academic advising centers and offices for each college are listed as follows and on the website at [gvsu.edu/advising](http://gvsu.edu/advising). Students interested in programs in a particular college can contact the advising center or office to learn more about specific programs or courses.

### **Brooks College of Interdisciplinary Studies - Brooks College Advising Center**

260 LMH, (616) 331-8200, brooksadvising@gvsu.edu, gvsu.edu/integrativelearning

### **College of Community and Public Service - Undergraduate Advising Center**

321C DEV, (616) 331-6890, ccpsadvisor@gvsu.edu, gvsu.edu/ccpsadvising

### **College of Education - Student Information and Services Center**

401C DEV, (616) 331-6650, gvsu.edu/coe/sisc

### **College of Health Professions - Student Services Office**

113 CHS, (616) 331-5900, chpss@gvsu.edu, gvsu.edu/chpss

### **College of Liberal Arts and Sciences - Academic Advising Center**

C-1-140 MAK and C-1-120 MAK, (616) 331-8585, advstu@gvsu.edu, gvsu.edu/clasadvising

### **Kirkhof College of Nursing - Office of Student Services**

326 CHS, (616) 331-7160 or (800) 480-0406, kcon@gvsu.edu

B-3-259 MAK, (616) 331-7160, gvsu.edu/kcon/oss

### **Seidman College of Business - Seidman Undergraduate Programs**

1041 SCB, (616) 331-7500, go2gvbiz@gvsu.edu

B-3-226 MAK, (616) 331-7500, gvsu.edu/seidman/undergraduateprograms

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Seymour and Esther Padnos College of Engineering and Computing**

**Declared Major Advising** (prior to secondary admission)

### **Advising Center**

101 EC and B-3-241 MAK, (616) 331-6025, pcecadvising@gvsu.edu,  
gvsu.edu/pcec/advising

**Admitted Major Advising** (after secondary admission)

Students should contact their respective school.

### **Faculty Advising**

#### **School of Engineering**

136 KEN, (616) 331-6750, engineer@gvsu.edu

#### **School of Computing and Information Systems**

C-2-100 MAK, (616) 331-2060, info@cis.gvsu.edu

#### **Department of Occupational Safety and Health**

618 EC, (616) 331-6300, oshdept@gvsu.edu

## **Academic Success Resources**

### **Support Services and Programs**

#### **Academic Coaching**

200 Lubbers Student Services Center, (616) 331-3588, gvsu.edu/sasc

Individual academic coaching is available from both professional and peer coaches. Academic coaching sessions focus on topics, including general college learning strategies, test preparation and post-test reflection, organization and time management, note taking, motivation, and goal setting. Academic coaches can assist students in identifying their academic challenges and develop a plan for improvement using campus resources for support. Group presentations about academic success topics are also available to help students improve their academic performance and confidence.

#### **Disability Support Resources**

215 The Blue Connection, (616) 331-2490, dsrgvsu@gvsu.edu, gvsu.edu/dsr

Disability Support Resources (DSR) provides support services and accommodations that enhance the environment for persons with disabilities and helps educate the university community on disability issues. The office also provides access to

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

programs and facilities for faculty members, staff members, and students. Grand Valley promotes the full inclusion of individuals with varying abilities as part of our commitment to creating a diverse, inclusive community. It is the policy of Grand Valley to comply with the Americans with Disabilities Act as amended by the ADA Amendment Act (2008), Section 504 of the Rehabilitation Act of 1973, and other applicable federal and state laws that prohibit discrimination on the basis of disability. Grand Valley will provide reasonable accommodations to qualified individuals with a documented disability upon request.

### **Fred Meijer Center for Writing and Michigan Authors**

For locations, please visit [gvsu.edu/wc](http://gvsu.edu/wc).

The Writing Center offers one-to-one peer feedback on writing in Allendale, downtown, and online. This free service is for all Grand Valley graduate and undergraduate students. The center is an integral part of WRT 150, and it provides weekly small group activities, embedded consultants in computerized classrooms, and peer review workshops as requested by faculty members. Students can work with a consultant on any kind of writing, including creative, professional, and academic work, and receive detailed feedback and revision suggestions at any stage of the writing process. Every hour of operation offers appointments and drop-in consultations.

### **GVSU McNair Scholars Program**

230 Mary Idema Pew Library, (616) 331-8100, [gvsu.edu/ours/mcnair](http://gvsu.edu/ours/mcnair)

The Ronald E. McNair Postbaccalaureate Achievement program's goal is to increase the number of minoritized students in Ph.D. programs and careers across the country. That is first-generation students with significant financial need (Pell Grant-eligible), or members of racial and ethnic groups that are traditionally underrepresented in careers that require a Ph.D. The program accepts students from all disciplines. Scholars participate in a 15-month program that includes academic and career counseling, tutoring, GRE preparation, graduate school application preparation, and academic writing preparation, as well as a stipend and subsidized housing during an intensive summer research program. Scholars will also have access to funding for conference travel and graduate school visits.

### **Laker Academic Success Center**

152 Fieldhouse, (616) 331-5272, [gvsu.edu/lakeracademiccenter](http://gvsu.edu/lakeracademiccenter)

The Laker Academic Success Center academic advisors provide one-on-one academic advising and support to student athletes. Students maintain a regular schedule of appointments to help with academic success and ensure athletic eligibility.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Office of Undergraduate Research and Scholarship**

230 Mary Idema Pew Library, (616) 331-8100, [gvsu.edu/ours](http://gvsu.edu/ours)

The Office of Undergraduate Research and Scholarship (OURS) offers a variety of opportunities and resources for undergraduates to pursue creative practice, scholarship, and research in various disciplines under the direction of a faculty mentor. These intensive opportunities enrich students' academic experiences and challenge them to strengthen their critical thinking, problem-solving, analytical, and writing skills. OURS provides support to undergraduate students and faculty through programs such as the Academic Conference Fund, the GVSU McNair Scholars program, the Student Summer Scholars program, and Student Scholars Day, to name a few. More information about OURS programs can be found on our websites: [gvsu.edu/ours/mcnair](http://gvsu.edu/ours/mcnair), [gvsu.edu/ours/ssp](http://gvsu.edu/ours/ssp), and [gvsu.edu/ours/ssd](http://gvsu.edu/ours/ssd).

## **Oliver Wilson Scholars Program**

4000 James H. Zumberge Hall (JHZ), (616) 331-5200, [ows@gvsu.edu](mailto:ows@gvsu.edu)

The Oliver Wilson Scholars Program, formerly known as the Freshman Academy, is a comprehensive academic support program for students who have demonstrated a strong potential to be successful at Grand Valley. The program provides multidimensional student support that can be broken down into two components: academic support and personal development.

## **Student Academic Success Center (SASC)**

200 Lubbers Student Services Center, (616) 331-3588, [gvsu.edu/sasc](http://gvsu.edu/sasc)

The Student Academic Success Center is committed to helping students reach their academic and personal goals. We foster student development and academic success by providing support resources for students to assist them in achieving their educational goals. Programs include: academic coaching, academic skills workshops, Academic Success Camp, Laker Strategies for Success, Oliver Wilson Freshman Academy, TRIO Student Support Services, and TRIO Student Support Services STEM - Health Sciences, McNair Scholars Program, Student Ombuds, and EAB Navigate.

## **EAB Navigate**

200 Lubbers Student Services Center, [navigate@gvsu.edu](mailto:navigate@gvsu.edu), [gvsu.edu/navigate](http://gvsu.edu/navigate)

Grand Valley State University has partnered with the Educational Advisory Board (EAB) to bring you Navigate, a student success software that assists with appointment making and access to services on campus.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **McNair Scholar Program**

200 Lubbers Student Services Center, (616) 331-2668, [gvsu.edu/mcnair](http://gvsu.edu/mcnair)

The GVSU McNair Scholars Program provides support to first-generation students with significant financial need or members of racial and ethnic groups that are traditionally underrepresented in careers that require a Ph.D.

## **Student Ombuds**

[ombuds@gvsu.edu](mailto:ombuds@gvsu.edu), [gvsu.edu/ombuds](http://gvsu.edu/ombuds)

The Student Ombuds strives to promote fairness and foster a positive campus environment by assisting students with conflict resolution and problem-solving related to their university working, learning, or living experiences.

## **TRIO Student Support Services (SSS)**

200 Lubbers Student Services Center, (616) 331-3401, [gvsu.edu/sss](http://gvsu.edu/sss)

TRIO Student Support Services provide academic advising, study skills instruction, and career planning to first-generation, financially eligible college students at Grand Valley.

## **TRIO Student Support Services STEM - Health Sciences**

200 Lubbers Student Services Center, (616) 331-5430, [gvsu.edu/triostem](http://gvsu.edu/triostem)

TRIO STEM advisors provide specialized services developed to support first-generation, financially eligible college students in science, technology, engineering, mathematics, and health sciences.

## **Tutoring**

### **Tutoring Center**

Main office: Second floor, Kleiner Commons, (616) 331-3451, [tutoring@gvsu.edu](mailto:tutoring@gvsu.edu), [gvsu.edu/tc](http://gvsu.edu/tc)

The Tutoring Center at Grand Valley provides small group, scheduled peer-to-peer tutoring free of charge. Subject-specific tutoring is provided for many 100- and 200-level courses and a select number of upper-level courses. These weekly sessions encourage student success by providing a collaborative learning environment in which students can ask questions, clarify material, and benefit from course-appropriate learning strategies shared by students who have successfully completed the course. Students are encouraged to request tutors online through the tutoring website early in the semester for best options.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

**Drop-in Tutoring:** Drop-in (unscheduled) tutoring is offered campus-wide for additional support. These discipline-specific spaces provide both peer-to-peer and faculty-to-student support for many challenging courses.

Anatomy Tutor Lab

BIO and BMS Drop-in Tutoring

Chemistry Success Center

CIS Student Success Center

Engineering Success Center

Math Center

Physics Help Corner

Seidman College of Business Tutoring

Stats Center

For specific locations and hours, visit [gvsu.edu/tc](http://gvsu.edu/tc).

### **Structured Learning Assistance (SLA) and Peer-assisted Study Sessions (PASS)**

For more information, visit [gvsu.edu/sla-pass](http://gvsu.edu/sla-pass).

SLA and PASS offer an embedded tutoring approach to typically challenging courses. Students who select an SLA section of a course will be provided with additional weekly study and practice workshops led by upper-level students who have been successful in the course. PASS facilitators provide optional content review sessions, exam practice, and/or group tutoring for PASS-identified courses. These student facilitators work closely with faculty members to provide direct assistance with course content and practice.

## **Academic Standards and Other Services**

200 Lubbers Student Services Center, (616) 331-3588

### **Academic Review Committee**

Review appeals of the withdrawal deadline, Petition to Return, and Academic Forgiveness process.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

### **Course Evaluations and Substitutions**

Responsible for course evaluations and substitutions for general education Foundations/Cultures requirements.

### **Credit Overload Appeals**

Review appeals to enroll in more than 20 credits in a semester.

### **Academic Forgiveness**

Review appeals for Academic Forgiveness from undergraduate students who wish to change or have already changed to a different major.

### **Emergency Notification**

It is the responsibility of students to notify their professors of attendance issues. The SASC will email students' professors in cases of extended illness, death, or family emergencies, etc. This process does not excuse students from classes, but serves as an official notification to professors. Students are responsible for making arrangements with professors about missed work.

### **Residency Waiver Requests**

Review appeals to take a course or courses at another institution during the final 30 semester hours of a student's degree program.

## **Undergraduate Academic Programs**

Grand Valley State University has more than 300 areas of study, 96 undergraduate degrees, and 46 graduate degrees.

## **Graduate Information**

### **Graduate Academic Policies and Regulations**

Refer to the general and graduate sections of the Academic Policies and Regulations for graduate policies and regulations.

### **Advising**

At the graduate level, students are advised by faculty members and professional advisors within their program of study. Students should contact the graduate program director or the academic departmental office to identify the name of their advisor and arrange for an initial advising session.

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

Academic advising for graduate students is highly individualized for each student as they work with an advisor to select an emphasis within a degree program, develop an educational plan, register for and complete courses, and where required, develop a research proposal, conduct the research, and write a research report. Those students selecting to complete a research project, thesis, or dissertation work very closely with the faculty advisor and other appropriate faculty members.

Please note that some programs require a faculty advisor to agree to work with a student in a research area before the student can be admitted to the degree program. To learn more about academic advising for graduate students, please contact the support services noted as follows.

## **Graduate Student Support Services**

**Fred Meijer Center for Writing and Michigan Authors:** (616) 331-2922, (616) 331-6407, [gvsu.edu/wc](http://gvsu.edu/wc)

With locations on the Allendale Campus, Pew Grand Rapids Campus, and Meijer Campus in Holland, the Fred Meijer Center for Writing and Michigan Authors assists all writers at any stage of their writing processes.

**Student Assistance Center:** (616) 331-3327

Student Assistance Centers are located in the Lubbers Student Services Center on the Allendale Campus and in the DeVos Center Plaza on the Pew Grand Rapids Campus. The centers provide services for registering for classes, tuition payments, Grand Valley ID cards, transcripts and degree progress reports, applications for graduation, processing loan deferments, check cashing, and distributing student payroll checks.

**The Graduate School:** (616) 331-7105, [gvsu.edu/gs](http://gvsu.edu/gs)

Currently enrolled graduate students or persons interested in graduate studies at Grand Valley State University are welcome to visit with the associate vice provost for The Graduate School for assistance, advice, or to provide feedback on any aspect of their graduate education.

## **Academic Programs**

Grand Valley State University has more than 300 areas of study, 96 undergraduate degrees, and 44 graduate degrees.

## **Graduate Programs**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

**Accounting**

Accounting, M.S.A.  
Combined B.B.A./M.S.A.  
Auditing  
Taxation

**Applied Behavior Analysis**

Applied Behavior Analysis Certificate

**Applied Computer Science**

Applied Computer Science, M.S.  
Biomedical Informatics  
Cybersecurity  
Database Management  
Distributed Computing  
Information Systems Management  
Software Design and Development  
Software Engineering  
Web and Mobile Computing  
Combined Computer Engineering B.S.E. /Applied Computer Science M.S.  
Combined Computer Science B.S./Applied Computer Science M.S.  
Combined Information Systems B.S./Applied Computer Science M.S.

**Applied Statistics**

Applied Statistics, M.S.  
Combined Statistics B.S./Applied Statistics M.S.

**Athletic Training**

Athletic Training, MAT  
Combined Exercise Science B.S./Athletic Training MAT

**Audiology**

Audiology, Au.D.

**Biology**

Biology, M.S.  
Aquatic Sciences  
Natural Resources

**Biomedical Sciences**

Biomedical Sciences, M.H.S.  
Combined B.S./M.H.S.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

General Studies  
Research

**Biostatistics**

Biostatistics, M.S.  
Combined Statistics B.S./Biostatistics M.S.

**Business Administration**

Executive Program (EMBA)  
Professional M.B.A.

**Cell and Molecular Biology**

Cell and Molecular Biology, M.S.  
Combined B.S./M.S.  
Bioinformatics and Genomics Certificate  
Biotechnology  
Research

**Clinical Dietetics**

Clinical Dietetics, M.S.

**Communications**

Communications, M.S.

**Criminal Justice**

Criminal Justice, M.S.

**Cybersecurity**

Master of Science in Cybersecurity, M.S.  
Combined B.S./M.S.  
Combined Computer Science B.S./Cybersecurity M.S.  
Combined Information Systems B.S./Cybersecurity M.S.  
Combined Information Technology B.S./Cybersecurity M.S.

**Data Science and Analytics**

Data Science and Analytics, M.S.  
Combined Computer Science B.S./Data Science and Analytics M.S.

**Education**

Educational Leadership, M.Ed.  
Educational Leadership  
Special Education Administration

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Master of Education in Educational Technology, M.Ed.  
Higher Education, M.Ed.  
Adult and Higher Education  
College Student Affairs Leadership  
Instruction and Curriculum, M.Ed.  
Early Childhood Education  
Educational Differentiation  
Elementary Education  
Secondary Level Education  
Literacy Studies, M.Ed.  
Reading and Language Arts  
School Counseling, M.Ed.  
Special Education, M.Ed.  
Autism Spectrum Disorder  
Cognitive Impairment

Learning Disabilities  
Leadership, Ed.S.  
Online/Blended Instruction and Assessment Certificate  
Graduate Teacher Certification Program (GTC)  
Professional Certification

### **Engineering**

Engineering, M.S.E.  
Combined B.S.E./M.S.E.  
Biomedical Engineering  
Electrical and Computing Engineering  
Manufacturing Operations  
Mechanical Engineering  
Product Design and Manufacturing Engineering

### **English**

English, M.A.

### **Health Administration**

Health Administration, M.H.A.  
Finance  
Hospital Administration  
Long-term Care Administration  
Practice Management  
Self-directed

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

**Health Informatics and Bioinformatics**

Health Informatics and Bioinformatics, M.S.

Bioinformatics and Genomics Certificate

**Medical Dosimetry**

Medical Dosimetry, M.S.

**Nursing**

Nursing, M.S.N.

Advanced Generalist/Clinical Nurse Leader

Nursing, D.N.P.

Advanced Practice: Adult/Older Adult

Health Systems Leadership

Interprofessional Health Informatics Certificate

Pediatric Primary Care Nurse Practitioner

Post-M.S.N. Health Systems Leadership

Palliative and Hospice Care Certificate

Psychiatric Mental Health Nurse Practitioner Certificate

**Occupational Therapy**

Occupational Therapy, M.S.

Occupational Therapy, Dr.O.T.

**Philanthropy and Nonprofit Leadership**

Philanthropy and Nonprofit Leadership, M.P.N.L.

Community Impact

Custom

Mission Advancement

Nonprofit Healthcare

Nonprofit Leadership Certificate

**Physical Therapy**

Physical Therapy, D.P.T.

**Physician Assistant Studies**

Physician Assistant Studies, M.P.A.S.

**Professional Science Masters**

Applied Statistics, M.S.

Biostatistics, M.S.

Cell and Molecular Biology, M.S.

Data Science and Analytics, M.S.  
Health Informatics and Bioinformatics, M.S.

**Public Administration**

Public Administration, M.P.A.  
Criminal Justice  
Health Administration  
Nonprofit Management and Leadership  
Policy Analysis, Advocacy, and Evaluation  
State, Regional, and Local Governance

**Public Health**

Public Health, M.P.H.  
Epidemiology  
Health Promotion

**Recreational Therapy**

Recreational Therapy, M.S.  
Combined B.S./M.S.

**School Psychology**

School Psychology, M.S.  
Psychology Specialist, Psy.S.

**Social Innovation**

Social Innovation, M.A.

**Social Work**

Social Work, M.S.W.  
School Social Work Certification

**Speech-Language Pathology**

Speech-Language Pathology, M.S.

**Taxation**

Taxation, M.S.T.

**Water Resource Policy**

Water Resource Policy, M.S.

# Student Life and Services

## Student Life

### Office of Student Life

Student life at Grand Valley State University reaches far beyond the typical college activity list to make life on campus exciting and enjoyable, and to help students get involved outside the classroom. The Office of Student Life, located in the Kirkhof Center, challenges students to engage through a department campaign: "Become More." Students can take advantage of a great variety of clubs and organizations, including cultural organizations, performing arts groups, recreational clubs, interfaith groups, social organizations, fraternities and sororities, professional associations, special interest groups, leadership groups, and community service organizations.

On average, only 30 percent of a student's time on campus is spent in the classroom. To maximize their college experience, students should develop a plan for how to spend the remaining 70 percent of their time. Through the broad range of opportunities provided by the Office of Student Life, students have a chance to make connections and gain valuable competencies, increasing their marketability to employers upon graduation.

A comprehensive electronic calendar of Grand Valley sponsored events is available online for easy reference. The calendar is a great resource for the campus community to stay current on the many events and programs scheduled throughout the year. Check out the campus events calendar at [gvsu.edu/events](http://gvsu.edu/events). Students can follow the Office of Student Life on Twitter @GVSUStudentLife and on Facebook by searching Grand Valley Student Life. More information is available on the website ([gvsu.edu/studentlife](http://gvsu.edu/studentlife)) or by calling (616) 331-2345.

### **Campus Activities Board** **[gvsu.edu/cab](http://gvsu.edu/cab)**

Many traditional Grand Valley events, such as Family Weekend, Homecoming, Winterfest, Sibs and Kids Weekend, Intercultural Festival, and ExtravaGRANDza, along with special events including comedy and magic shows, mini concert series, and weekly movies in the Kirkhof Center, are coordinated by a committee of students, along with their staff advisors. The Campus Activities Board (CAB) produces these high-profile events, providing students with quality entertainment, and CAB team

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

members with event planning and marketing experience and collaboration skills that will transfer to their professional lives.

### **Campus Events Calendar**

A comprehensive electronic calendar of Grand Valley sponsored events is available online for easy reference. The calendar is a great resource for the campus community to stay current on the many events and programs scheduled throughout the year. Check out the campus events calendar at [gvsu.edu/events/](http://gvsu.edu/events/).

For additional information on campus events, contact the Office of Student Life at (616) 331-2345 or call (616) 331-8800 for athletic event information.

### **Campus Life Night**

**[gvsu.edu/campuslifefight](http://gvsu.edu/campuslifefight)**

Campus Life Night provides students with the opportunity to find out about their extensive choices for involvement on campus. Student organizations, campus departments, volunteer agencies, and area businesses set up displays and provide information. This popular event is the best way for students to learn about all the ways to get involved on campus. Campus Life Night takes place in parking lot H, across from the Mary Idema Pew Library in late August.

### **Festivals and Events**

Student organizations and special committees work with professional staff in sponsoring and planning campus events such as the Renaissance Festival, Make a Difference Day, Community Outreach Week (COW), and Relay for Life. In addition, many other cultural celebrations are held throughout the year.

- **Asian Festival:** Each February, the Asian Student Union sponsors a variety of events, the most celebrated being the annual celebration honoring the Asian New Year. An authentic and diverse type of Asian food is prepared for festival participants. In addition, the festival coordinators provide traditional New Year's dances and songs presented by professional artists.
- **Black History Month:** Each February, the campus community offers a comprehensive series of programs to celebrate black history.
- **Hispanic Heritage Month:** Each fall, the university community celebrates Hispanic history and culture with a variety of events. Students, faculty members, and staff members educate attendees on the diversity within the culture, offer campus-wide celebrations featuring traditional foods, and present and teach music and dance.
- **Pow Wow:** The annual spring event celebrates Native American culture. The Native American Student Association, with leadership and permission of the Ottawa Tribal Council, shares an entire day of ceremony and trade with the campus and the general public.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

# Russel H. Kirkhof Center

Named in honor of Russel H. Kirkhof, this student center provides opportunities to gather in both formal and informal settings. Kirkhof Center supports the educational, cultural, social, and recreational needs of Grand Valley State University. Located within the center are the Office of Student Life, Event Services, 2020 Information Desk, Office of Multicultural Affairs, Milton E. Ford LGBT Resource Center, Gayle R. Davis Center for Women and Gender Equity, Laker Military Resource Center, and Dining Services. There are three ATM machines located near the lobby for convenience.

## **2020 Information Desk**

**[gvsu.edu/2020](http://gvsu.edu/2020)**

Located in the main lobby of Kirkhof Center, the 2020 Information Desk provides up-to-date information regarding campus events. Student staff members operate the desk and are there to answer questions and assist students. Contact the 2020 Information Desk staff at (616) 331-2020.

## **Area 51**

Also located within Kirkhof Center, **Area 51** provides a venue for students to coordinate musical events and showcase student performers. There is also a big screen and projector to watch television or movies and to participate in video game tournaments.

## **Community Service Learning Center**

**[gvsu.edu/service](http://gvsu.edu/service)**

The Community Service Learning Center (CSLC), located in 1108 Kirkhof Center, prepares students to become active, global citizens and challenges them to be committed to a life of community engagement and democratic participation. This is accomplished through campus-wide volunteer/service activities, community issues education, community agency partnerships, and various civic learning initiatives. Students are encouraged to become a part of the activities of the CSLC to enhance their understanding of civic responsibility now and in the future. Every student can become an active citizen and can connect with the CSLC by coming into the center or visiting the website.

## **Promotions Office**

**[gvsu.edu/promotions](http://gvsu.edu/promotions)**

The Promotions Office provides graphic design and advertising services to assist student organizations in promoting their events. The Video Team produces a variety

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

of videos promoting campus events and educating students. Services are also available for creating and producing videos. Contact (616) 331-2340 for more information.

## Leadership Programs

### First-year Leadership Experience

The first-year leadership experience program is designed to assist newer leaders as they create and enhance their personal philosophy of leadership while developing basic leadership skills and learning about leadership opportunities the Grand Valley community has to offer. All students, especially first-year and transfer students, are encouraged to be a part of this program, particularly those who are interested in future leadership roles.

### Laker Leadership [gvsu.edu/leadership](http://gvsu.edu/leadership)

Laker leadership programs provide opportunities for leadership development that encourage growth as lifelong leaders of integrity and social change in students' lives, professions, and societies.

### Leadership Summit

Leadership Summit is a one-day conference that provides student leaders throughout the state the opportunity to come together to discuss leadership topics with national and regional leaders, while networking and sharing ideas. With topic areas such as fraternities and sororities, student government, cultural programming, campus-wide programming, service learning, and many others, Leadership Summit is one of the largest multifocused gatherings in the State of Michigan. Leadership Summit provides excellent networking and developmental opportunities for student leaders at any level.

## Student Organizations

The Office of Student Life is proud to host more than 300 student organizations to help you "Become More." Student organizations may be identified in any of the following ways.

- **Academic and professional** organizations focus on academic disciplines or are related to a specific professional field.
- **Cultural** organizations educate the campus community about world cultures to enhance students' perspectives. They also provide students with an avenue to explore and celebrate their own cultural heritage and provide programs and services designed to support students of various cultural heritages at the university.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

- **Fraternalities and sororities** provide lifelong opportunities for leadership, service, academic achievement, and social involvement through association with a national organization. Learn more about fraternity and sorority life at [gvsu.edu/greeklife](http://gvsu.edu/greeklife).
- **Graduate student** organizations are associated with a graduate program.
- **Honor societies** serve to recognize students for high achievement on campus.
- **Interfaith organizations** serve to enhance students' spiritual lives while providing fellowship and outreach opportunities.
- **Media organizations** provide an opportunity for students to gain hands-on experience with media, including newspaper, television production, and radio. The student campus media entities listed as follows are all located on the lower level of the Kirkhof Center.
  - **GVTV:** Grand Valley State University's own student-run broadcasting channel offers hands-on experience in technical areas of producing as well as writing, reporting, promoting, directing, and acting. The channel is noncommercial and broadcasts on cable access channel 46.1 or on the Web at [grandvalleytv.org](http://grandvalleytv.org). Contact GVTV at (616) 331-4888 for more information.
  - **The Lanthorn:** The *Lanthorn* is an award-winning, twice-weekly student newspaper that gives students an opportunity to gain experience in the production of a newspaper. The *Lanthorn* team includes editorial, advertising, business, graphic art, staff writing, and staff photography positions. Read the *Lanthorn* online at [lanthorn.com](http://lanthorn.com) or call (616) 331-2460 for more information.
  - **WCKS The Whale:** The student-run campus radio station provides opportunities for all aspects of radio production. Listen on the Web at [whaleradio.org](http://whaleradio.org). Call (616) 331-2356 for more information.
- **Performing arts** organizations provide opportunities for involvement and exposure to the performing arts.
- **Service and advocacy** organizations are focused on positive student engagement and social change through community service and educational programming. These organizations hope to raise awareness on social issues.
- **Special interest** organizations serve to enhance student life through the cocurricular involvement of special interests and hobbies.
- **Sports** organizations provide opportunities for competition, personal fitness, recreational activities, and/or school spirit support. These organizations are broken down into competitive and noncompetitive groups.
- **Student government** organizations serve as governing bodies in various aspects of campus life.

## Student Senate

[gvsu.edu/studentsenate](http://gvsu.edu/studentsenate)

The Student Senate is an elected body of 50 students. The senate conveys student opinion to the Grand Valley administration and the Board of Trustees in matters of institutional policy. The senate also provides a forum for discussion, investigation, and resolution of student ideas and concerns.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

The senate is responsible for the allocation of the Student Life Fund and for the appointment of student representatives to all university standing committees and advisory boards. Call (616) 331-2333 for more information.

## **Student Services**

### **Athletics, Intercollegiate**

Grand Valley is a member of the Great Lakes Intercollegiate Athletic Conference (GLIAC). Membership in the GLIAC includes Ashland, Davenport, Ferris, Grand Valley, Lake Superior, Michigan Tech, Northern Michigan, Northwood, Purdue Northwest, Saginaw Valley, Wayne State, and Wisconsin-Parkside. Grand Valley is also a member of the National Collegiate Athletic Association (NCAA Division II).

Since the creation of the GLIAC in 1972, Grand Valley has won the President's Cup, the conference all-sports trophy, 26 times. In the past 18 years, Grand Valley has placed as a top two finisher, including 13 titles, in the Directors' Cup, the NCAA Division II all-sports trophy and symbol of athletic excellence. Grand Valley's men's teams have won conference championships in football 17 times; basketball, nine; baseball, 20; wrestling, six; tennis, one; golf, eight; indoor track, 18; swimming and diving, eight; outdoor track, 13; and cross-country, 17.

In women's sports, Grand Valley has won championships in basketball eight times; cross-country, 19; soccer, 14; softball, 16; tennis, four; volleyball, 10; swimming and diving, three; indoor track, 20; outdoor track, 20; women's lacrosse, four; and golf, 15.

Grand Valley's teams have earned 23 national championships as follows: men's football, four; men's cross-country, one; women's basketball, one; women's cross-country, six; women's indoor track, two; women's outdoor track, two; women's soccer, six; and women's volleyball, one.

Scholarships are offered in all men's and women's sports.

Grand Valley competes in 20 sports, including men's baseball, basketball, cross-country, football, golf, swimming and diving, tennis, and indoor and outdoor track, as well as women's basketball, cross-country, golf, lacrosse, soccer, softball, swimming and diving, tennis, indoor and outdoor track, and volleyball.

## **Barbara and Stuart Padnos International Center**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Grand Valley's mission, values, and vision statement includes references to educating students in the global community beyond Michigan or the U.S. Grand Valley recognizes that a foundation to a strong university education includes an understanding of other cultures as well as a global vision. The mission of the Padnos International Center is to engage the university community in meaningful international experiences, which foster an appreciation and awareness of diverse cultures, people, and ideas.

New populations, environmental challenges, and global interdependence add to the agenda for global competency skills. Individuals, businesses, agencies, and organizations need employees who are culturally and linguistically capable. Second-language fluency and the ability to work with various cultures are critical to the future of West Michigan.

The Padnos International Center is the centralized unit that leads and supports international education efforts across the entire university. The center welcomes, orients, and supports international students at Grand Valley, whether they are pursuing degrees or are studying for a short-term exchange. Education abroad activities, including study abroad, internships abroad, and other academic, credit-earning experiences outside the U.S. are coordinated or supported by the unit, with the input and advice of the faculty governance advisory body, the International Education Committee (IEC).

The Padnos International Center supports internationalization through coordination of international institutional partnerships and exchanges, grants for faculty and staff activities in cooperation with counterparts at partner institutions, by supporting faculty Fulbright Core Scholar awards, and by hosting the Peace Corps campus recruiting office for the West Michigan area.

### **International Partnership Agreements**

Partnerships with overseas institutions create meaningful opportunities for students, faculty members, and staff members and allow for educational and living experiences in other nations. Partnerships also increase the presence of international students and faculty at Grand Valley. Currently, Grand Valley has institution-to-institution agreements with the following institutions, which offer a variety of study abroad opportunities for students:

Austria: FH Joanneum University of Applied Sciences, Graz

Australia: University of the Sunshine Coast, Queensland; Macquarie University, Sydney

China: East China Normal University, Shanghai

Chile: Universidad del Bío Bío, Chillan and Concepcion

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

England: Kingston University, Kingston-on-Thames; University of Brighton, Brighton

France: Groupe ESC Grenoble, Grenoble; L'Ecole Supérieure Des Sciences Commerciales of Angers l'Université, Angers; Catholique de L'Ouest, Angers

Germany: Duale Hochschule Baden Württemberg, Mosbach; Pädagogische Hochschule Schwabisch Gmünd Fakultät I, Schwabisch Gmünd

Ghana: University of Cape Coast

Italy: Università degli Studi di Perugia, Perugia

Japan: International Christian University, Mitaka; Ritsumeikan Asia Pacific University, Beppu

Mexico: Universidad de las Américas-Puebla

Poland: Cracow University of Economics, Cracow

Romania: Babeș-Bolyai University

Spain: Universidad Carlos III de Madrid, Madrid

South Korea: Seoul National University of Science and Technology, Seoul

Switzerland: Zurich University of Applied Sciences, Winterthur

Taiwan: National Taiwan Normal University, Taipei

Turkey: Middle East Technical University, Ankara

### **Consortia Programs**

Japan Center for Michigan Universities (JCMU), Hikone, Japan

Consortium for Overseas Student Teaching (COST), various locations

### **Affiliate Programs**

Academic Programs International (API), various locations

American Institute for Foreign Studies (AIFS), various locations

Council on International Education Exchange (CIEE), various locations

Cultural Experiences Abroad (CEA), various locations

Edge Hill University (EHU), Ormskirk, England

European Study Abroad (EUSA), various locations

Global Experiences, various locations

Global Semesters, various locations

Hellenic International Studies of the Arts (HISA), Paros, Greece

International Studies Abroad (ISA), various locations

Roehampton University, London, United Kingdom

Sol Education Abroad, various locations

University of Deusto (CIDE), Bilbao, Spain

University Studies Abroad Consortium (USAC), various locations

### **International Student Services Program**

Grand Valley recognizes the importance of international students to the campus community. Accordingly, the program serves as the organizer, promoter, and

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

facilitator of various cross-cultural exchange activities. Also, the program provides support services that include extensive orientation, cross-cultural adjustment seminars, housing assistance, and oversees immigration regulations and work authorization.

### **Study Abroad**

The Padnos International Center (PIC) supports the academic programs in all departments, divisions, and schools by offering and coordinating study abroad opportunities in countries around the world. Semester and year-long academic programs are available to all degree-seeking students in all academic majors and minors.

Grand Valley offers various scholarship and grant opportunities, including the Barbara H. Padnos Study Abroad Scholarship (year-long study with preference given to majors in the arts and humanities), The Mark A. and Elizabeth E. Murray Study Abroad Scholarship (related to financial need), the PIC Study Abroad Grant (open to both graduate and undergraduate students), and the faculty-led grant (for students participating in a faculty-led program). The Padnos International Center also maintains a roster of other scholarships and grants for study abroad.

The Padnos International Center maintains a fully staffed resource room, where students can explore participation in overseas opportunities throughout the world. Guidance, enrollment support, financial aid coordination, and credit transfers are services offered by PIC staff members. Students are encouraged to visit the center's resource room early in their academic studies, so that appropriate planning can be undertaken.

### **IS 380**

International Studies 380 is the special topics course in which students enroll when they study abroad. Students on study abroad programs enroll in this "placeholder" course until the transcript arrives from the overseas institution, at which time the course is converted to an equivalent Grand Valley course (replacing IS 380 on the transcript). In cases where there is no comparable Grand Valley course, the original IS 380, with an appropriate subtitle, remains on the transcript. Students may enroll in one to 16 credits of IS 380 per academic term, if approved for study abroad through an application process administered by the Padnos International Center.

### **IS 680**

International Studies 680 is similar to IS 380, but serves the role of placeholder for graduate credit, for Grand Valley graduate students participating in study abroad programs.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Faculty-led Programs**

Students can acquire international experience through a variety of short-term, Grand Valley-sponsored programs, generally led by Grand Valley faculty members. GVSU out-of-state and international students pay tuition at in-state rate plus \$25 per credit for these programs. There are more than 50 programs with 27 to 30 offered per year. Summer programs may include the following.

Austria: Vienna and Czech Republic, Prague, and Ostrava: Music

Belize: San Ignacio, Master's of Clinical Dietetics

Chile: Chillán, TRIO

China: Shanghai, Summer School; Nanjing, Chinese Modern Languages and Literature; Costa Rica: San Jose, Hospitality Tourism Management

Dominican Republic: Santiago, Movement Science; Santo Domingo, Spanish Modern Languages and Literature

Ecuador: Ibarra, Occupational Therapy; Quito, Biology

El Salvador: San Salvador and Santa Marta, and Santiago, Guatemala, Social Work

France: Paris and Bordeaux, Intensive French, Modern Languages and Literature

Germany: Schwäbisch Gmünd, German Modern Languages and Literature

Guatemala: Zacapa, Occupational Therapy

Ghana: Accra, Social Work; Cape Coast, Nursing; Cape Coast, English; Winneba, Honors

Haiti: Deschappelles, Honors

Iceland: Geology

Ireland: Dublin and Galway, Social Work

Israel: Tell es-Safi/Gath, Anthropology; Jerusalem, Honors

Japan: Tokyo & Osaka, Japanese Modern Languages and Literature

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Namibia: Windhoek, African/African American studies, History, Hospitality Tourism Management

Netherlands: Maastricht, English Education; Meppel, Geography, Sociology, Public Administration

South Africa: Cape Town, Women and Gender Studies; Hoedspruit (Kruger National Park), Biology; Cape Town, Writing

Spain: Ourense, Teacher Assisting; Ourense, Education; Ourense, Madrid, Santiago de Compostela, Intercultural Communication, Service Learning and GVSU Laker Athletics; Seville, Spanish Modern Languages and Literature

Switzerland: Zurich, Computer Information Systems

Tanzania: Arusha, Teaching, Learning and Culture

Ukraine: Borshchiv, Anthropology

United Kingdom: London, Communication; London, Art; London, Anthropology; Ormskirk, English; Derry and Belfast U.K. Northern Ireland, Psychology

### **GVSU Internship Programs**

Madrid, Spain: (Two tracks, Spanish for all majors and internships in English for engineering and computer science majors)

Paris, France (French-speaking internships)

Prague, Czech Republic; London, U.K.; Dublin, Ireland, English-speaking internships in all disciplines.

PIC assists students with their plans and participation in these programs. It coordinates programs with the financial aid and registrar's offices to ensure academic credit and financial aid for program participation. It also maintains a comprehensive file of authorized international study programs throughout the world, assists with the coordination of faculty exchanges, and provides information on opportunities for research, teaching, and working abroad.

### **Academic Activities**

The Padnos International Center organizes various academic activities, including lecture series, break roundtables, conversation series, and research forums during fall and winter semesters.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

For more information, visit the Padnos International Center at 130 Lake Ontario Hall or call (616) 331-3898.

## **Career and Employment Resources**

### **Career Center**

The Career Center helps you explore career options, develop short- and long-term career plans, and connect with employers and professionals in your field of study. Through a variety of programs and one-on-one appointments, we can help you develop strategies that will lead to meaningful careers.

#### **Individual Assistance**

Career Center advisors work with undergraduate students, graduate students, and alumni to determine their interests and values as they relate to career choices and provide career guidance or job/internship search assistance..

Services include:

- Career testing and self-assessment
- Career planning
- Career and major exploration
- Graduate and professional school exploration
- Internships and cooperative education
- Interviewing and resume/cover letter writing skills
- Job and internship search strategies
- Networking strategies

Appointments, both in person and virtually, can be requested through our online posting system, Handshake, or you can call or stop by one of our two primary locations: 200 Lubbers Student Services Center and 101B DeVos Center, (616) 331-3311, [careers@gvsu.edu](mailto:careers@gvsu.edu). Drop-in sessions are also available in our CareerLab. CareerLab is a peer-to-peer drop-in program, located at both office locations, as well as virtually, that allows individual consultation without an appointment during fall and winter academic sessions. You are encouraged to bring a copy of your resume, your laptop, and stay as long as you need. Services are also available at the L. William Seidman Center, L.V. Eberhard Center, and at the Cook-DeVos Center for Health Sciences in Grand Rapids, as well as the Traverse City Regional Center by appointment. Visit our website at [gvsu.edu/careers](http://gvsu.edu/careers).

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Handshake**

Handshake is an online job search tool for students and alumni that contains thousands of internships, part- and full-time career opportunities, as well as volunteer opportunities with Grand Valley partners. New opportunities are posted daily and it is free to use.

Login with your GVSU network ID and password online at [gvsu.edu/handshake](https://gvsu.edu/handshake).

You can also use Handshake for any of the following:

- Get information on and register for upcoming career fairs, workshops, and information sessions.
- Participate in on-campus interviews.
- Make your resume available to employers through resume books.
- Receive notification of opportunities that fit your preferences.
- Research employers who recruit at Grand Valley.
- Schedule career advising appointments.

## **PathwayU**

PathwayU is a free, personalized career and education planning tool. It is designed to help you explore careers and majors by identifying those that best fit your career interests, values, personality, and skills. From the results, you can explore in-depth information related to specific careers.

Create an account at [gvsu.edu/careers/pathwayu](https://gvsu.edu/careers/pathwayu).

## **Employer Connections**

Engaging with employers early and throughout a student's college career is critical to successful career development, along with gaining experience, and obtaining postgraduate employment. The Career Center has dedicated resources to help you discover and nurture local, regional, and national employer connections. This is done through on- and off-campus events offering opportunities to meet and network with a wide variety of employers.

## **Career Courses**

The Career Center offers both career exploration (US 102) and job and internship search (US 301) classes.

## **Employment Statistics for 2019-2020**

Grand Valley State University is focused on ways to enhance the success of our graduates, with success defined as advancing graduates to the next step along the career path of their choice. For students whose immediate postgraduation plans are to

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enter the workforce, success is securing a paid position that allows them to advance toward their long-term career goals. For students whose career choice requires an advanced degree, success is gaining admission to graduate or professional school. For other students, the next step may be military service, volunteer work, a focus on family, or some other activity that is unique to achieving their chosen personal and professional goals. It is important for the university to get feedback on how we are doing in preparing students for success in achieving their postgraduation plans. One source of feedback is responses to our annual First Destination Survey.

Results of this survey show that placement rates for Grand Valley graduates continue to be high; 90 percent of 2019-2020 graduates report being employed and/or enrolled in graduate school.

A breakdown of placement rates by academic college at Grand Valley is as follows. For more detailed information on reported statistics or assistance with preparation for the employment search, please contact the Career Center at [career@gvsu.edu](mailto:career@gvsu.edu) or (616) 331-3311.

<b>Destination Rate By College</b>	<b>Undergraduate</b>	<b>Graduate</b>
Brooks College of Interdisciplinary Studies	89%	N/A
College of Community and Public Service	85%	88%
College of Education	86%	92%
College of Health Professions	88%	94%
College of Liberal Arts and Sciences	85%	94%

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Kirkhof College of Nursing	98%	78%*
Padnos College of Engineering and Computing	97%	95%
Seidman College of Business	93%	100%

\*Based on sample size less than 10.

## **Internships, Cooperative Education, and Experiential Education Programs**

Grand Valley employer partners agree students benefit from having career-related experience in addition to a college degree. The Career Center provides assistance in preparing for and obtaining internships and other meaningful work experiences.

### **Internships**

An internship is a supervised work experience directly related to an academic discipline taking place outside of the classroom and directed by a field supervisor. An internship typically lasts one semester, may be full- or part-time, a paid or unpaid work experience, and may be completed for-credit or not-for-credit.

### **Cooperative Education (co-op)**

A co-op is a specific type of work training experience in which students have at least two full- or part-time supervised and paid work experiences related to their major, each lasting at least one semester. The co-op program is specifically designated as such by the academic department.

### **Benefits**

In addition to the possibility of earning college credit, internships/co-ops provide opportunities to learn new skills and apply learned theory to the world of work. Other benefits include exploring available career options, developing realistic career goals and expectations, building relationships with professionals and employers, gaining

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

career-related experience, supplementing grades, and receiving possible employment offers or recommendations for future employment.

### **Academic Requirements and Credits**

Each academic department determines the academic requirements for internships and cooperative education experiences. Unless an academic department requires completion of an internship/co-op, it is up to an individual student to decide whether or not they wish to pursue receiving credit for their experience; occasionally, employers require interns to receive college credit for their experience. When seeking credit for an experience, a faculty advisor within each academic department is responsible for final approval of internships/co-ops to ensure that the experience meets specific departmental criteria. A maximum of 15 internship/cooperative education credits may be applied toward graduation. The nature of the academic component of an internship/cooperative education experience is defined by the academic department. A student may not use a single work experience to generate both internship/cooperative education credit and other forms of credit, e.g., independent study credit.

### **Criteria**

Internships and co-ops may be initiated by a faculty advisor, employer, student, or the Career Center. The work setting for internships/co-ops must provide an opportunity for learning that is relevant to the student's academic field as well as a field supervisor to oversee and evaluate the work.

The length of the internship/co-op is determined prior to the beginning of the internship by the employer, the student, and the internship coordinator. An internship/cooperative education experience can be terminated prior to completion by the internship coordinator, field supervisor, or student. However, permission for course withdrawal is vested exclusively in the faculty for credit-bearing internships. In 2019-2020, there were 7,392 students who participated in some type of experiential education program.

## **Children's Enrichment Center**

The Children's Enrichment Center enriches the lives of Grand Valley's youngest students. Located on West Campus Drive, the center serves young children 2 ½ to 12 years of age from the Allendale Campus and the nearby community. The program is designed to help children nurture habits of intellectual growth, curiosity, and a love for learning. To learn more about enrollment or volunteer opportunities, call (616) 331-KIDS (5437) or visit the website at [gvsu.edu/child/](http://gvsu.edu/child/). Hours are from 7 a.m. to 6 p.m., Monday through Friday, year-round.

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# Communications

WGVU Public Media is a multiplatform public media organization licensed to the Board of Trustees, Grand Valley State University. WGVU Public Media provides content across television, radio, mobile, and Web, and throughout the community while offering hands-on experience for students in broadcasting, communications, journalism, marketing, business, and nonprofit leadership.

WGVU-TV 35/WGVU-DT 11 and WGVK-TV 52/WGVK-DT 5, affiliated with the Public Broadcasting Service (PBS), is an integral part of our community's landscape. Its mission is to educate, inform, and entertain with quality programming and community engagement activities as the PBS affiliate for West and Southwest Michigan. WGVU television is among the highest quality stations. It is most authoritative on topics including science, arts, history, and public affairs, and it includes the most respected educational programs for children in the country. WGVU provides the only public television, news, and emergency information for 2.5 million people living throughout 28 counties in Michigan. WGVU television provides local news and current events through our local productions, including WGVU Newsmakers, Community Connection, West Michigan Week, and Mutually Inclusive. WGVU-TV programming and outreach is made possible by citizens who willingly provide financial and volunteer support and have done so continuously since the station began in 1972.

WGVU 88.5/95.3 FM Grand Rapids and 95.3 FM Whitehall are National Public Radio (NPR) stations licensed to the Board of Trustees, Grand Valley State University. The stations broadcast news and information programs from NPR, PRI, and Michigan Public Radio Network. With a strong commitment to local news, WGVU Public Media is the only local affiliate of NPR with an award-winning, Grand Rapids-based news team that offers daily local programming and interviews. WGVU radio broadcasts to more than 1.5 million listeners in West and Southwest Michigan. Along with news, WGVU radio produces a wide variety of specialty programs that highlight and focus on the community. WGVU radio is distinctive, offering its listeners a unique music selection with locally produced jazz shows and blues programming during evenings and weekends, along with the loyal listeners of our Real Oldies 1480 AM Grand Rapids and 850 AM Muskegon stations. Radio programming and outreach is made possible by citizens who willingly provide financial and volunteer support and have done so continuously since 1983.

WGVU.org provides news, local information, and community outreach as well as local and national PBS programming. WGVU Public Media also produces and facilitates a variety of community engagement initiatives and events throughout the

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year by delving into the areas of inclusion, health, arts, veterans, and education. WGVU continues to expand its reach through new platforms, exploring digital media. WGVU Digital Studios provides engaging short form content in science, art, food and beverage, sports, and entertainment.

Our television and radio stations also provide employment opportunities and professional experience for students. Two annual Grand Valley tuition scholarships are awarded. The offices and studios are located in the Meijer Public Broadcast Center on the Robert C. Pew Grand Rapids Campus, located in downtown Grand Rapids, MI.

You can learn more at [WGVU.org](http://WGVU.org) or by calling WGVU Public Media at (616) 331-6666 or (800) 442-2771.

## **Computer Support**

Grand Valley has more than 50 instructional computer labs with Windows and Macintosh computers running more than 270 software applications. Virtual computer lab access to courseware is available through the GVSU website. In accordance with the Americans with Disabilities Act (ADA), accessible stations are available in most computer labs. There are more than 500 classrooms and computer labs with technology equipped instructor stations that include a computer, LCD projector, document camera, and webcam to facilitate virtual/hybrid instruction. There is wireless connectivity in all academic buildings and housing locations. All classroom and student living areas are networked for Internet access, email, courseware, and many other student services. Digital media assistance is available to students and faculty members. Printing is available in the labs, as well as cloud printing services from on/off campus. Microsoft Office 365 is available for all students, faculty, and staff members free of charge. The Information Technology Service Desk is available to support all students, faculty, and staff members.

## **Division of Inclusion and Equity**

Through collaboration, consultation, and leadership with students, faculty and staff members, administrators, and community partners, the Division of Inclusion and Equity advances Grand Valley's social justice framework for equity and inclusion. The division coordinates sustainable and strategic institutional efforts to engage all members of the community, while also intentionally supporting and advocating for historically underrepresented communities. The division's work furthers the university's liberal education and student-centered mission. The offices across the university fall under three main areas:

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

- Equity and Compliance
- Social Justice Education
- Inclusion, Services, and Social Justice Centers

The office of the vice president of the Division of Inclusion and Equity is located in 4035 Zumberge Hall. Contact us by phone at (616) 331-3296, visit our website at [gvsu.edu/inclusion](http://gvsu.edu/inclusion), or email us at [inclusion@gvsu.edu](mailto:inclusion@gvsu.edu).

## **Equity and Compliance**

The Equity and Compliance unit ensures the university's compliance with all federal and state laws related to civil rights; investigates complaints of discrimination, harassment, and sexual misconduct in accordance with university policy; provides consultation to university departments on accessible, equitable, and inclusive practices and processes; and oversees the division's strategic planning process. Equity and Compliance includes the Affirmative Action and Equal Employment Opportunity office, the Title IX office, and Disability Support Resources. This unit is supported by the Division of Inclusion and Equity.

## **Affirmative Action and Equal Employment Opportunity**

The Affirmative Action and Equal Employment Opportunity (AA/EEO) office provides leadership to the campus for all facets of promoting and monitoring equal employment opportunity and the university's affirmative action program. The AA/EEO officer also monitors the implementation of the Board of Trustee's Equal Opportunity/Affirmative Action Policy, develops educational programs on affirmative action and equal opportunity laws, policies, and procedures, as well as issues of harassment and discrimination, and investigates and addresses related complaints. AA/EEO is supported by the Division of Inclusion and Equity and is located at 4000 Zumberge Hall. Contact us by phone at (616) 331-2242, visit our website at [gvsu.edu/affirmative](http://gvsu.edu/affirmative), or email us at [aaeeo@gvsu.edu](mailto:aaeeo@gvsu.edu).

## **Disability Support Resources**

Disability Support Resources (DSR) provides support services and accommodations that enhance the environment for persons with disabilities and helps educate the university community on disability issues. The office also provides access to programs and facilities for faculty members, staff members, and students. Grand Valley promotes the full inclusion of individuals with varying abilities as part of our commitment to creating a diverse, inclusive community. It is the policy of Grand Valley to comply with the Americans with Disabilities Act as amended by the ADA Amendment Act (2008), Section 504 of the Rehabilitation Act of 1973, and other

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applicable federal and state laws that prohibit discrimination on the basis of disability. Grand Valley will provide reasonable accommodations to qualified individuals with disabilities upon request. DSR is supported by the Division of Inclusion and Equity and is located at 215 The Blue Connection. Contact us by phone at (616) 331-2490, visit our website at [gvsu.edu/dsr](http://gvsu.edu/dsr), or email us at [dsrgvsu@gvsu.edu](mailto:dsrgvsu@gvsu.edu).

## **Office for Title IX**

Office for Title IX and Institutional Equity (TIXIE) protects any person from sex-based discrimination, regardless of their real or perceived sex, gender identity, and/or gender expression. Female, male, and gender nonconforming students, faculty members, and staff members are protected from any sex-based discrimination, harassment, and violence. Grand Valley State University is committed under Title IX to address incidents involving sex-based discrimination, which includes sexual and gender-based harassment, sexual assault, intimate partner violence, stalking, and exploitation against students, faculty members, and staff members.

The Title IX coordinator is responsible for the monitoring and oversight of the overall implementation of the university's Title IX compliance, including the coordination of training, education, communications, and the administration of grievance procedures for faculty and staff members, students, and other members of the university community. The TIXIE office is supported by the Division of Inclusion and Equity and is located at 4000 Zumberge Hall. The Title IX coordinator and equity officer/director can be reached by calling (616) 331-9530 or emailing [titleix@gvsu.edu](mailto:titleix@gvsu.edu). You may also visit the TIXIE website at [gvsu.edu/titleix/](http://gvsu.edu/titleix/).

## **Social Justice Education**

Social Justice Education (SJE) works to advance the application of Grand Valley's framework for inclusion and equity through engaging and supporting community members in efforts to cultivate capacity for building and maintaining inclusive and just communities. This office provides regularly scheduled training opportunities and fulfills requests for workshops tailored to the specific needs of a department, class, or campus group. In addition, SJE collaborates with many campus and community partners to increase knowledge and skills related to creating positive change.

SJE is supported by the Division of Inclusion and Equity and is located in 4035 Zumberge Hall. Contact us by phone at (616) 331-9202, visit our website [gvsu.edu/socialjustice](http://gvsu.edu/socialjustice) to request a training and view scheduled opportunities, or email us at [sje@gvsu.edu](mailto:sje@gvsu.edu).

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

# **Inclusion, Services, and Social Justice Centers**

## **Gayle R. Davis Center for Women and Gender Equity**

The mission of the Gayle R. Davis Center for Women and Gender Equity is to create meaningful learning about women and gender and to advocate for gender justice through the education, engagement, and empowerment of students and the greater Grand Valley community. The center creates an environment where students and faculty, staff, and community members can increase self-awareness about gender justice, connect with resources, apply skills through conducting research or internships, and perform service learning.

The center works to achieve the following:

### **Make connections to campus and community resources.**

The center serves as a welcome starting place for any student needing assistance with personal and/or academic challenges. Staff members are trained to help connect students with those who can best assist them. The center also offers food resources, as well as personal care items, at no cost to support students dealing with food and financial insecurity. The center also offers service to students previously in foster care through the Fostering Laker Success program.

### **Engage the campus community in antiviolence work.**

The center houses the campus victim advocate who provides resources and support for victim/survivors of gender-based violence. It collaborates with numerous campus partners to work toward ending instances of sexual assault, dating/domestic violence, and stalking. The violence prevention and education coordinator oversees campuswide violence efforts.

### **Provide internship and service-learning opportunities.**

The center works with numerous nonprofits in the community that seek to advance gender justice. Through Activate (the Intersections social justice service learning training system) and numerous days of service, students can make a meaningful difference by engaging with the center, campus, and community.

### **Foster leadership and advocacy.**

The center engages students in leadership development and works with students to advocate for gender justice. This is done through the ATHENA leadership program, the ambassador program, the Gender Justice House (a living/learning residential community), Niara (a leadership program for women of color), and internship experiences in the center.

The Center for Women and Gender Equity is supported by the Division of Enrollment Development and Educational Outreach and is located at 1201 Kirkhof Center. Contact us by phone at (616) 331-2748, visit our website at [gvsu.edu/cwge](http://gvsu.edu/cwge), or email us at [cwge@gvsu.edu](mailto:cwge@gvsu.edu).

## **Milton E. Ford Lesbian, Gay, Bisexual, and Transgender (LGBT) Resource Center**

The Milton E. Ford LGBT Resource Center advocates for institutional equity, promotes community-building, and provides educational opportunities to create an informed, cohesive, and just campus where community members of diverse sexual orientations, gender identities, and gender presentations are supported and welcome.

The center's advocacy work advances Grand Valley's commitment to inclusion and equity. Using an intersectional framework, the center seeks to be a partner in creating a more equitable campus, region, and world that values social justice and centers the needs of the most vulnerable people.

The Ford LGBT Resource Center offers educational programming and community-building opportunities to help students and employees connect with each other, the center, and the university. The center offers a variety of programs throughout the year, including featured guest speakers in honor of Transgender Day of Remembrance and Transgender Day of Visibility, Queer Connections mentoring program, educational trainings and workshops, Lavender Graduation, and more. The center also supports four student-facilitated evening programs: First-year Queer Alliance helps first-year LGBTQIA+ and allied students develop strategies for a successful first year by creating meaningful connections to each other and the campus community. Colors of Pride is a program for LGBTQIA+ students of color where participants have an opportunity to celebrate the unique experiences of LGBTQIA+ people of color while building community and strengthening connections to each other, the LGBT Resource Center, and the university. T2 is a weekly group for transgender and nonbinary students, as well as those questioning their gender, and Ace of Clubs provides supportive space for students who identify on the asexual or aromantic spectrums.

The LGBT Resource Center is supported by the Division of Enrollment Development and Educational Outreach and is located at 1161 Kirkhof Center. Contact us by phone at (616) 331-2530, visit our website at [gvsu.edu/lgbtrc](http://gvsu.edu/lgbtrc), or email us at [lgbtcenter@gvsu.edu](mailto:lgbtcenter@gvsu.edu).

## **Office of Multicultural Affairs**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

The Office of Multicultural Affairs (OMA) is committed to building an inclusive campus that promotes acceptance and appreciation of the diversity, background, and perspective of each individual. Through our signature Professionals of Color Lecture Series, cultural heritage celebrations, and social justice programs, OMA enhances student learning and development by fostering an appreciation for the history, tradition, and culture of different ethnic groups and empowering students to be active and engaged learners.

OMA also provides retention programs that engage all students, while also intentionally advocating for students from historically underrepresented communities. These programs assist students in achieving personal and academic success by promoting a smooth transition from high school to college, creating a sense of belonging, and connecting students to resources and mentors. High-impact learning outcomes are integrated into programs' activities to offer an array of opportunities for students to develop lifelong skills that will benefit their lives and careers after college.

The Office of Multicultural Affairs is supported by the Division of Enrollment Development and Educational Outreach and offers a welcoming environment with a gathering space at 1240 Kirkhof Center. Contact us by phone at (616) 331-2177, visit our website at [gvsu.edu/oma](http://gvsu.edu/oma), or email us at [oma@gvsu.edu](mailto:oma@gvsu.edu).

## **Sylvia and Richard Kaufman Interfaith Institute**

The Kaufman Interfaith Institute at Grand Valley works to promote interfaith understanding and mutual respect in West Michigan through programs and conferences. As a community-focused organization housed at the university, the Kaufman Interfaith Institute organizes events, service opportunities, and trainings in the community and works closely with religious and nonprofit organizations in West Michigan. The Kaufman Interfaith Institute seeks to promote a vibrant and diverse community, benefiting people of all generations, through interfaith dialogue and service.

Grand Valley also provides opportunities for positive interfaith engagement around the religious, secular, and spiritual diversity of students, staff members, and faculty members. The aim of this work is to foster a campus climate inclusive of various identities and communities to ensure that students are able to develop their worldviews in an affirming environment and to promote an open and pluralist understanding of our increasingly diverse schools, workplaces, and communities.

Some of the religious and interfaith services and resources at Grand Valley:

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

- Faith-based, spiritual, and secular student organizations include Hillel, Mindfulness and Meditation, Muslim Students Association, and Center for Inquiry. Numerous Christian groups include Campus Ministry, Catholic Student Ministries, and many more.
- Interfaith reflection rooms located at 2243 Kirkhof Center, 309E DeVos, and 166 CHS are available as open, silent spaces for all students, staff members, and faculty members.
- Site visits to various local houses of worship in the greater Grand Rapids area.
- Ongoing opportunities for interfaith dialogue.
- Interfaith leadership conferences and workshops.

## **Veterans Upward Bound**

Veterans Upward Bound (VUB) provides free academic support to veterans to enroll in postsecondary education (degree or vocational/technical programs) at any institution. VUB provides an academic skill-building program that is coupled with individualized attention and a flexible teaching and tutoring schedule. VUB is supported by the Division of Inclusion and Equity and a five-year grant from the U.S. Department of Education.

VUB is supported by the Division of Enrollment Development and Educational Outreach and is located at 708 L.V. Eberhard Center in Grand Rapids. Contact us by phone at (616) 331-8387, visit our website at [gvsu.edu/vub](http://gvsu.edu/vub), or email us at [veterans@gvsu.edu](mailto:veterans@gvsu.edu).

## **Division of Student Affairs**

The Division of Student Affairs provides services, programs, and environments that enhance the personal, social, and intellectual lives of students. The division is dedicated to the belief that positive growth and development of students occurs best when in-class and out-of-class experiences are harmonious. The division strives to provide assistance to students and faculty that will foster the development of meaningful relationships between students and others. The division is organized to provide necessary support and facilities for students which enable them to live, learn, and become mature, self-directed and responsible members of the university community and society. The vice provost for student affairs and dean of students serves as the senior student affairs officer and provides leadership for the Division of Student Affairs. In turn, the vice provost for student affairs and dean of students reports to the provost and executive vice president for academic and student affairs.

## **Dean of Students Office**

The Dean of Students Office serves as an information resource for students and campus colleagues, provides advocacy for student issues, programs to serve students,

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and represents the Division of Student Affairs to constituencies within and beyond the university. The main office is located in the Lubbers Student Services Center on the Allendale Campus, but division staff provide additional support on the Robert C. Pew Grand Rapids Campus, as well as the Health Campus in Grand Rapids, and the Holland, Muskegon, and Traverse City campuses.

### **CARE Team**

The CARE Team supports students through social, emotional, physical and mental challenges; connects them to appropriate campus and community resources; promotes growth in self-advocacy and empowers students to build confidence in their ability to navigate toward their own solutions. One way in which students are supported is through our CARE referral system. The student support manager works collaboratively across the institution to develop support plans that provide a caring and comprehensive student experience. The student support manager will meet one-on-one with students who are referred through the CARE system to help identify stressors and make a plan for well-being outside the classroom to enable success within the classroom.

For more information, please visit us online at [gvsu.edu/care](http://gvsu.edu/care).

### **Office of Student Conduct and Conflict Resolution**

The Office of Student Conduct and Conflict Resolution (OSCCR) provides an educational and restorative process to address student misconduct. All Grand Valley students and registered student organizations are held accountable to the The Statement of Student Rights and Responsibilities. The statement is a published document that provides the GVSU community with information regarding prohibited conduct and the student conduct process. In addition to addressing student misconduct, OSCCR supports students by providing a spectrum of resolution pathways to address conflict through dialogue and self-advocacy. Lastly, OSCCR offers a variety of presentations and workshops to proactively assist the GVSU community with positive decision-making, healthy relationships, and conflict management. For more information, visit us online at [gvsu.edu/conduct](http://gvsu.edu/conduct).

### **Student Ombuds**

The ombuds strives to promote fairness and foster a positive campus environment by offering students a number of mechanisms for early conflict resolution and problem-solving. Students may contact the Student Ombuds for assistance with resources if they have a conflict. The ombuds will listen, help them come up with next steps, and discuss other resources that might be helpful. Typical concerns brought to the student

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

ombuds include disciplinary concerns, academic concerns, discrimination, harassment, cultural conflicts, financial concerns, administrative issues (procedural questions), roommate concerns, housing issues, supervisor/employee concerns, workplace issues, professionalism (or lack thereof), and interpersonal communications.

## **Grand Valley Department of Public Safety**

Grand Valley State University Department of Public Safety (GVDPS) is a multidisciplinary department that provides police, security, and emergency management services to the campus community. The mission of the department is to provide a safe and secure environment in which to learn, live, and work.

The Grand Valley Police Department (GVPD) is a full-service law enforcement agency responsible for the enforcement of laws of the State of Michigan and the rules and regulations of the university. Officers have full police authority and are licensed by the Michigan Commission on Law Enforcement Standards. Services provided by GVPD include, but are not limited to, criminal investigations, traffic enforcement, community policing, medical response, and educational programming. Additionally, the department provides emergency management for the university with respect to preparedness, awareness, and education.

Safety on the Grand Rapids campuses is provided by GVPD and the Grand Valley Security Department. Grand Valley police provide a presence on the Grand Rapids campuses during operational hours of the academic day while security staff provide 24/7 coverage. GVDPS also partners with the Grand Rapids Police Department for law enforcement services on the Grand Rapids campuses when GVPD is not available.

The police department for the Grand Rapids campuses is located at 609 Watson Ave. Both the GVPD and security personnel can be reached for nonemergency service calls at (616) 331-3255. **In the event of an emergency, always dial 911.**

On the Allendale Campus, GVPD provides 24/7 patrol coverage and is housed in the Service Building.

To learn more about our department and the services we offer, please visit our website at [gvsu.edu/dps](http://gvsu.edu/dps). To view our Annual Security and Fire Safety Report, go online to [gvsu.edu/safety](http://gvsu.edu/safety).

## **GVSU Laker Store**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **[lakerstore.gvsu.edu](http://lakerstore.gvsu.edu)**

Textbooks for classes taught at Grand Valley State University are available through the GVSU Laker Store with locations in Allendale and Grand Rapids. Students attending classes on the Allendale Campus will find their textbooks and required supplies at the store in The Marketplace located across from the Lubbers Student Services Center. In addition, the GVSU Laker Store offers a large selection of Grand Valley imprinted clothing and gifts, as well as classroom supplies, computers, and technology. The Allendale store also provides textbooks for students who attend Grand Valley classes at locations throughout Michigan. Textbooks and merchandise may be ordered on the Web at [lakerstore.gvsu.edu/](http://lakerstore.gvsu.edu/).

During the academic year, GVSU Laker Store in Allendale is open from 8 a.m. to 6 p.m. Monday through Thursday, 8 a.m. to 5 p.m. on Friday, and 10 a.m. to 5 p.m. on Saturday. Hours are extended the first week of the semester.  
Phone (616) 331-2450.

Students who attend classes on the Robert C. Pew Grand Rapids Campus and the Health Campus can purchase textbooks at the GVSU Laker Store, adjacent to the plaza on the first floor of the Richard M. DeVos Center. During the academic year, hours are 8 a.m. to 6 p.m. Monday through Thursday, 8 a.m. to 5 p.m. on Friday, and 8 a.m. to 2 p.m. on Saturday.  
Phone (616) 331-6602.

## **Health Services**

The Campus Health Center on the Allendale Campus provides convenient medical care for GVSU students and faculty through University of Michigan-Metro Health. Medical staff include physicians and mid-level providers. For more information, visit [gvsu.edu/campushealth](http://gvsu.edu/campushealth).

The GVSU Family Health Center, operated by the Kirkhof College of Nursing, provides accessible, quality health care through an academic nurse-managed approach. Located five minutes from the GVSU Robert C. Pew Grand Rapids Campus, free parking is available. For more information, visit us online at [gvsu.edu/fhc](http://gvsu.edu/fhc).

## **Housing and Residence Life and Campus Dining**

Grand Valley considers residential living to be beneficial in helping all students become oriented and adjusted to college life. Our data mirrors that of institutions across the globe, showing that students who live on campus are more successful in

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their college experience. On campus residents are retained and graduate at higher rates, have higher GPAs, and graduate more quickly than students who live off campus. That is the foundational purpose of the first-year residency requirement, which begins in Fall 2021. The residential experience contributes to that success. Our staff arrange educational, diverse, and recreational programs that foster and maintain pleasant living and study conditions. Each living center has a housing team consisting of a full-time, live-in staff member, graduate assistant(s), and student resident assistants. There are a variety of housing options on campus.

## **Freshman Housing**

**Traditional-style living centers** accommodate approximately 900 students. The centers house two people per room with semiprivate bathrooms in the hallway for all floormates.

**Suite-style living centers** accommodate approximately 1,000 students. The centers are divided into suites of two double rooms (for four students) and a shared private bathroom.

A **Cluster-style living center** accommodates approximately 500 students. The center offers student rooms that are similar to traditional-style (but are the size of suite-style units) and feature two- and three-person units. Resident rooms are clustered around shared semi-private bathroom and lounge spaces.

**Apartment-style living centers** accommodate approximately 1,000 students. The centers provide two students with either private bedrooms or a shared bedroom, a private bathroom, and a kitchenette.

**Efficiency/studio apartments** accommodate approximately 200 students on our Robert. C. Pew Grand Rapids Campus. They feature private bathroom and kitchenettes in configurations of one person singles, two person shared bedroom, or private bedroom efficiencies for two residents. These units are similar to the apartment-style living centers in Allendale. Meal plans are optional for students in this community and not required.

**Apartment living** options accommodate approximately 300 students. Apartments include two and four private bedroom units and two shared bedroom options (for four students). These units feature full-size kitchens with standard size appliances, as well as living rooms. Meal plans are optional for students in apartment communities and are not required.

Room and board may be paid in full at the beginning of each semester or, for a service charge, in four installments. All room-and-board rates are subject to change by action of the Board of Trustees.

Admission to Grand Valley does not guarantee housing of any kind, and students must make their own arrangements by applying online via myHousing on myBanner. Students may apply for housing immediately upon acceptance to GVSU. Assignments for first year students begin in late Spring and placement information is available in June. Returning students and incoming transfer students are placed on a rolling basis and the application opens in September. Students who apply prior to May 1 are given priority placement but not guaranteed requested style. Applications, contracts, and housing information are available at [gvsu.edu/housing](http://gvsu.edu/housing). Approximately 3,000 spaces in the living centers are reserved for freshmen; the remaining spaces are available for upperclass students. All rooms are smoke-free.

On campus residency is required for all incoming first year students. All first year students must either submit a housing application or receive a residency exemption. Students who are not in compliance with the residency policy will be charged a noncompliance fee in the amount equal to traditional housing and base meal plan costs. Exemptions are available for those who are two years post high school graduation, are veterans, have custody of minor dependents, are married, or who will be commuting from the permanent home of a parent or guardian. For more information on the requirement and exemption request process, visit [gvsu.edu/housing](http://gvsu.edu/housing).

### **Living-learning Communities**

Students living in these communities have chosen to expand their education through shared learning experiences. Each community is built upon a specific theme, major, or area of interest. Professional and graduate staff members work closely with a faculty coordinator in these communities to provide a rich living-learning experience that extends outside of the classroom (programs, events, field trips, research, etc.). The living-learning communities (LLC) offered on the Allendale Campus include the Meijer Honors College, International House, Movement Science House, W.I.S.E (Women in Science, Engineering, and Math), and the Gender Justice House. The LLC on our Grand Rapids campus include the Social Work Living-Learning Community, Engineering Living-Learning Community, Seidman Business Living-Learning Community, and the Momentum House.

All of our units resemble privately developed apartments, but are conveniently located right on campus and offer support services that are highly beneficial to residents. Students must apply for housing each year. We accept applications daily and

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

encourage any interested student to apply for housing. Applications and contracts are available online at [gvsu.edu/housing](http://gvsu.edu/housing).

### **Upperclass Housing**

Grand Valley has apartment living available on both our Allendale Campus and the Robert C. Pew Grand Rapids Campus.

**Allendale Campus:** There are four-bedroom, two-bedroom, one-bedroom, and efficiency apartments. Each living center has a housing team that arranges educational, diversity, and recreational programs that foster pleasant living and study conditions. Each living center's housing team consists of a full-time, live-in staff member, graduate assistant(s), and student resident assistants.

Our apartments range from town home communities to more traditional apartment living, each providing a community building or lounge/common area. Apartments include a stove and refrigerator, beds, dresser, desks, chairs, and a sofa. Students may provide other furnishings to suit their personal style. All apartments are smoke-free. Room fees may be paid in full at the beginning of the semester or, for a service charge, spread out in four installments.

**Pew Grand Rapids Campus:** Apartments located on the Pew Grand Rapids Campus include furnished one-, two-, three-, four-bedroom, and single/double efficiency units. Winter Hall offers an on-site fitness center that may be utilized by Secchia and Winter Hall residents. Students residing here may purchase a meal plan at an additional cost.

### **Housing Application Process**

New students who want to live on campus should apply to the Office of Housing and Residence Life upon acceptance to Grand Valley. All first-year students are encouraged to apply before May 1 for the fall semester in which they plan to attend. To seek on-campus residency, students must submit a housing application, contract, and \$150 security deposit. Housing applications are accepted and encouraged at any time and are available at [gvsu.edu/housing](http://gvsu.edu/housing).

Grand Valley offers housing options 12 months per year, with applications available for fall and winter, winter only, and spring/summer semesters. Specific building availability varies from fall/winter to summer semesters; housing options are offered on both campuses year-round. Residents may cancel their contract with written notice and will be charged according to our cancellation breakage schedule. This schedule is available on our website.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Non-Grand Valley Housing**

There are other living accommodations near the campus, including rooms, apartments, houses, and mobile homes that are available at a wide variety of costs. Grand Valley does not involve itself in negotiations for off-campus rentals. The university does not inspect the units available, and students are encouraged to research carefully and read rental agreements closely to be sure they understand all stipulations, included amenities, and details regarding signing bonuses. First year students are strongly discouraged from signing off-campus leases until they have requested and been approved for an exemption from the residency requirement. Without exemption approval, students risk being responsible for the noncompliance fee as well as their lease commitments off-campus.

## **Campus Dining**

### **[gvsufood.com](http://gvsufood.com)**

Ten meal plans are available to GVSU students. Students living on North Campus will receive the 14 Plus as part of their housing contract and have the option to change to the 10 Plus or upgrade to the Unlimited Fresh plan. Other on-campus and commuting students can select any plan.

### **Meals**

Meals are offered in eight of the meal plan options. Meals can be used to enjoy all-you-care-to-eat dining in the Fresh Food Company and/or to purchase meal combos at other dining locations. One meal is subtracted from the meal balance each time a meal is eaten in the Fresh Food Company or a meal combo is used. Students on weekly meal plans may use up to four meals per day.

### **Dining Dollars**

All 10 meal plans offer Dining Dollars. Dining Dollars are a debit account specific to food purchases on the Allendale and Grand Rapids campuses. Dining Dollars are accepted in all Campus Dining restaurants, C-Stores, coffee shops, and some concession stands. It works like a debit card and can be used for beverages, snacks, or full meals at any time. Students can check account balances online, at Campus Dining registers, or by using the GV mobile app. Students may add dollars at [gvsufood.com](http://gvsufood.com) or by visiting the Campus Dining office in 100 Commons on the Allendale Campus. Dining Dollars carry over from the fall to winter semester. Meals and Dining Dollars must be used before they expire at the end of the academic year. Purchases are nonrefundable. Visit [gvsufood.com](http://gvsufood.com) for more information.

### **Resources**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Visit [gvsufood.com](http://gvsufood.com) to learn about: meal plans, dining on campus with food allergies, vegan and vegetarian offerings, nutrition support resources, food locations, hours, jobs and more.

## **Meal Plan Options 2021-2022**

**Weekly Plans:** Meals are per week and do not transfer to the next week.

**Unlimited Fresh:** Unlimited meals available at Fresh Food Company and \$125 Dining Dollars

**14+:** 14 meals/week plus \$225 Dining Dollars (included with north campus housing contract)

**10+:** 10 meals/week plus \$500 Dining Dollars

**7+:** 7 meals/week plus \$400 Dining Dollars

**5+:** 5 meals/week plus \$225 Dining Dollars

**3+:** 3 meals/week plus \$100 Dining Dollars

**Semester Plans:** Meals can be used at your discretion throughout the semester.

**VALUE+:** 90 meals plus \$475 Dining Dollars

**CASUAL+:** 45 meals plus \$475 Dining Dollars

**CASUAL:** \$900 Dining Dollars

**EXPRESS:** \$200 Dining Dollars

Meals and Dining Dollars must be used before they expire at the end of the academic year. Purchases are nonrefundable. Visit [gvsufood.com](http://gvsufood.com) for more information.

## **Allendale Campus Dining Locations**

**Au Sable Hall:** Corner Store

**Commons:** Fresh Food Company, Fuel (Oath Pizza, 42nd Street Deli, Freshens, Spice Kitchen)

**Holton Hooker Learning and Living Center:** Einstein Bros. Bagels

**Kirkhof Center:** Ciao, Croutons, Grille Works, Lobby Shop, Panda Express, Subway, Zoca

**Kleiner:** Bene, Center Plate, P.O.D. C-Store, Croutons, Grille Works, Late Night, Montague's Deli, Qdoba, The Bistro

**Mackinac Hall:** P.O.D. Express

**Mary Idema Pew Library:** GV Brew

**The Connection:** 42nd St. Deli, Croutons, Green Plate, Late Night, P.O.D. C-Store

**The Marketplace:** Starbucks, WhichWich

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Pew Grand Rapids Campus Dining Locations**

**DeVos Center:** Grille Works, Erbert & Gerbert's, Starbucks

**Seidman College of Business:** Seidman Cafe

# **Office of Undergraduate Research and Scholarship**

The Office of Undergraduate Research and Scholarship (OURS) offers a variety of opportunities and resources for undergraduates to pursue research and scholarship in various disciplines under the direction of a faculty mentor. These intensive research and scholarship opportunities enrich students' academic experiences and challenge them to strengthen their critical, analytical, and writing skills.

Some of the hallmark programs of OURS:

- Student Summer Scholars is an opportunity for mentored, student-driven research and reflection on diverse and intersecting disciplines
- Student Scholars Day is a year-end discussion and celebration of the academic and creative accomplishments of Grand Valley students
- OURS Grant is a mini-grant opportunity designed to encourage collaborative scholarly research and creative work between undergraduate students and faculty on a semester project
- Academic Conference Fund is a grant program established to provide travel funds for Grand Valley students to present/perform at an academic conference
- Academic and Professional Enrichment Fund is a grant program established to provide travel funds for Grand Valley students to accompany an eligible faculty member to an academic conference

Participating in undergraduate research and scholarship will expand your academic experience at Grand Valley. Research is a process of careful inquiry leading to the discovery of new information. Although there are some differences in how research is conducted across disciplines, research is not restricted to certain disciplines and occurs in all programs at GVSU.

For more information, visit [gvsu.edu/ours/](https://gvsu.edu/ours/).

## **Parking Services**

Parking on the Allendale and Grand Rapids campuses requires a permit, unless opting to park at pay by app spaces on both campuses or conveniently located pay stations on the Allendale Campus. Annual permits are available for students to purchase online or

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

from Grand Valley Parking Services beginning in August of each year. Student daily parking permits are available for purchase online or at Parking Services throughout the year. Temporary permits are also available to visitors at no cost. Permits may be obtained from Parking Services on the Allendale Campus at the Service Building or on the Pew Grand Rapids Campus in the L.V. Eberhard Center.

## **Americans with Disabilities Act (ADA) Parking**

A State of Michigan ADA plate or tag and a GVSU parking permit are required to park on campus in any nonvisitor ADA space. In addition to allocating a number of designated ADA parking spaces, Grand Valley has instituted a shuttle service through Disability Support Resources. There are designated lots on both the north and south sides of the Allendale Campus to accommodate a "park and ride" service for those needing ADA accommodations. For additional information, please visit our website and select the Disability Parking tab or call Disability Support Resources at (616) 331-2490.

Parking Services strives to provide excellent customer service and communicate changes concerning parking to the Grand Valley community. For more information about parking, including hours of operation, please visit our website at [gvsu.edu/parking](http://gvsu.edu/parking) or call (616) 331-PARK (7275).

## **Recreation and Wellness**

Grand Valley Recreation and Wellness (RecWell) brings together multiple university resources and services to provide the campus community with a wide variety of recreation, fitness, wellness, and social opportunities at all levels of ability, competition, and interest. Our values include providing inclusive and diverse recreational opportunities that inspire participation, promote health and well-being, and encourage student development and success.

RecWell offers something for everyone! From sports and outdoor adventures to group exercise, training services, and adult swim lessons, there are plenty of ways to get involved, be active, and live healthy. In addition to ongoing programs and services, RecWell also hosts annual events throughout the year and employs approximately 130 student employees each semester. A full list of opportunities and employment opportunities can be found on our website at [gvsu.edu/rec](http://gvsu.edu/rec).

Get connected with the RecWell community by following **@gvsurecwell** on Instagram, Facebook, Twitter, or Pinterest!

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Club Sports**

Club sports provide an exciting athletic alternative that bridges the gap between intramural play and varsity athletics. There are more than 40 club sports that range from recreational to highly competitive levels. Many of our team sports are affiliated with national associations and compete on a regional and national level. Competitive teams often have coaches, as well as faculty advisors, travel regularly, and some are nationally ranked.

If you are interested in joining a club sport, you can visit [gvsuclubsports.com](http://gvsuclubsports.com) and complete the Recruit Me form, which will be sent to the team leadership to let their representatives know that you are interested. Some club teams hold try-outs, depending on the level of play. You can also visit the Office of Student Life to view various sports, health, dance, and recreation organizations that are offered at Grand Valley.

## **Fitness Services**

Learn how to safely and effectively train, be active, and live a healthy lifestyle. We offer a variety of programs and services, including group exercise, personal training, small group training, equipment orientation, fitness assessments, adult swim lessons, and CPR/first aid classes. Programs and services offered are created to be inclusive and accommodate various levels of experience, ability, and skill. We offer a free UFit program for students that assists individuals in a variety of health and wellness goals. Plans can be created to increase wellness, strength, flexibility, and cardiovascular functioning based on preference or ability level. Group exercise classes are offered during the fall and winter semesters. Certified instructors teach more than 50 group exercise classes weekly, including mind/body and spinning. Passes are available for purchase to students, faculty, and staff members.

For more information and hours, visit [gvsu.edu/rec/fitness](http://gvsu.edu/rec/fitness).

## **Intramural Sports**

RecWell offers a variety of sports and events for student, faculty, and staff participants of all skill levels in an inclusive, fun, and recreational environment. Sports are offered in leagues, tournaments, or contests, and participants can join co-rec, men's, women's, or open competition. Participants typically play one to two games a week per sport. More than 15 sports are offered, including basketball, flag football, softball, soccer, and volleyball. Participants need to purchase an Intramural Sports Pass to participate.

For more information and a full list of sports offered, visit [gvsu.edu/rec/imsports](http://gvsu.edu/rec/imsports).

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Injury Care Clinic**

The Injury Care Clinic (ICC) exists to provide free injury care services to the campus community. RecWell, the Department of Movement Science, and Metro Health University of Michigan have teamed up to offer athletic training services right on campus. The ICC provides injury assessment and evaluations, acute injury care, short-term rehabilitation services, preventative measures, stretching techniques, and professional referrals as needed. Individuals can opt to bring their own supplies for treatment or supplies are available on site for a minimal cost.

For more information and hours, visit [gvsu.edu/icc](http://gvsu.edu/icc).

## **Outdoor Adventures**

The Outdoor Adventures (OA) program through RecWell strives to empower and inspire the Grand Valley community through outdoor and adventure-based activities, inspiring lifelong adventure. We offer a variety of programs and services, including climbing workshops and training, outdoor trips, equipment and gear rental, and bike services. Whether you're looking for gear for your next epic adventure, a fun trip with friends, or an educational clinic to improve future outdoor experiences, OA can help!

OA oversees the 26.5-foot-tall artificial climbing wall inside the Fieldhouse, which offers three styles of climbing and accommodates participants of all abilities. The Climbing Center is open to everyone students, faculty, staff, and the general public and is free to Grand Valley students! The Climbing Center is also home to OA's outdoor gear rental inventory, which covers all the basic needs for a camping trip with friends at unbelievable prices. Items include hammocks, backpacks, tents, sleeping bags, snowshoes, and more!

For more information, visit [gvsu.edu/rec/outdoors](http://gvsu.edu/rec/outdoors).

## **Student Wellness**

Life as a GVSU student is fun and exciting, but the college experience and lifestyle may present new challenges and different types of stress. Understanding the eight dimensions of wellness (emotional, environmental, financial, intellectual, occupational, physical, social and spiritual) can help you with your well-being during college and beyond. And, RecWell is here to support you! Connect with peer educators from the Wellness Information Team (WIT) through presentations, social media, or the AskWIT service online to learn more about nutrition, stress, sleep, rest, sexual health, and more. We also offer a variety of sexual wellness services, including free condoms on campus and monthly STI testing in partnership with the local health department.

For more information, visit [gvsu.edu/studentwellness](http://gvsu.edu/studentwellness).

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Recreation Facilities**

Recreation facilities at Grand Valley include the Aquatic Center, Climbing Center, Injury Care Clinic, Fieldhouse Arena, Kelly Family Sports Center, and Recreation Center. Access to the Rec Center, Aquatic Center, and Climbing Center is free to students for drop-in use when they present their student ID card. The Rec Center features multisport courts, strength training equipment, functional fitness areas, cardiovascular machines, an elevated track, a spinning room, and locker rooms. There is also a dance studio, racquetball courts, locker rooms, and many academic classrooms. The Kelly Family Sports Center is available for use of the indoor turf field space and the track. There are also many outdoor facilities available, including multiple turfed fields, tennis courts, basketball courts, sand volleyball courts, roller hockey space, an outdoor track, softball fields, walking and running trails, the ravines, and The Meadows golf course.

For more information and hours, visit [gvsu.edu/sportsfacilities](http://gvsu.edu/sportsfacilities).

## **Transportation Services**

Transportation between, within, and around the Grand Rapids Campuses and the Allendale Campus is easy, convenient, and free.

Grand Valley State University offers five designated routes for students, faculty members, and staff members. All Grand Valley and The Rapid routes are free to ride with your student or faculty/staff ID card. All Grand Valley routes are listed as follows. Please view other routes at [www.ridetherapid.org](http://www.ridetherapid.org).

### **Laker Line (LL)**

The Laker Line provides service between the Allendale Campus and Grand Rapids Campuses seven days a week during fall, winter, and spring/summer semesters. The Laker Line makes round trips from the Cook-DeVos Center for Health Sciences (CHS) to Russel H. Kirkhof Center on the Allendale Campus with stops in downtown Grand Rapids, along Lake Michigan Drive, and at Mackinac Hall. Connections to The Rapid Central Station can be made through several routes including the Silver Line and Route 12.

### **North Campus Apartment Shuttle (Route 37)**

The North Campus Express provides service between a variety of private apartment complexes immediately adjacent to the northwest portion of the Allendale Campus. The North Campus Apartment Shuttle runs Monday through Friday during fall and winter semesters only.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

### **South Apartment Shuttle (Route 48)**

The South Campus Express provides service between a variety of private apartment complexes immediately adjacent to the southwest portion of the Allendale Campus. The South Campus Apartment Shuttle runs Monday through Friday during fall and winter semesters only.

### **Apartment Connector (Route 85)**

On early mornings and weekends, the two apartment shuttles combine into one loop, called Route 85. The Apartment Connector (Route 85) is only offered during fall and winter semesters.

Schedules and frequencies for all services are subject to change. Current schedules can be found online at [gvsu.edu/transportation/](http://gvsu.edu/transportation/). Please note that frequencies of service are reduced during spring/summer semesters and Grand Valley State University break periods. Questions about the shuttle bus services should be directed to the Facilities Services Grand Rapids office at (616) 331-6700 or to [bus@gvsu.edu](mailto:bus@gvsu.edu).

## **University Counseling Center**

The University Counseling Center supports the well-being of individual students and the campus community through a broad spectrum of services, including individual counseling, group counseling, and outreach. The center is staffed by a diverse team of professional counselors committed to recognizing the unique needs and experiences of each student.

Concerns that might benefit from counseling:

- Feelings of anxiety or depression
- Thoughts of harming yourself or someone else
- Problems in relationships
- Issues related to cultural, sexual, or gender identity
- Recent or past trauma
- Death or loss of a loved one
- Drug or alcohol use
- Academic difficulties

### **Individual and Group Counseling Services**

The University Counseling Center offers counseling services on both the Allendale Campus and the Pew Grand Rapids Campus at no cost to enrolled Grand Valley students. Counselors and students work together to determine the best course of treatment, which may include individual counseling, group counseling, or referral to a

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

community provider. Students can schedule an initial screening appointment by phone at (616) 331-3266 or in person on the Allendale Campus in 204 STU.

The center also offers urgent care services for students experiencing a mental health crisis. More information about urgent care and emergency mental health resources is available on the University Counseling Center website at [gvsu.edu/counsel](http://gvsu.edu/counsel) or by calling the center during business hours.

## **Outreach Services**

Outreach workshops and events are scheduled throughout the academic year and equip students with the knowledge, skills, and resources necessary to maximize their emotional and physical health. Presentations related to well-being may also be requested on behalf of a student group or organization at any time. To view the outreach calendar or to submit a request for a presentation, please visit the University Counseling Center website at [gvsu.edu/counsel](http://gvsu.edu/counsel). In addition, counselors are available to provide consultation to students with concerns about a roommate, classmate, or other member of the Grand Valley community.

More information about the University Counseling Center and its services can be found at [gvsu.edu/counsel](http://gvsu.edu/counsel).

## **Alcohol and Other Drugs (AOD) Services**

Alcohol and other drug use can affect all aspects of a student's life. AOD Services is devoted to developing and promoting opportunities for students to increase knowledge and skills necessary to make healthy and responsible choices regarding alcohol and other drugs.

AOD Services provides fun and interactive educational programming and supports students who

- want to be informed about the facts regarding substance use;
- may be struggling with alcohol or other drug issues;
- want to explore ways to have fun and enjoy life without substances; and
- are concerned or impacted by someone else's behavior and wish to help.

AOD Services has three main areas of focus: 1) prevention and education, 2) intervention, and 3) recovery. Our staff provides presentations on campus to various groups and organizations. Presentations may be requested through our website at [gvsu.edu/aod/outreach](http://gvsu.edu/aod/outreach). We facilitate alcohol and marijuana education workshops, consultations, and one-on-ones for students interested in learning more or students

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

who need to fulfill a legal or university sanction. Students can utilize our online assessment tools that provide individualized feedback on alcohol, nicotine, marijuana, and other substance use. These online tools can be found on our website at [gvsu.edu/aod](http://gvsu.edu/aod).

Currently enrolled students who may need substance abuse counseling can access counseling services at the University Counseling Center located in 206 Lubbers Student Services Center. The counseling center has staff members who specialize in individual and group substance abuse counseling. Please contact the University Counseling Center for the most current information at (616) 331-3266. AOD Services can provide community referral information if more intensive or longer-term services are needed or if counseling services have been court-ordered or mandated. Additional information regarding community services can be found at [gvsu.edu/aod/community](http://gvsu.edu/aod/community).

The AOD Services office supports recovery meetings on campus for students and the community. These meetings include Alcoholics Anonymous, SMART Recovery, and Adult Children of Alcoholics. For the most up-to-date information about recovery meetings, visit [gvsu.edu/aod/recovery](http://gvsu.edu/aod/recovery). Our website also provides listings of other local counseling and recovery services.

If you have additional questions, please contact us by calling (616) 331-2537 or emailing [aod@gvsu.edu](mailto:aod@gvsu.edu). Additional information can be found on our website including the university's Alcohol and Drug Policy Handbook.

## **Military and Veterans Resource Center**

The Military and Veterans Resource Center provides support services and resources to active duty service members, military veterans, guards/reservists, spouses, and family members. With a single point of contact serving military-connected students, our goal is to ensure we connect student veterans and their families to relevant resources, address emerging issues, and provide the necessary information to help them succeed. Some of the services we offer include:

- Peer Advisor for Veteran Education (PAVE) mentors  
[gvsu.edu/veterans/pave-peer-advisors-56.htm](http://gvsu.edu/veterans/pave-peer-advisors-56.htm)
- Two dedicated veterans' lounges (Allendale and Downtown Grand Rapids)
- Laker Vets: GVSUs award-winning chapter of the Student Veterans of America  
[gvsu.campuslabs.com/engage/organization/student-veterans-of-america](http://gvsu.campuslabs.com/engage/organization/student-veterans-of-america)
- Deployment support
- Free laptop for veterans/active duty
- Veteran-specific scholarships and financial aid counseling
- Housing, employment, and mental health services

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

To contact the Military and Veterans Resource Manager, call (616) 331-2369, email [vets@gvsu.edu](mailto:vets@gvsu.edu), or visit us online at [gvsu.edu/veterans](http://gvsu.edu/veterans).

# Community Resources

## Centers, Institutes, and Offices

### Applied Medical Device Institute

The applied Medical Device Institute (aMDI) serves the medical device community as a focused service enterprise. Medical device innovation begins with an idea. The idea, often in the form of a napkin sketch, must cross a "development valley of death." Ideas need preseed funding; resources in the form of research clinicians, engineers, medical professionals, technicians, and their associated infrastructure; and an integrated process that includes technical, intellectual property, business review, and mentoring.

The aMDI exists as a bridge that spans the development valley of death by providing a means for the idea to be tested and, if technically feasible, a proof-of-concept prototype can be realized. Innovation is then furthered in collaboration with aMDI and other entrepreneurial, regulatory, investment, and business architecture entities. The aMDI provides design and development for manufacturing engineering as the prototype is productized, as well as connects to the regions existing commercialization and financing organizations. In addition to the physicians, nurses, and clinicians, the institute serves small companies as a contract research and development department and serves large companies by providing responsive intellectual capacity to meet the demands of unforeseen business cycles or emerging technologies.

The aMDI differentiates itself with an applied focus, where proof-of-principle and go/no-go criteria are balanced with a risk mitigation plan. This approach provides expedient response time, where cost models provide high value for early concept development and proof-of-principle answers that determine technical feasibility and commercial viability.

The aMDI services the medical device community, which is broad and includes many stakeholders, including but not limited to clinicians, interns, inventors, commercial researchers, engineering firms, integrators, medical device manufacturers and suppliers, research academicians, and students. Strategically located along Grand Rapids Medical Mile, the aMDI is immediately accessible to this broad community. The aMDI will build development teams across the academic, health care, and

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business communities to pursue funding at federal and state levels (NIH, NSH, DoD agencies, etc.).

The aMDI is West Michigan's medical device technology innovation hub that leverages the vast potential of the Grand Rapids region's academic, medical, technology, industry, and economic development resources. The aMDI's goal is to provide services at every stage of the invention-to-commercialization continuum.

## **Autism Education Center**

The focus of the Autism Education Center (AEC) is to partner with families, educational providers, health care professionals, and community stakeholders to ensure that individuals with Autism Spectrum Disorder (ASD) have access to resources, services, and opportunities so they can have a rich, meaningful life while being fully integrated in their communities.

The primary work of the AEC is conducted through the Statewide Autism Resources and Training (START) Project, a state-funded grant project designed to provide training and technical assistance to educators in Michigan who serve students with ASD. The START Project has been in place since 2001 through the support of the Michigan Department of Education, Office of Special Education. The START Project serves as a coordinating and supporting entity for schools across the State of Michigan to better serve students with ASD. One major emphasis of the START Project is coordination of 16 regional collaborative networks that serve as the infrastructure for collaboration and coordination across school districts and with community stakeholders. This allows shared training and resources and systemic planning on a broad scale that leads to more effective educational programming for students with ASD. The START Project addresses both the individual and system-wide needs of students with ASD including in the classrooms and buildings, as well as at the district and regional levels. All students with ASD deserve a high-quality education and services that enhance their potential to become fully participating citizens. School professionals working with students with ASD learn to implement and promote evidence-based practices such as early intervention, educational supports and strategies, positive behavioral interventions and supports, teaming and collaboration, and peer supports. Educators also need to provide programming that prepares students with ASD for paid work and community integration in adulthood through early job experiences in the community. Throughout the educational process, parents are included as active, contributing members of any team supporting a student with ASD.

The AEC is involved in other projects to support individuals with ASD in the community, including facilitation of summer camp integration, the GVSU Campus

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Links program for students with ASD, implementation of the Michigan ASD State Plan, program development with state autism organizations, and applied research projects. Presentations are provided to the community on various topics related to ASD.

The Autism Education Center's website is [gvsu.edu/autismcenter/](http://gvsu.edu/autismcenter/).

## **Center for Adult and Continuing Studies**

### **Center for Adult and Continuing Studies**

Through an ever-changing, ever-evolving array of programs, the Center for Adult and Continuing Studies (ACS) serves a broad continuum of adult learners. Offerings range from a full degree completion program to short noncredit professional development programs. To learn more about programs offered, visit [gvsu.edu/learn](http://gvsu.edu/learn), email [learn@gvsu.edu](mailto:learn@gvsu.edu) or call (616) 331-7180.

### **Noncredit Professional Development**

ACS noncredit professional development serves adults who are looking to refresh their skills, renew their license, or earn a certificate primarily from the following fields: education, marketing, physical therapy, safety or social work. ACS typically partners with academic departments, licensing agencies, or external content experts to provide market relevant programs. A complete list of programs offered can be found at [gvsu.edu/learn/professional](http://gvsu.edu/learn/professional).

### **Educational Outreach**

The Center for Adult and Continuing Studies expands and supports community and university partnerships. We build mutually beneficial relationships with institutions and organizations that are aligned with academic initiatives. One of our newest professional development programs helps individuals master technologies needed for today's job market. These programs do not award academic credit. To learn more, visit [gvsu.edu/learn/professional](http://gvsu.edu/learn/professional) or contact us by phone at (616) 331-7180.

### **Professional Development Partnership Program (PDP)**

Coordinated through the Center for Adult and Continuing Studies, the PDP creates and maintains partnerships with schools, agencies, and businesses throughout the State of Michigan. PDP offers the opportunity to receive graduate academic credit or state approved continuing education credits for teachers, social workers, and physical therapists. New professional development topics and modalities are being developed to provide our workforce knowledge in advancing skills to increase employability. For more information, call (616) 331-7180 or visit [gvsu.edu/pdp](http://gvsu.edu/pdp).

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

# Center for Scholarly and Creative Excellence

**Vice Provost for Research Administration and Executive Director:** Robert P. Smart, Ph.D.

**Website:** [gvsu.edu/csce](http://gvsu.edu/csce)

The Center for Scholarly and Creative Excellence (CSCE) promotes a culture of active, engaged, and ethical scholarship through supporting innovative faculty and student research and collaborative partnerships across disciplines and in the broader community. The CSCE encourages innovation and enterprise, facilitates collaborations, and serves as an advocate for university scholarship and creative practice. The CSCE provides help with developing a scholarly agenda, mentoring by senior faculty members, assistance in finding collaborations, and publishing as a scholar.

The center coordinates the efforts of the following units within Grand Valley.

- The **Office of Sponsored Programs** serves faculty and staff members by identifying funding opportunities to resource their scholarly and creative activity and by supporting them in the development, submission, and nonfinancial administration of their externally sponsored programs.
- The **Office of Research Compliance and Integrity** supports faculty, staff, and students by providing guidance and oversight in the areas of research compliance: human subjects research, animal care and use in research and educational activities, export controls, responsible conduct of research, and conflicts of interest in research.
- The **Center for Undergraduate Scholar Engagement (CUSE)** serves students interested in pursuing academic and creative feats outside the classroom. CUSE houses the **Office of Undergraduate Research and Scholarship (OURS)** and the Frederik Meijer Office of Fellowships (FMoF). OURS provides support for undergraduates to pursue the research and creative practice in their discipline. The FMoF supports students and alumni in their exploration and pursuit of nationally competitive scholarships and fellowships.
- The **Technology Commercialization Office** is a resource and partner for university faculty, staff, and students developing technologies with commercial potential. The office acts as a bridge to coordinate efforts between industry and the Grand Valley community by advancing ideas through partnerships.
- The **Office of Laboratory Safety** is responsible for ensuring compliance with federal, state, local and institutional environmental, health, and safety standards in its academic and research activity in labs, studios, shops, classrooms, and field studies.
- The **High-Performance Computing team** provides server-class computing resources for university researchers and offers technical support for secure research data management.

## Design, Optimization, Evaluation, and Redesign Center

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

The Design, Optimization, Evaluation, and Redesign (DOER) Center was founded in 2006 to draw upon the diverse knowledge of the School of Engineering to benefit local industry and to foster engagement in the community. The DOER Center matches industry partners with expert faculty members and students in short- to medium-term contracts in the furtherance of the School of Engineering's educational mission and to provide an avenue to directly engage expert faculty and students in projects of varying length, schedule, budget, and level of effort.

The DOER Center matches clients with a team of faculty members and students who apply their knowledge to solve advanced industrial problems. Students involved in the DOER Center gain experience in product development and applied research while clients enjoy top quality, highly supervised support at a negotiated, low university rate. In addition to helping prepare the next generation of engineers by providing real-world learning experiences, businesses enjoy valuable and tangible benefits. More information is available by contacting [doer@gvsu.edu](mailto:doer@gvsu.edu).

## **EMC Center**

The EMC Center is a unique facility that has been made possible by an equally unique collaboration between Grand Valley and EMC practitioners from our community.

The intent of the center:

- Provide a one-of-a-kind facility for teaching EMC principles and practices
- Provide GVSU students with the opportunity to gain hands-on experience in the regulatory and testing requirements for EMC compliance
- Support the local industrial community with design/redesign assistance and precompliance testing for products during the development cycle. (Such capabilities are beyond the scope of our local companies.)
- Support continuing education in EMC for practicing professionals
- Support practicing professionals via the IEEE EMC Chapter in West Michigan

Find more information at [gvsu.edu/emccenter/](http://gvsu.edu/emccenter/).

## **Dorothy A. Johnson Center for Philanthropy**

The Dorothy A. Johnson Center for Philanthropy (Johnson Center) is an academic center of Grand Valley, established in 1992 with support from the W.K. Kellogg Foundation. The Johnson Center's mission is to be a global leader in helping individuals and organizations understand, strengthen, and advance philanthropy. The vision of this work is to support a smart, adaptive sector that helps create strong, inclusive communities.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

The Johnson Center is proud to play a central role in preparing emerging professionals to pursue distinguished careers in the nonprofit sector, as well as to support current professionals and organizations worldwide. Through a variety of student positions, graduate assistantships, and fellowship programs, the Johnson Center provides practical experiences for students seeking degrees in GVSU's School of Public, Nonprofit, and Health Administration and other departments.

The Johnson Center's core work includes the following:

- **Competency-based professional development and capacity building for individuals and organizations.** Programs include: The Grantmaking School, nonprofit workshops, LearnPhilanthropy Academy, and others.
- **Applied research and evaluation of products and services,** including program and strategy evaluation and primary data collection designed to help organizations and individuals bridge the gap between the information they need and the change they want to make. This work includes publication of *The Foundation Review*, the nation's first peer-reviewed journal of philanthropy.
- **Resources and tools to make data and research useful to practitioners and students,** providing context and insight for philanthropy. Through blog posts, webinars, articles, speaking engagements, data tools, and more, Johnson Center staff share core concepts and new frameworks to explore key questions that shape the sector. Community Insight, an online data platform for visualizing communities and advancing equity, is a key offering.

The Johnson Center also operates several affiliate sites serving community leaders, practitioners, students, and scholars:

- **LearnPhilanthropy** is a hub for grantmaker learning, built by and for professionals working in the field. More than 70 content partners contribute to this online information exchange.
- **Our State of Generosity** is an online platform that preserves and shares more than 40 years of history from Michigan's philanthropic sector.
- **Our archives and special collections** provide scholarly resources related to philanthropy and philanthropists in Michigan. The collections support the research interests of visiting scholars; Grand Valley faculty; students in the School of Public, Nonprofit, and Health Administration; and the general public.

## **Hauenstein Center for Presidential Studies**

Inspired by **Ralph Hauenstein's** life of leadership and service, the Hauenstein Center for Presidential Studies at Grand Valley State University is dedicated to raising a community of ethical, effective leaders for the 21st century. Our first-class initiatives and resources include the following:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

The **Peter C. Cook Leadership Academy** serves university students of all disciplines at all levels of their development. We strive to transform learners into leaders by having them master leadership competencies throughout a rigorous yearlong curriculum exhibited by the digital badges they receive upon completion of the program. Emerging leaders work to become more ethical and effective in their communities through group and personal reflection, mentorship, and frequent engagement with experienced professionals. The Cook Leadership Academy, within the Hauenstein Center for Presidential Studies, has become one of the Midwest's preeminent centers for the exploration and development of leadership excellence. Students interested in applying can find more information on our website.

Our Common Ground Initiative is the oldest such initiative in American higher education. Each year we host programs that encourage progressives and conservatives to work with one another to find common ground for the common good. Our initiative puts our students and community face-to-face with impactful leaders who can meet our increasingly diverse communities political and cultural challenges. Partnering with organizations at Grand Valley and around the state and nation, we host first-class lectures, conversations, debates, panels, and conferences. Launched with support from the National Endowment for the Humanities, these programs challenge leading scholars, writers, and public officials to explore the possible common ground between left and right. In short, in today's hyper-polarized public square, we seek common ground for the common good.

Our website and social media presence opens a worldwide window onto the scholarship we have produced as a presidential studies center, as well as the programs we have offered to the West Michigan community. More than 30 years' worth of videos, transcripts, and original scholarship grows daily. Our website and social media efforts have drawn more than 31 million impressions from around the globe.

The Library of Congress has recognized our book collection as "a uniquely valuable resource." Thanks to J. Randall Bergers, the Hauenstein Center is the only organization in the world to house in one room a complete collection of books written by U.S. presidents. We are also proud to have one of the Midwest's leading espionage and intelligence collections, along with a number of books authored by many of our first ladies.

Working with the Midwestern History Association, the Hauenstein Center has helped revive an academic discipline that for decades had languished. Since 2015, we have hosted annual conferences and contributed to a number of books about the Midwest. The region has once again become the focus of much national discussion surrounding presidential elections, international trade, economic revival, and the nation's intellectual and cultural history.

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Since the beginning of time -- at least since *Homer's Iliad* -- veterans and their families have struggled with the silent epidemic of post-traumatic stress and traumatic brain injuries sustained during combat and other difficult situations that arise in military service. The Hidden Wounds of War Conference, hosted by the Hauenstein Center for Presidential Studies, brings awareness and education to the community about treatments and resources.

The Colonel Ralph W. Hauenstein Fellowship is inspired by Colonel Hauenstein's extraordinary life, which exemplified the service and leadership that Grand Valley seeks to cultivate in its lifelong learners and graduates. The Colonel Ralph W. Hauenstein Fellowship honors distinguished individuals whose leadership and public service have shaped the policies that have profoundly influenced the course of our nation and the world. Past recipients include President Gerald R. Ford, Secretary of State Madeleine Albright, Secretary of State James A. Baker III, National Security Advisor Brent Scowcroft, Secretary of Defense William S. Cohen, Secretary of Housing and Urban Development Carla A. Hills, Secretary of Defense Robert Gates, and General Wesley K. Clark.

## **Kutsche Office of Local History**

The Kutsche Office of Local History is a humanities-based learning initiative that blends academics with community engagement. Through this office, students studying in all disciplines are offered opportunities to blend classroom knowledge with hands-on experience in the field of public, local history. Our mission is to use history to foster an earnest appreciation of our common challenges, common destiny, and common humanity.

Our strategy for achieving our mission is three-dimensional. First, the office assists groups that have been understudied and underrecognized to document, preserve, and disseminate their knowledge of history. Second, the office reinforces Grand Valley students' understanding of public, local history by engaging students in hands-on, history-driven, and community-based learning projects and internships.

Finally, the office will support the work of local history institutions and organizations in West Michigan by providing faculty and student research assistance, opportunities for networking and collaboration, and providing information to help local history organizations improve their delivery of public history to the citizens in West Michigan and beyond. For more information, call (616) 331-8099 or email [kutsche@gvsu.edu](mailto:kutsche@gvsu.edu).

## **Mobile Applications and Services Laboratory**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

The Mobile Applications and Services Laboratory (MASL) is an interdisciplinary initiative hosted by the GVSU School of Computing and Information Systems. MASL offers a unique environment to faculty and students who have interests in emerging mobile technologies from both a research and educational perspective. The emergence of open mobile platforms and thriving mobile application deployment ecosystems makes it possible to explore a variety of experimental in situ research themes in a number of different mobile application domains.

Our approach is unique in that while we engage in academic research in the traditional sense, we are also focused on creating an environment for our undergraduate and graduate students that approximates as much as possible the "real world" outside of the academy. To that end, we are engaged in a number of projects with external industry partners in which students and faculty members are working together to understand how mobile technology can be effectively applied in a variety of real-world situations. We like to call this "application research." Our research has ranged from building apps for patients with traumatic brain injuries to apps that are helping entomologists better understand the declining honeybee populations.

More information on current projects can be found on the laboratory's website at [masl.cis.gvsu.edu](http://masl.cis.gvsu.edu) or by contacting [jonathan.engelsma@gvsu.edu](mailto:jonathan.engelsma@gvsu.edu).

## **Muskegon Innovation Hub**

The Muskegon Innovation Hub at Grand Valley serves as a beacon that celebrates the innovative spirit of entrepreneurs in West Michigan. The hub provides coaching, funding, networking, and a synergistic work environment to help businesses and entrepreneurs maximize their growth potential. As a key partner in the region's innovation ecosystem, the Muskegon Innovation Hub supports startup businesses, entrepreneurs, and corporate innovation teams. Through our business incubator, CoLaunch coworking space, we offer the breadth of support necessary for success, including funding assistance programs and training and event spaces!

The hub's business incubator fosters emerging entrepreneurs to transform their ideas into successful companies through support of a dynamic team specializing in an array of critical business skills. Clients of the incubation program receive ongoing support to spur innovative business growth, which may also include office space located at the hub when required. We understand that every entrepreneur and early-stage company has unique needs requiring customized solutions, which is why we provide tailored programming specific to each of our clients.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

**CoLaunch** is a popular feature at the hub. Within the 4,200 square feet of CoLaunch space, members can experience an innovative workplace community culture. Whether you are a freelancer, entrepreneur, or a remote corporate professional, CoLaunch offers creative thinkers a community-driven work environment to spur individual or collaborative projects. Grand Valley students and alumni are always welcome to use CoLaunch for free during regular business hours. Visit us online at [www.colaunch.works](http://www.colaunch.works) to find out more or stop by to experience firsthand our on-site business training tools and resources designed to turn your idea into a business.

As an additional benefit, CoLaunch members receive access to an array of innovative programs and events at the hub. From creative conversations with highly successful entrepreneurs to collaborative workshops and networking opportunities, CoLaunch creates the innovative atmosphere perfect for inventors and business owners at any stage.

Funding is always one of the most challenging, yet vital, parts of building a new business. The hub's funding assistance programs uniquely position us to help clients pursue competitive funding through programs such as the **Business Accelerator Fund** for high-tech and advanced technology companies and other state funding channels. With a history of guiding businesses from startup to success, the hub team welcomes entrepreneurs, inventors, and startups alike.

The hub is also proud to offer a more than 3,000-square-foot training and event space that area organizations and corporations can rent. Ready to be configured to meet your event needs, the hub's meeting spaces are equipped with state-of-the-art technology necessary to conduct modern presentations effectively.

To learn more about the Muskegon Innovation Hub's services and resources, visit [gvsu.edu/mihub](http://gvsu.edu/mihub), email [mihubinfo@gvsu.edu](mailto:mihubinfo@gvsu.edu), or call (616) 331-6900.

## **Regional Math and Science Center**

The Regional Math and Science Center (RMSC) serves the science and mathematics education needs of elementary and secondary schools in West Michigan. The center focuses on providing professional development opportunities for practicing teachers and enrichment activities for precollege students. Preservice teachers are also encouraged to participate in center activities. The Regional Math and Science Center supports the Michigan K-12 curriculum and standards in science and mathematics. The center's staff is available for consultation, professional development resources, and collaboration on grants and science and mathematics programs.

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The center administers such popular programs as Science Olympiad, Discovering STEM kits, and STEM summer camps for students as well as the Fall Science Update and professional development opportunities for teachers. These offerings are content-rich and utilize best practice in science and mathematics teaching and learning.

In conjunction with professional development offerings, the RMSC can provide graduate credit for participants: **SCI 580 - Special Topics in Science and Mathematics (1 to 3 credits)**. These are lecture and/or laboratory courses or workshops in interdisciplinary studies relating to more than one science and/or mathematics discipline.

## **Robert and Mary Pew Faculty Teaching and Learning Center**

Guided by the ideals of liberal education and the principles of inclusive excellence, the Robert and Mary Pew Faculty Teaching and Learning Center supports the university in carrying out its primary mission of teaching and learning. The center presents programs for faculty throughout the calendar year, including workshops, mentoring programs, conferences, and consultations. Its staff offers leadership on teaching and learning issues across the university, promotes scholarly and reflective approaches to teaching, and provides support to full-time and part-time faculty. The Pew Faculty Teaching and Learning Center also provides tangible support and recognition of teaching excellence through a grants program and campus-wide teaching awards. The Pew Faculty Teaching and Learning Center is located in Zumberge Hall. For more information, call (616) 331-3498.

## **Robert B. Annis Water Resources Institute**

The Robert B. Annis Water Resources Institute (AWRI) is a multidisciplinary research organization committed to the study of freshwater resources. The mission of the institute is to integrate research, education, and outreach to enhance and preserve freshwater resources.

AWRI seeks to accomplish this mission through

- research into major questions about our water resources, including ecosystem structure and function; contaminants and toxicology; hydrology; land use; watershed, stream, and wetland ecology; water quality; and basic and applied limnology;
- public education for a variety of groups ranging from school children to adults; and
- outreach to ensure that decision makers are equipped with the best available knowledge on environmental and water resource-related issues, to reduce the uncertainty associated with their resource management decisions.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

The institute occupies the Lake Michigan Center and Annex on Muskegon Lake in Muskegon, MI. Facilities include classrooms, conference areas, analytical labs, research labs, mesocosms, dockage, and ship support and storage. AWRI also promotes collaborative research and educational programming and offers research space and equipment, as well as ship support facilities to advance such collaborative efforts. AWRI operates its own research vessels, the D.J. Angus and the W.G. Jackson, and offers the Water Resources Outreach Education Program for K-12 schools and community groups.

The institute consists of three main programmatic areas:

(1) The Ecological Research Program consists of environmental biology and environmental chemistry groups, and it addresses questions about water resources, hydrology, watershed ecology and management, environmental chemistry and toxicology, aquatic ecosystem structure and function, aquatic conservation, land use change, pollution prevention, and aquatic food webs.

(2) The Information Services Center uses state-of-the-art geospatial technology to collect and analyze data, and condense it into useful information for those who make critical decisions about natural resource management.

(3) The Education and Outreach Program includes the use of AWRI's two research vessels and provides scientific information to K-12 students, policymakers, educators, college students, and community groups.

Grand Valley students and faculty members have the opportunity to participate in AWRI activities as volunteers, paid assistants, interns, research associates, or graduate students. The AWRI office is located at the Lake Michigan Center, 740 West Shoreline Drive, Muskegon, MI 49441. Telephone (231) 728-3601. More information can be obtained online at [gvsu.edu/wri/](http://gvsu.edu/wri/).

## **Seidman Business Services**

The center provides a forum for members of the local business community and Grand Valley faculty members to exchange ideas on ethical questions for the benefit of the university, business community, and the West Michigan community in general. Entrepreneurs, corporate managers, and faculty members interested in participating in the dialog groups should contact Michael DeWilde by email at [dewildem@gvsu.edu](mailto:dewildem@gvsu.edu).

## **Family Owned Business Institute**

The mission of Grand Valley's Family Owned Business Institute (FOBI) is to champion and serve family owned businesses through scholarship, education, and

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advocacy. The creation of the institute was born out of the collective belief that family businesses are the cornerstone of a community's prosperity and a vital ingredient in its quality of life. Our national and regional history has demonstrated that it is in the best interest of communities to foster the creation, growth, and continuation of family businesses because they are the leaders in job creation, innovation, and in providing stable employment opportunities with superior wages and benefits to their employees.

Despite their tremendous contributions, family businesses face a unique set of challenges that can limit their impact and threaten their very survival. By providing support through research, curriculum, and knowledge management, FOBI serves to develop, retain, and expand the influence of family businesses within our communities. The institute fosters scholarship through its research programs, its professional relationships and data sources, and its affiliation with local organizations such as the Grand Rapids Family Business Alliance, as well as national and international organizations, like the STEP Project for Family Enterprising.

### **Michigan Small Business Development Center-West Michigan Region**

The Michigan Small Business Development Center (MI-SBDC) West Michigan Region helps entrepreneurs launch and grow their businesses by providing no-cost business consulting, training, and market research. Examples of assistance provided by the SBDC include: business plan development, market research, raising capital, technology commercialization, financial management, export strategy, strategic planning, and cybersecurity training. Michigan SBDC consultants provide professional consulting services at no cost through a partnership between the U.S. Small Business Administration, Michigan Economic Development Corporation, and Grand Valley State University. The West Michigan Region serves small businesses in Kent, Ottawa, Muskegon, Allegan, Ionia, Barry, Montcalm, Mecosta, Newaygo, Oceana, Mason, Lake, and Osceola counties. Entrepreneurs and small business owners can access the services of the West Michigan Region SBDC by calling (616) 331-7370 or visiting the website at [www.sbdcmichigan.org](http://www.sbdcmichigan.org).

### **Michigan Small Business Development Center-Lead Center**

In 2001, Grand Valley became the host of the State Headquarters, now the Lead Center, for the Michigan Small Business Development Center (MI-SBDC). As host of the MI-SBDC Lead Center, the Seidman College of Business oversees the 11-region MI-SBDC statewide network. SBDC regional offices provide one-on-one business consulting, training, market research, and technology commercialization to Michigan businesses. Examples of assistance provided by the SBDC statewide network include: business plan development, market research, raising capital, business workshops, technology commercialization, financial management, export strategy, strategic planning, and cybersecurity training. These services are available at no cost through the support of the U.S. Small Business Administration, the Michigan Economic

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Development Corporation, and Grand Valley State University. Entrepreneurs and small business owners can access the services of their nearest Michigan SBDC office by visiting the website at [www.sbdc-michigan.org](http://www.sbdc-michigan.org).

### **Richard M. and Helen DeVos Center for Entrepreneurship and Innovation**

The Richard M. and Helen DeVos Center for Entrepreneurship and Innovation (CEI) in the Seidman College of Business is dedicated to developing best practices in entrepreneurship education and community engagement that enhance and impact the creation of new ventures and opportunities.

**Student support:** Through a combination of courses, curriculum, peer-to-peer networking, competitions, and mentorship, CEI provides all students an environment that fosters entrepreneurship and enhances entrepreneurial activities.

**Community support:** CEI is committed to supporting and enriching the entrepreneurial community by providing an essential hub where entrepreneurs can connect to resources, mentorship, networking opportunities, regional and national conferences, and workshops, and gain access to capital.

Full descriptions of CEI's activities can be found at [gvsu.edu/cei/](http://gvsu.edu/cei/).

### **U.S. Department of Commerce Export Assistance Center**

The U.S. Department of Commerce Export Assistance Center (USEAC) provides practical international trade information and export counseling throughout West Michigan. The Grand Rapids office of USEAC is located in the Seidman College of Business at Grand Valley. The USEAC regularly hosts student interns and works with the Van Andel Global Trade Center to hold trade education events for businesses such as the annual West Michigan World Trade Week.

### **Van Andel Global Trade Center**

The Van Andel Global Trade Center is an outreach center of the Seidman College of Business. The mission of the Van Andel Global Trade Center (VAGTC) is to strengthen the community through increased global business by providing international consulting, training, and resources. Grand Valley founded the center in 1999, and it is located in the L. William Seidman Center on the Pew Grand Rapids Campus.

VAGTC is recognized as an effective source of international resources, educational training, and assistance services for business and academic communities across Michigan. The center works in strategic partnerships with state and federal

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organizations; a majority of the time is spent working directly with the business community across the state to accomplish global objectives supporting international growth.

VAGTC services include a series of seminars, workshops, programs, and conferences encompassing many different international business topics. In addition, the center provides vital customized import/export and consulting services for all types of businesses. The center has created global reference materials utilizing many international trade resources to assist businesses with international growth. VAGTC also offers a membership program that provides high-value, high-quality networking opportunities and services to businesses within Michigan and beyond.

Since its inception, VAGTC has assisted more than 9,733 businesses and more than 28,410 individuals through its services. In May 2019, U.S. Secretary of Commerce Wilbur Ross presented the President's "E" Award to the VAGTC. The President's "E" Award is the highest recognition any U.S. entity can receive for making a significant contribution to the expansion of U.S. exports. With a growing membership base, the VAGTC is poised to continue expanding its international impact.

The center is a conduit for students, providing international career opportunities through employment at the center as student assistants and by providing internships within VAGTC, as well as with its clients. In addition, students are exposed to networking opportunities with businesses during center-sponsored events and programs offered to the community.

Benefits to businesses and the university:

- Increased competency within organizations to be globally successful
- Strategic partnerships both inside and outside the university that enhance constituents and stakeholders
- Increased economic development of the region by growing international business

Services to the community:

- International consulting services, training services, resource development, and facilities; job opening connector
- Cultural education, language center, and matchmaking/trade missions/business development
- Provider of foreign trade missions, speaker series, business referral source, and intermediary of international businesses
- Advocacy, service-provider broker, statewide resource center, and research provider

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- Educating Grand Valley's student community on the importance of creating international business relationships, bringing hands-on experience to students who conduct international market research to help Michigan businesses

The Van Andel Legacy: As the founder and pioneer of international trade for Amway, Jay Van Andel was an inspiration for those in Michigan seeking to prosper in expanding overseas markets. It is in this spirit that the Van Andel Global Trade Center is named after Jay Van Andel and is quickly becoming the core facility dedicated to advancing international trade and supporting Michigan businesses as they prepare to enter and prosper in growing global competition.

While leading Amway to record growth through international expansion, Jay Van Andel became convinced the global marketplace would be pivotal in enhancing the prosperity of the region where he began his business. Recognizing that the Grand Rapids campus would be a focal point for international business education and activity, Van Andel became a major benefactor of the building where the VAGTC originally resided. Named in his honor and dedicated to international business assistance for local companies, the Van Andel Global Trade Center is the university's commitment to fulfilling the global vision of one of Michigan's most outstanding global leaders and entrepreneurs.

## Degree Types

Doctor of Audiology (Au.D.)  
 Bachelor of Arts (B.A.)  
 Bachelor of Business Administration (B.B.A.)  
 Bachelor of Fine Arts (B.F.A.)  
 Bachelor of Music (B.M.)  
 Bachelor of Music Education (B.M.E.)  
 Bachelor of Science (B.S.)  
 Bachelor of Science in Engineering (B.S.E.)  
 Bachelor of Science in Nursing (B.S.N.)  
 Bachelor of Social Work (B.S.W.)  
 Doctor of Nursing Practice (D.N.P.)  
 Doctor of Physical Therapy (D.P.T.)  
 Doctorate in Occupational Therapy (Dr.O.T)  
 Educational Specialist Degree in Leadership (Ed.S)  
 Juris Doctorate (J.D.)  
 Master of Arts (M.A.)  
 Master of Athletic Training (M.A.T.)  
 Master of Business Administration (M.B.A.)  
 Master of Education (M.Ed.)

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Master of Health Administration (M.H.A.)  
Master of Health Sciences (M.H.S.)  
Master of Public Administration (M.P.A.)  
Master of Physician Assistant Studies (M.P.A.S.)  
Master of Public Health (M.P.H.)  
Master of Philanthropy and Nonprofit Leadership (M.P.N.L.)  
Master of Science (M.S.)  
Master of Science in Accounting (M.S.A.)  
Master of Science in Engineering (M.S.E.)  
Master of Science in Nursing (M.S.N.)  
Master of Science in Taxation (M.S.T.)  
Master of Social Work (M.S.W.)  
Psychological Specialist (Psy.S.)

## Program Types

Badge  
Certificate  
Certification  
Combined  
Graduate  
Major  
Minor

## Course Prefixes

### African/African American Studies (AAA)

#### Courses

- AAA 200 - Understanding Africa (3 credits)
- AAA 201 - Introduction to African American Studies (3 credits)
- AAA 231 - Early African American Literature (3 credits)
- AAA 232 - Modern African American Literature (3 credits)
- AAA 300 - U.S. - Africa Relations (3 credits)
- AAA 302 - African Diaspora (3 credits)
- AAA 315 - Field to Factory: African American Migration (3 credits)
- AAA 319 - African Politics (3 credits)
- AAA 333 - Study Abroad - African/African American Studies (1 to 6 credits)
- AAA 337 - Contemporary Black Literature (3 credits)

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- AAA 340 - African American Culture and Social Thought (3 credits)
- AAA 343 - Black Feminist Thought (3 credits)
- AAA 351 - Perspectives on African American Males (3 credits)
- AAA 352 - Black Women's Culture and Communities (3 credits)
- AAA 355 - History of Underground Railroad (3 credits)
- AAA 357 - The Black Diaspora and the Meaning of Sports, 1800 to the Present (3 credits)
- AAA 380 - Special Topics in African/African American Studies (1 to 3 credits)
- AAA 399 - Independent Readings (1 to 3 credits)
- AAA 490 - Practicum: Career-Service in Community Building (1 to 6 credits)
- AAA 499 - Independent Study and Research (1 to 4 credits)

## Accounting (ACC)

### Courses

- ACC 201 - Accounting for Non-Business Majors 1 (1.5 credits)
- ACC 202 - Accounting for Non-Business Majors 2 (1.5 credits)
- ACC 212 - Principles of Financial Accounting (3 credits)
- ACC 213 - Principles of Managerial Accounting (3 credits)
- ACC 240 - Financial Accounting Applications (1 credit)
- ACC 280 - Special Topics in Accounting (1 to 3 credits)
- ACC 310 - Intermediate Accounting I (3 credits)
- ACC 311 - Intermediate Accounting II (3 credits)
- ACC 317 - Individual Income Taxation (3 credits)
- ACC 318 - Entity Taxation (3 credits)
- ACC 321 - Cost Strategy and Decision Making (3 credits)
- ACC 330 - International Accounting (3 credits)
- ACC 333 - Corporate Governance and Accounting Ethics (3 credits)
- ACC 340 - Accounting Systems (3 credits)
- ACC 380 - Special Topics in Accounting (1 to 3 credits)
- ACC 408 - Governmental and Not-for-Profit Accounting (3 credits)
- ACC 413 - Internal Auditing (3 credits)
- ACC 414 - External Auditing (3 credits)
- ACC 416 - Information Systems Auditing (3 credits)
- ACC 480 - Special Topics in Accounting (1 to 3 credits)
- ACC 490 - Accounting Internship (1 to 6 credits)
- ACC 499 - Independent Research (1 to 3 credits)
- ACC 508 - Governmental and Not-for-Profit Accounting (3 credits)
- ACC 511 - Financial and Managerial Accounting Concepts (3 credits)
- ACC 513 - Internal Auditing (3 credits)
- ACC 514 - External Auditing (3 credits)
- ACC 516 - Information Systems Auditing (3 credits)
- ACC 580 - Special Topics in Accounting (1 to 3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- ACC 603 - Accounting and Auditing Research (3 credits)
- ACC 607 - Ethics for Accountants (3 credits)
- ACC 608 - Forensic Accounting (3 credits)
- ACC 611 - Contemporary Managerial Accounting (3 credits)
- ACC 612 - The Accountant's Legal Environment (3 credits)
- ACC 613 - Financial Statement Analysis (3 credits)
- ACC 615 - Entity Taxation-Theory and Practice (3 credits)
- ACC 616 - Structured Accounting Analytics and Emerging Technologies (3 credits)
- ACC 617 - International Accounting (3 credits)
- ACC 618 - Advanced Accounting (3 credits)
- ACC 620 - Accounting Theory (3 credits)
- ACC 622 - Tax Research and Writing (3 credits)
- ACC 623 - Sales, Exchanges, and Other Property Dispositions (3 credits)
- ACC 624 - Corporate Tax I (3 credits)
- ACC 625 - Corporate Tax II (3 credits)
- ACC 627 - Estate, Gift, and Trust I (3 credits)
- ACC 628 - Fiduciary Income Tax (3 credits)
- ACC 629 - Partnership Taxation (3 credits)
- ACC 630 - Multistate Taxation (3 credits)
- ACC 631 - Employee Benefit Plans and Deferred Compensation (3 credits)
- ACC 632 - Tax Accounting (3 credits)
- ACC 633 - International Tax Practice (3 credits)
- ACC 636 - Taxation Problems, Planning, and Current Issues (3 credits)
- ACC 639 - Federal Tax Practice and Procedure (3 credits)
- ACC 640 - S Corp and Limited Liability Co Taxation (3 credits)
- ACC 641 - Advanced Estate and Gift Taxation (3 credits)
- ACC 680 - Special Topics in Accounting (1 to 3 credits)
- ACC 690 - Accounting Internship (1 to 3 credits)
- ACC 697 - Professional Learning (1 to 3 credits)
- ACC 699 - Independent Study (1 to 3 credits)

## **Applied Food and Nutrition (AFN)**

Applied Food and Nutrition

## **Allied Health Sciences (AHS)**

### **Courses**

- AHS 100 - Medical Terminology (3 credits)
- AHS 110 - Introduction to Health Care (3 credits)
- AHS 180 - Special Topics in Health Professions (1 to 4 credits)
- AHS 301 - Introduction to Health Care Research (3 credits)

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- AHS 321 - Ethical and Legal Responsibilities in Health Care (3 credits)
- AHS 330 - Health Care: A Global Perspective (3 credits)
- AHS 340 - Health Care Management (3 credits)
- AHS 352 - Introduction to Holistic Health Care (3 credits)
- AHS 380 - Special Topics in Allied Health Science (1 to 12 credits)
- AHS 480 - Special Topics in Allied Health Sciences (3 credits)
- AHS 482 - Transcultural Health: China and U.S. (3 credits)
- AHS 490 - Health Care Internship (3, 6, or 12 credits)
- AHS 495 - Issues in Health Professions (3 credits)
- AHS 499 - Independent Study (1 to 3 credits)
- AHS 580 - Special Topics in Allied Health Sciences (3 credits)
- AHS 680 - Special Topics in Health Professions (3 credits)
- AHS 697 - Professional Learning (1 to 3 credits)
- AHS 699 - Independent Study (1 to 3 credits)

## **Anthropology (ANT)**

### **Courses**

- ANT 204 - Peoples and Cultures of the World (3 credits)
- ANT 206 - Human Origins (3 credits)
- ANT 207 - Language and Culture (3 credits)
- ANT 210 - History of Anthropological Theory (3 credits)
- ANT 215 - Origins of Civilization (3 credits)
- ANT 220 - Introduction to Archaeology (4 credits)
- ANT 305 - Methods in Biological Anthropology (3 credits)
- ANT 307 - Field Techniques and Laboratory Methods in Anthropology (1 to 9 credits)
- ANT 308 - Field Experience Abroad (1 to 6 credits)
- ANT 311 - Native Peoples of North America (3 credits)
- ANT 312 - Human Osteology (4 credits)
- ANT 313 - Primate Behavior and Ecology (3 credits)
- ANT 314 - Bioarchaeology (3 credits)
- ANT 315 - Comparative Religions (3 credits)
- ANT 317 - Advanced Cross-cultural Linguistics (3 credits)
- ANT 320 - Culture and Disease (3 credits)
- ANT 325 - Archaeology of North America (3 credits)
- ANT 330 - Anthropology of Selected World Areas (3 credits)
- ANT 340 - Culture and Environment (3 credits)
- ANT 345 - Perspectives on Globalization (3 credits)
- ANT 350 - Archaeology of Mid-East (3 credits)
- ANT 370 - Cross-cultural Perspectives on Gender (3 credits)
- ANT 375 - Language, Identity, and Diversity (3 credits)
- ANT 380 - Special Topics in Anthropology (3 credits)

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- ANT 399 - Independent Readings (1 to 3 credits)
- ANT 400 - Ethnographic Methods (3 credits)
- ANT 405 - Contemporary Anthropological Theory (3 credits)
- ANT 420 - Applied Anthropology (3 credits)
- ANT 421 - Anthropology of Social Movements (3 credits)
- ANT 430 - Issues in Contemporary Anthropology (3 credits)
- ANT 431 - Historical Perspectives in Anthropology (3 credits)
- ANT 490 - Practicum: Career-Service (1 to 9 credits)
- ANT 495 - Practicing Anthropology (Capstone) (3 credits)
- ANT 498 - Honors Research in Anthropology (3 credits)
- ANT 499 - Independent Study and Research (1 to 4 credits)

## Arabic (ARA)

### Courses

- ARA 101 - Beginning Arabic I: Language and Culture (4 credits)
- ARA 102 - Beginning Arabic II: Language and Culture (4 credits)
- ARA 180 - Special Topics in Arabic (1 to 4 credits)
- ARA 201 - Intermediate Arabic I: Language and Culture (4 credits)
- ARA 202 - Intermediate Arabic II: Language and Culture (4 credits)
- ARA 280 - Special Topics in Arabic (1 to 4 credits)
- ARA 285 - Colloquial and Media Arabic (3 credits)
- ARA 301 - Arabic Conversation (3 credits)
- ARA 302 - Arabic Composition (3 credits)
- ARA 310 - Media Arabic (3 credits)
- ARA 312 - Contemporary Arabic Culture (3 credits)
- ARA 330 - Arab Identity in Literature and Culture (3 credits)
- ARA 380 - Special Topics in Arabic (1 to 4 credits)
- ARA 386 - Arabic through Culture and Customs (3 credits)
- ARA 480 - Special Topics in Arabic (1 to 4 credits)

## Archaeology (ARC)

### Courses

- ARC 400 - Archaeological Methods and Research Design (3 credits)
- ARC 401 - Archaeological Theory (3 credits)
- ARC 499 - Independent Study in Archaeology (1 to 3 credits)

## Art (ART)

### Courses

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- ART 101 - Introduction to Art (3 credits)
- ART 149 - Introduction to Visual Composition (3 credits)
- ART 150 - Foundations: 2-D Design (3 credits)
- ART 151 - Foundations: 3-D Design (3 credits)
- ART 152 - Foundations: Color and Design (3 credits)
- ART 153 - Foundations: Making and Meaning in Art and Design (3 credits)
- ART 155 - Foundations: Introduction to Drawing I (3 credits)
- ART 157 - Foundations: Introduction to Drawing II (3 credits)
- ART 159 - Drawing Fundamentals (3 credits)
- ART 209 - Graphic Design Basics (3 credits)
- ART 210 - Graphic Design I (3 credits)
- ART 211 - Graphic Design II (3 credits)
- ART 212 - Graphic Design for Illustrators (3 credits)
- ART 215 - Advanced Typography (3 credits)
- ART 218 - Design History (3 credits)
- ART 221 - Survey of Art History I (3 credits)
- ART 222 - Survey of Art History II (3 credits)
- ART 231 - Integrating the Visual Arts Across Disciplines (3 credits)
- ART 245 - Introduction to Jewelry and Metalsmithing (3 credits)
- ART 257 - Life Drawing (3 credits)
- ART 258 - Intermediate Drawing (3 credits)
- ART 260 - Introduction to Painting (3 credits)
- ART 265 - Introduction to Printmaking (3 credits)
- ART 270 - Introduction to Sculpture (3 credits)
- ART 271 - Digital 3-D Modeling and Design (3 credits)
- ART 275 - Introduction to Ceramics (3 credits)
- ART 280 - Special Topics in Art and Design (3 credits)
- ART 281 - Introduction to Illustration (3 credits)
- ART 307 - Digital Prepress (3 credits)
- ART 310 - Graphic Design III (3 credits)
- ART 312 - Graphic Design IV - Experience Design (3 credits)
- ART 313 - 3-D for Graphic Design (3 credits)
- ART 322 - Goths to Gothic: Medieval Art (3 credits)
- ART 323 - Rethinking Renaissance Art (3 credits)
- ART 327 - Art Since 1945 (3 credits)
- ART 332 - Introduction to Art Education (3 credits)
- ART 333 - Curriculum Development and Practice (3 credits)
- ART 335 - Digital Creativity (3 credits)
- ART 345 - Relevant Skills for the Jeweler (3 credits)
- ART 346 - Intermediate Jewelry and Metalsmithing I (3 credits)
- ART 347 - Intermediate Jewelry and Metalsmithing II (3 credits)
- ART 350 - Learning to See: Visual Training for the Health Care Professional (3 credits)
- ART 355 - Advanced Drawing I (3 credits)
- ART 356 - Advanced Drawing II (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- ART 361 - Intermediate Painting I (3 credits)
- ART 362 - Intermediate Painting II (3 credits)
- ART 366 - Intermediate Printmaking I (3 credits)
- ART 367 - Intermediate Printmaking II (3 credits)
- ART 368 - Alternative Photographic Print Processes (3 credits)
- ART 371 - Intermediate Sculpture 1: Fabrications (3 credits)
- ART 372 - Intermediate Sculpture 2: Replications (3 credits)
- ART 376 - Intermediate Ceramics 1: Wheel Throwing (3 credits)
- ART 377 - Intermediate Ceramics 2: Voice/Concept (3 credits)
- ART 380 - Special Topics in Art and Design (1 to 3 credits)
- ART 381 - Intermediate Illustration I (3 credits)
- ART 382 - Intermediate Illustration II (3 credits)
- ART 385 - Figure Painting (3 credits)
- ART 386 - Art History Study Abroad (3 credits)
- ART 387 - Studio Art Abroad (3 credits)
- ART 391 - Civic Studio (3 credits)
- ART 392 - Curatorial Studio (3 credits)
- ART 393 - Image Studio (3 credits)
- ART 394 - Interactive Studio (3 credits)
- ART 395 - Space Studio (3 credits)
- ART 396 - Time Studio (3 credits)
- ART 399 - Independent Readings in Art (1 to 4 credits)
- ART 401 - Senior Seminar (3 credits)
- ART 410 - Graphic Design V (3 credits)
- ART 413 - Portfolio (3 credits)
- ART 415 - Senior Project: Graphics/Illustration (3 credits)
- ART 420 - Asian Art (3 credits)
- ART 421 - Surrealism (3 credits)
- ART 422 - Art and the Worlds of Islam (3 credits)
- ART 423 - Animals in Art (3 credits)
- ART 425 - Depicting a Nation: 19th Century American Art (3 credits)
- ART 447 - Advanced Jewelry and Metalsmithing I (3 credits)
- ART 448 - Advanced Jewelry and Metalsmithing II (3 credits)
- ART 462 - Advanced Painting I (3 credits)
- ART 463 - Advanced Painting II (3 credits)
- ART 467 - Advanced Printmaking I (3 credits)
- ART 468 - Advanced Printmaking II (3 credits)
- ART 472 - Advanced Sculpture 1 (3 credits)
- ART 473 - Advanced Sculpture 2 (3 credits)
- ART 477 - Advanced Ceramics 1 (3 credits)
- ART 478 - Advanced Ceramics 2 (3 credits)
- ART 479 - Glaze Calculation (3 credits)
- ART 482 - Advanced Illustration I (3 credits)
- ART 483 - Advanced Illustration II (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- ART 490 - Internship in Art History (1 to 6 credits)
- ART 491 - Internship in Studio Art (1 to 6 credits)
- ART 495 - Issues in Art (Capstone) (3 credits)
- ART 498 - Senior Project (6 credits)
- ART 499 - Independent Study in Art (1 to 6 credits)

## **American Sign Language (ASL)**

### **Courses**

- ASL 201 - American Sign Language 1 (3 credits)
- ASL 202 - American Sign Language 2 (3 credits)
- ASL 203 - American Sign Language 3 (3 credits)
- ASL 380 - Special Topics in American Sign Language (1 to 9 credits)
- ASL 421 - Deaf History and Culture (3 credits)
- ASL 423 - ASL Interpreting Practicum (6 credits)

## **Athletic Training (ATH)**

### **Courses**

- ATH 210 - Directed Observation in AT (1 credit)
- ATH 217 - Modern Principles of Athletic Training (2 credits)
- ATH 218 - Modern Principles of Athletic Training Lab (1 credit)
- ATH 506 - Intervention and Referral (2 credits)
- ATH 514 - Assessment and Evaluation I (4 credits)
- ATH 515 - Assessment and Evaluation II (4 credits)
- ATH 521 - Athletic Training Clinical I (3 credits)
- ATH 522 - Athletic Training Clinical II (3 credits)
- ATH 523 - Methods of Evidence-Based Practice in Athletic Training (3 credits)
- ATH 525 - Prehospital Care of the Injured Patient (4 credits)
- ATH 530 - General Medical Conditions in Athletic Training (3 credits)
- ATH 575 - Therapeutic Interventions I (4 credits)
- ATH 607 - Pharmacology in Athletic Training (3 credits)
- ATH 626 - Athletic Training Clinical III (4 credits)
- ATH 628 - Athletic Training Clinical IV (4 credits)
- ATH 675 - Therapeutic Interventions II (4 credits)
- ATH 685 - Advanced Techniques in Athletic Training (2 credits)
- ATH 689 - Professional Topics in Athletic Training (3 credits)
- ATH 693 - Project in Athletic Training (1 to 3 credits)
- ATH 697 - Professional Learning (1 to 3 credits)

## **Biology (BIO)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## Courses

- BIO 104 - Biology for the 21st Century (4 credits)
- BIO 105 - Environmental Science (3 credits)
- BIO 107 - Great Lakes and Other Water Resources (4 credits)
- BIO 109 - Plants in the World (4 credits)
- BIO 120 - General Biology I (4 credits)
- BIO 121 - General Biology II (4 credits)
- BIO 180 - Special Topics in Biology (1 to 4 credits)
- BIO 205 - Genetics for PK-6 Teachers (3 credits)
- BIO 210 - Evolutionary Biology (3 credits)
- BIO 215 - Ecology (4 credits)
- BIO 222 - Natural History of Vertebrates (3 credits)
- BIO 232 - Natural History of Invertebrates (3 credits)
- BIO 243 - Plant Identification and Natural History (3 credits)
- BIO 272 - Insect Biology and Diversity (3 credits)
- BIO 280 - Special Topics in Biology (1 to 4 credits)
- BIO 302 - Comparative Vertebrate Anatomy (4 credits)
- BIO 303 - Plant Morphology (4 credits)
- BIO 308 - Wildlife Ecology (4 credits)
- BIO 309 - Plants and Human Health (3 credits)
- BIO 311 - Who's Running Your Life: Genes, Evolution and Behavior (3 credits)
- BIO 313 - Plants and Islands (4 credits)
- BIO 317 - Principles of Animal Nutrition (3 credits)
- BIO 319 - Global Agricultural Sustainability (3 credits)
- BIO 323 - Aquatic and Wetland Plants (3 credits)
- BIO 325 - Human Sexuality (3 credits)
- BIO 328 - Biomedical Ethics (3 credits)
- BIO 329 - Evolution of Social Behavior (3 credits)
- BIO 333 - Systematic Botany (4 credits)
- BIO 338 - Environmental Ethics (3 credits)
- BIO 342 - Ornithology (3 credits)
- BIO 352 - Animal Behavior (3 credits)
- BIO 355 - Human Genetics (3 credits)
- BIO 357 - Environmental Microbiology (4 credits)
- BIO 362 - Biology and Diversity of Fishes (4 credits)
- BIO 370 - Marine Biology (3 credits)
- BIO 375 - Genetics (3 credits)
- BIO 376 - Genetics Laboratory (1 credit)
- BIO 380 - Special Topics in Biology (1 to 4 credits)
- BIO 383 - Plant-Fungal Interactions (4 credits)
- BIO 386 - Ecological Restoration and Management (4 credits)
- BIO 396 - Laboratory Assistant in Genetics (1 credit)
- BIO 399 - Selected Experiences in Biology (1 to 4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- BIO 402 - Aquatic Insects (3 credits)
- BIO 403 - Plant Structure and Function (4 credits)
- BIO 407 - Biology and Society: Study Abroad (1 to 4 credits)
- BIO 408 - Wildlife Management (4 credits)
- BIO 412 - Mammalogy (4 credits)
- BIO 413 - Freshwater Algae (3 credits)
- BIO 415 - Fire Ecology and Management (3 credits)
- BIO 416 - Advanced Genetics Laboratory (2 credits)
- BIO 417 - International Field Biology (1 to 4 credits)
- BIO 422 - Embryology (3 credits)
- BIO 423 - Plant Biotechnology (3 credits)
- BIO 430 - Advanced Wildland Fire Management (2 credits)
- BIO 432 - Comparative Animal Physiology (4 credits)
- BIO 433 - Plant Ecology (4 credits)
- BIO 440 - Limnology (4 credits)
- BIO 444 - Herpetology (4 credits)
- BIO 451 - Stream Ecology (4 credits)
- BIO 452 - Human Evolution (3 credits)
- BIO 460 - Terrestrial Ecosystem Ecology (4 credits)
- BIO 470 - Conservation Biology (3 credits)
- BIO 473 - Ecology and Evolution of Plant-Animal Interactions (3 credits)
- BIO 475 - Population Genetics (3 credits)
- BIO 480 - Special Topics in Biology (1 to 4 credits)
- BIO 485 - Molecular Ecology (3 credits)
- BIO 486 - Restoration Ecology (3 credits)
- BIO 490 - Internship (1 to 6 credits)
- BIO 495 - Perspectives in Biology (Capstone) (3 credits)
- BIO 499 - Research in Biology (1 to 4 credits)
- BIO 502 - Aquatic Insects (3 credits)
- BIO 503 - Plant Structure and Function (4 credits)
- BIO 508 - Wildlife Management (4 credits)
- BIO 512 - Mammalogy (3 credits)
- BIO 513 - Freshwater Algae (3 credits)
- BIO 515 - Fire Ecology and Management (3 credits)
- BIO 532 - Advanced Aquatic Ecology (3 credits)
- BIO 540 - Limnology (4 credits)
- BIO 544 - Herpetology (3 credits)
- BIO 551 - Stream Ecology (3 credits)
- BIO 560 - Advanced Community Ecology (3 credits)
- BIO 570 - Landscape Ecology Theory and Application (3 credits)
- BIO 572 - Conservation Biology (3 credits)
- BIO 573 - Ecology and Evolution of Plant-Animal Interactions (3 credits)
- BIO 575 - Population Genetics (3 credits)
- BIO 580 - Special Topics in Biology (1 to 4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- BIO 585 - Molecular Ecology (3 credits)
- BIO 586 - Restoration Ecology (3 credits)
- BIO 593 - Advanced Univariate Methods (3 credits)
- BIO 594 - Advanced Multivariate Methods (3 credits)
- BIO 610 - Scientific Methodology (3 credits)
- BIO 651 - Emerging Issues in Water Resources (2 credits)
- BIO 680 - Special Topics in Biology (1 to 3 credits)
- BIO 691 - Graduate Internship (3 to 9 credits)
- BIO 693 - Graduate Project (3 to 9 credits)
- BIO 695 - Thesis Research (3 to 9 credits)
- BIO 696 - Continuation of Master's Project or Thesis Research (1 credit)
- BIO 697 - Professional Learning (1 to 3 credits)
- BIO 698 - Perspectives in Biology (3 credits)
- BIO 699 - Independent Study (1 to 3 credits)

## **Biomedical Sciences (BMS)**

### **Courses**

- BMS 100 - Human Health and Disease (3 credits)
- BMS 105 - Basic Nutrition (3 credits)
- BMS 180 - Special Topics in the Biomedical Sciences (1 to 4 credits)
- BMS 202 - Anatomy and Physiology (4 credits)
- BMS 208 - Human Anatomy (3 credits)
- BMS 212 - Introductory Microbiology (3 credits)
- BMS 213 - Laboratory in Microbiology (1 credit)
- BMS 223 - Infectious Human Diseases; Prevention and Control (3 credits)
- BMS 250 - Anatomy and Physiology I (4 credits)
- BMS 251 - Anatomy and Physiology II (4 credits)
- BMS 280 - Special Topics in Biomedical Sciences (1 to 4 credits)
- BMS 290 - Human Physiology (3 credits)
- BMS 301 - Introduction to Research in the Biomedical Sciences (3 credits)
- BMS 304 - Community Nutrition (3 credits)
- BMS 305 - Clinical Nutrition (3 credits)
- BMS 306 - Advanced Human Nutrition (3 credits)
- BMS 309 - Laboratory in Human Anatomy (1 credit)
- BMS 310 - Basic Pathophysiology (3 credits)
- BMS 311 - Pharmacological Aspects of Biomedical Sciences (3 credits)
- BMS 312 - Bacterial Genetics (3 credits)
- BMS 313 - Bacterial Genetics Laboratory (1 credit)
- BMS 355 - Anatomy of Joints (2 credits)
- BMS 374 - Physiological Aspects of Death and Dying (3 credits)
- BMS 375 - The Biology of Aging (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- BMS 380 - Special Topics in the Biomedical Sciences (1 to 6 credits)
- BMS 391 - Laboratory in Human Physiology (2 credits)
- BMS 392 - Laboratory Assistant in Physiology (1 credit)
- BMS 393 - Laboratory Assistant in Human Anatomy (1 credit)
- BMS 394 - Laboratory Assistant in Microbiology (1 credit)
- BMS 399 - Readings in the Biomedical Sciences (1 to 3 credits)
- BMS 407 - Nutrition in the Life Cycle (3 credits)
- BMS 409 - Endocrinology (3 credits)
- BMS 410 - Immunology (3 credits)
- BMS 412 - Medical Bacteriology (3 credits)
- BMS 413 - Medical Bacteriology Laboratory (2 credits)
- BMS 415 - Nutrition and Physical Performance (3 credits)
- BMS 422 - Bacterial Physiology (3 credits)
- BMS 423 - Bacterial Physiology Laboratory (2 credits)
- BMS 426 - Sensory Systems Neuroscience: Anatomy and Physiology (3 credits)
- BMS 427 - Neuroanatomy (1 credit)
- BMS 428 - Neurosciences (3 credits)
- BMS 431 - Medical Virology (3 credits)
- BMS 432 - Medical Mycology (3 credits)
- BMS 433 - Medical Parasitology (3 credits)
- BMS 450 - Human Histology (4 credits)
- BMS 460 - Regional Human Anatomy (4 credits)
- BMS 480 - Special Topics in the Biomedical Sciences (1 to 4 credits)
- BMS 492 - Biomedical Sciences Internship (1 to 4 credits)
- BMS 495 - Concepts in Wellness (Capstone) (3 credits)
- BMS 499 - Research in the Biomedical Sciences (1 to 3 credits)
- BMS 501 - Graduate Seminar in Biomedical Sciences (1 credit)
- BMS 508 - Advanced Human Physiology (3 credits)
- BMS 509 - Endocrinology (3 credits)
- BMS 510 - Immunology (3 credits)
- BMS 512 - Medical Bacteriology (3 credits)
- BMS 523 - Epidemiology (3 credits)
- BMS 531 - Medical Virology (3 credits)
- BMS 532 - Medical Mycology (3 credits)
- BMS 538 - Advanced Neuroscience (3 credits)
- BMS 540 - Molecular Ecology of Infectious Disease (3 credits)
- BMS 550 - Human Histology (4 credits)
- BMS 560 - Regional Human Anatomy (4 credits)
- BMS 561 - Prosected Regional Anatomy (4 credits)
- BMS 601 - Experimental Design (3 credits)
- BMS 605 - Core Principles of Gross Anatomy (4 credits)
- BMS 607 - Infection and Immunity (3 credits)
- BMS 608 - Pathologic Physiology (3 credits)
- BMS 655 - Advanced Human Anatomy (3 credits)

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- BMS 679 - Clinical Practicum (3 to 6 credits)
- BMS 680 - Special Topics in the Biomedical Sciences (1 to 3 credits)
- BMS 693 - Project in Biomedical Sciences (3 credits)
- BMS 695 - Master's Thesis Research (3 or 6 credits)
- BMS 696 - Continuation of Master's Project or Thesis Research (1 credit)
- BMS 697 - Professional Learning (1 to 3 credits)
- BMS 699 - Independent Study (1 to 3 credits)

## **Business (BUS)**

### **Courses**

- BUS 101 - Introduction to Business (3 credits)
- BUS 180 - Special Topics in Business (1 to 3 credits)
- BUS 201 - Legal Environment for Business (3 credits)
- BUS 280 - Special Topics in Business (1 to 3 credits)
- BUS 301 - International Business and Culture (3 credits)
- BUS 380 - Special Topics in Business (1 to 3 credits)
- BUS 399 - Readings in Business (1 to 3 credits)
- BUS 470 - Applied Business Solutions (1 to 3 credits)
- BUS 490 - Business Internship (1 to 6 credits)
- BUS 499 - Independent Research (1 to 3 credits)
- BUS 501 - Self-Management for Leaders (2 credits)
- BUS 502 - Operational Alignment for Leaders (2.5 credits)
- BUS 503 - Leading and Empowering Teams (2.5 credits)
- BUS 504 - Essentials of Enterprise Leadership (3.5 credits)
- BUS 505 - Implementing Principles of Strategic Leadership (3.5 credits)
- BUS 531 - Legal Environment of Business (2 credits)
- BUS 570 - Applied Business Solutions (1 to 3 credits)
- BUS 610 - Management Information Systems and Org Processes (3 credits)
- BUS 631 - Leadership and Organizational Dynamics (3 credits)
- BUS 634 - Sustainability Principles and Practices (1.5 credits)
- BUS 656 - Management of Technology (3 credits)
- BUS 671 - Global Competitiveness (3 credits)
- BUS 677 - Business Ethical Problems and Perspectives (1.5 credits)
- BUS 680 - Special Topics in Business (1 to 4 credits)
- BUS 681 - Strategy (3 credits)
- BUS 685 - Study Abroad (3 credits)
- BUS 697 - Professional Learning (1 to 3 credits)
- BUS 698 - Washington Program (3 credits)
- BUS 699 - Independent Study (1 to 3 credits)

## **Advertising/Public Relations (CAP)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Courses**

- CAP 105 - Technology in Public Relations and Advertising (3 credits)
- CAP 115 - Research Basics for Advertising and Public Relations (3 credits)
- CAP 209 - Advertising Basics (3 credits)
- CAP 210 - Fundamentals of Advertising (3 credits)
- CAP 219 - Public Relations Basics (3 credits)
- CAP 220 - Fundamentals of Public Relations (3 credits)
- CAP 305 - Sports Promotion (3 credits)
- CAP 310 - Advertising Management and Cases (3 credits)
- CAP 315 - Advertising Copywriting (3 credits)
- CAP 320 - Public Relations Management and Cases (3 credits)
- CAP 321 - Media Relations Writing (3 credits)
- CAP 325 - Advertising and Public Relations Ethics and Law (3 credits)
- CAP 380 - Special Topics in Advertising and Public Relations (3 credits)
- CAP 399 - Independent Study in Advertising/Public Relations (1 to 6 credits)
- CAP 413 - Media Planning (3 credits)
- CAP 423 - Writing Corporate Communications (3 credits)
- CAP 425 - International Advertising and Public Relations (3 credits)
- CAP 490 - Internship in Advertising/Public Relations (1 to 6 credits)
- CAP 494 - Advertising and Public Relations Agency Experience (3 credits)
- CAP 495 - Advertising and Public Relations Campaign (3 credits)

## **Broadcasting (CBR)**

### **Courses**

- CBR 485 - Audio Production III (3 credits)

## **Clinical Dietetics (CD)**

### **Courses**

- CD 501 - Emerging Professional Practice Issues in Clinical Dietetics (2 credits)
- CD 505 - Health Care Regulation and Policy in Dietetic Practice (2 credits)
- CD 510 - Nutritional Assessment (3 credits)
- CD 516 - Food and Culinary Science (4 credits)
- CD 520 - Supervised Practice: Food Management Systems (3 credits)
- CD 530 - Supervised Practice: Community Nutrition I (3 credits)
- CD 550 - Social Determinants in Food, Culture, and Environmental Justice (3 credits)
- CD 560 - Advanced Nutrition Education, Counseling, and Coaching (3 credits)
- CD 600 - Advanced Medical Nutritional Therapy I (3 credits)
- CD 610 - Advanced Medical Nutritional Therapy II (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- CD 620 - Micronutrient Metabolism and Genetic Considerations in Clinical Dietetics (3 credits)
- CD 625 - Supervised Practice: Clinical Nutrition I (5 credits)
- CD 630 - Supervised Practice: Community Nutrition II (2 credits)
- CD 640 - Supervised Practice: Clinical Nutrition II (5 credits)
- CD 650 - Supervised Practice: Area of Specialization (2 credits)
- CD 689 - Seminar in Clinical Dietetics (1 credit)
- CD 690 - Research Methodology in Clinical Dietetics (2 credits)
- CD 693 - Master's Project (1 credit)
- CD 695 - Thesis Research in Clinical Dietetics (1 to 6 credits)
- CD 696 - Continuation of Master's Thesis or Project (1 credit)
- CD 697 - Professional Learning (1 to 3 credits)

## Chinese (CHI)

### Courses

- CHI 101 - Beginning Chinese I: Language and Culture (4 credits)
- CHI 102 - Beginning Chinese II: Language and Culture (4 credits)
- CHI 150 - Accelerated Beginning Chinese I and II: Language and Culture (4 credits)
- CHI 180 - Special Topics in Chinese (1 to 4 credits)
- CHI 185 - Supplementary Elementary Chinese (3 credits)
- CHI 201 - Intermediate Chinese I: Language and Culture (4 credits)
- CHI 202 - Intermediate Chinese II: Language and Culture (4 credits)
- CHI 236 - Popular Chinese Fiction (3 credits)
- CHI 280 - Special Topics in Chinese (1 to 4 credits)
- CHI 285 - Supplementary Intermediate Chinese (3 credits)
- CHI 301 - Advanced Intermediate Chinese I (3 credits)
- CHI 302 - Advanced Intermediate Chinese II (3 credits)
- CHI 321 - Ancient Chinese Culture (3 credits)
- CHI 322 - Classical Chinese Culture (3 credits)
- CHI 323 - Late Imperial Chinese Culture (3 credits)
- CHI 324 - Contemporary Chinese Culture (3 credits)
- CHI 341 - Introduction to Classical Chinese (3 credits)
- CHI 351 - Practical Chinese (3 credits)
- CHI 380 - Special Topics in Chinese (3 credits)
- CHI 385 - Supplementary Advanced Intermediate Chinese (3 credits)
- CHI 386 - Chinese Culture and Society - in Taiwan (3 credits)
- CHI 387 - Chinese Culture and Society - in China (3 credits)
- CHI 399 - Independent Reading (1 to 4 credits)
- CHI 480 - Special Topics in Chinese (1 to 4 credits)

## Chemistry (CHM)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## Courses

- CHM 100 - Preparatory Chemistry (3 credits)
- CHM 102 - Chemistry and Society (3 credits)
- CHM 109 - Introductory Chemistry (4 credits)
- CHM 111 - Introduction to Green Chemistry (3 credits)
- CHM 115 - Principles of Chemistry I (4 credits)
- CHM 116 - Principles of Chemistry II (5 credits)
- CHM 180 - Special Topics in Chemistry (1 to 3 credits)
- CHM 201 - Introduction to Chemical Sciences (3 credits)
- CHM 221 - Survey of Analytical Chemistry (4 credits)
- CHM 230 - Introduction to Organic and Biochemistry (4 credits)
- CHM 231 - Introductory Organic Chemistry (4 credits)
- CHM 232 - Biological Chemistry (4 credits)
- CHM 241 - Organic Chemistry for Life Sciences I (5 credits)
- CHM 242 - Organic Chemistry for Life Sciences II (4 credits)
- CHM 245 - Principles of Organic Chemistry I (4 credits)
- CHM 246 - Principles of Organic Chemistry I Lab (1 credit)
- CHM 247 - Principles of Organic Chemistry II (3 credits)
- CHM 248 - Principles of Organic Chemistry II Lab (1 credit)
- CHM 273 - Principles of Inorganic Chemistry (3 credits)
- CHM 280 - Special Topics in Chemistry (1 to 3 credits)
- CHM 325 - Instrumental Analysis (4 credits)
- CHM 351 - Introduction to Physical Chemistry (3 credits)
- CHM 352 - Physical Chemistry Laboratory (1 credit)
- CHM 356 - Physical Chemistry I (3 credits)
- CHM 358 - Physical Chemistry II (3 credits)
- CHM 380 - Special Topics in Chemistry (1 to 3 credits)
- CHM 391 - Chemistry Seminar I (1 credit)
- CHM 399 - Readings in Chemistry (1 to 2 credits)
- CHM 421 - Green Chemistry for Sustainable Environment (3 credits)
- CHM 427 - Green and Environmental Chemistry Laboratory (3 credits)
- CHM 441 - Advanced Topics in Organic Chemistry (3 credits)
- CHM 442 - Synthetic Polymers: Life Cycle and Emerging Sustainable Technologies (3 credits)
- CHM 447 - Organic Synthesis and Characterization (3 credits)
- CHM 457 - Advanced Physical and Instrumental Chemistry Laboratory (3 credits)
- CHM 461 - Biochemistry I (4 credits)
- CHM 462 - Techniques in Biochemistry (3 credits)
- CHM 463 - Biochemistry II (3 credits)
- CHM 471 - Advanced Inorganic Chemistry (3 credits)
- CHM 475 - Electrochemistry (3 credits)
- CHM 477 - Synthetic Inorganic Chemistry (3 credits)
- CHM 480 - Special Topics in Chemistry (1 to 3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- CHM 490 - Chemistry Laboratory Internship (1 to 4 credits)
- CHM 491 - Chemistry Seminar II (1 credit)
- CHM 499 - Investigation Problems (1 to 5 credits)
- CHM 580 - Special Topics in Chemistry (1 to 3 credits)
- CHM 697 - Professional Learning (1 to 3 credits)

## **Chinese Studies (CHS)**

### **Courses**

- CHS 380 - Special Topics in Chinese Studies (1 to 9 credits)

## **Computer Information Systems (CIS)**

### **Courses**

- CIS 101 - Thriving in our Digital World (3 credits)
- CIS 150 - Introduction to Computing (3 credits)
- CIS 159 - Java Programming for Engineers (1 credit)
- CIS 160 - Learn to Code in Python (3 credits)
- CIS 161 - Computational Science (3 credits)
- CIS 162 - Computer Science I (4 credits)
- CIS 163 - Computer Science II (4 credits)
- CIS 180 - Special Topics in Computer Information Systems (1 to 4 credits)
- CIS 221 - Excel Concepts and Applications I (1.5 credits)
- CIS 230 - Hardware and Software (3 credits)
- CIS 231 - Problem Solving Using Spreadsheets (3 credits)
- CIS 233 - Concepts of Database Systems (3 credits)
- CIS 237 - Introduction to Network Management (3 credits)
- CIS 238 - Internet Media and Programming (3 credits)
- CIS 241 - System-level Programming and Utilities (3 credits)
- CIS 250 - Principles of Information Systems (3 credits)
- CIS 253 - COBOL (4 credits)
- CIS 258 - Introduction to Cybersecurity (3 credits)
- CIS 260 - Application Development in Visual Basic (4 credits)
- CIS 263 - Data Structures and Algorithms (3 credits)
- CIS 280 - Special Topics in Computer Information Systems (1 to 3 credits)
- CIS 290 - Professional Responsibilities and Practices (3 credits)
- CIS 309 - Teaching Computer Science (3 credits)
- CIS 310 - Introduction to the Structure and Mechanics of Social Networks (3 credits)
- CIS 320 - Visualization of Data and Information (3 credits)
- CIS 321 - Excel Concepts and Applications II (1.5 credits)
- CIS 330 - Systems Analysis and Design (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- CIS 331 - Data Analysis Tools and Techniques (3 credits)
- CIS 333 - Database Management and Implementation (3 credits)
- CIS 335 - Data Mining (3 credits)
- CIS 337 - Network Systems Management (3 credits)
- CIS 338 - Wide Area Network Engineering (3 credits)
- CIS 339 - Project Planning (3 credits)
- CIS 340 - Health Care Information Systems (3 credits)
- CIS 343 - Structure of Programming Languages (3 credits)
- CIS 349 - Agile Project Management (3 credits)
- CIS 350 - Introduction to Software Engineering (3 credits)
- CIS 351 - Computer Organization and Assembly Language (4 credits)
- CIS 353 - Database (3 credits)
- CIS 357 - Mobile Application Development (3 credits)
- CIS 358 - Information Assurance (3 credits)
- CIS 360 - Information Management and Science (3 credits)
- CIS 365 - Artificial Intelligence (3 credits)
- CIS 367 - Computer Graphics (3 credits)
- CIS 368 - Usability Design and Evaluation (3 credits)
- CIS 371 - Web Application Programming (3 credits)
- CIS 373 - Pervasive Computing (3 credits)
- CIS 375 - Wireless Networks and Security (3 credits)
- CIS 376 - Game Programming Techniques and Algorithms (3 credits)
- CIS 380 - Special Topics in Computer Information Systems (1 to 4 credits)
- CIS 399 - Independent Readings (1 to 4 credits)
- CIS 418 - Secure Software Engineering (3 credits)
- CIS 430 - Computer and Cyber Forensics (3 credits)
- CIS 437 - Distributed Computing (4 credits)
- CIS 443 - Software Development Tools (3 credits)
- CIS 450 - IS Project Management (3 credits)
- CIS 451 - Computer Architecture (3 credits)
- CIS 452 - Operating Systems Concepts (4 credits)
- CIS 455 - Applied Cryptography (3 credits)
- CIS 456 - Reverse Engineering and Malware Analysis (3 credits)
- CIS 457 - Data Communications (4 credits)
- CIS 458 - System Security (3 credits)
- CIS 460 - Management of Information Systems (3 credits)
- CIS 461 - Compiler Design and Construction (3 credits)
- CIS 462 - Information Technology Project (3 credits)
- CIS 463 - Information Systems Project (3 credits)
- CIS 465 - Automata and Theory of Computation (3 credits)
- CIS 467 - Computer Science Project (3 credits)
- CIS 468 - Cybersecurity Project (3 credits)
- CIS 480 - Special Topics in Computer Information Systems (1 to 4 credits)
- CIS 490 - Internship (2 to 5 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- CIS 499 - Independent Study and Research (1 to 4 credits)
- CIS 500 - Fundamentals of Software Practice (3 credits)
- CIS 501 - Fundamentals of Modern Computer Systems (3 credits)
- CIS 511 - Networking Fundamentals (1 credit)
- CIS 512 - Database Fundamentals (1 credit)
- CIS 518 - Secure Software Engineering (3 credits)
- CIS 555 - Applied Cryptography (3 credits)
- CIS 611 - Introduction to Software Engineering (3 credits)
- CIS 612 - Requirements Specification (3 credits)
- CIS 613 - Software Testing (3 credits)
- CIS 615 - Information Security Principles (3 credits)
- CIS 616 - Data Security and Privacy (3 credits)
- CIS 617 - Digital Forensics and Investigations (3 credits)
- CIS 619 - Data Analytics for Cybersecurity (3 credits)
- CIS 622 - Software Design Methodologies (3 credits)
- CIS 623 - Graphical User Interface Design (3 credits)
- CIS 635 - Knowledge Discovery and Data Mining (3 credits)
- CIS 641 - Systems Analysis and Design (3 credits)
- CIS 642 - IS Project Management (3 credits)
- CIS 643 - Information Systems Policy and Strategy (3 credits)
- CIS 654 - Computer Networking (3 credits)
- CIS 656 - Distributed Systems (3 credits)
- CIS 657 - Mobile Application Development (3 credits)
- CIS 658 - Web Architectures (3 credits)
- CIS 660 - Information Management and Science (3 credits)
- CIS 661 - Introduction to Health and Bioinformatics (3 credits)
- CIS 665 - Clinical Information Systems (3 credits)
- CIS 671 - Information Visualization (3 credits)
- CIS 672 - Computer Systems Architecture (3 credits)
- CIS 673 - Principles of Database Design (3 credits)
- CIS 675 - Compiler Construction (3 credits)
- CIS 676 - Database Management Systems (3 credits)
- CIS 677 - High-performance Computing (3 credits)
- CIS 678 - Machine Learning (3 credits)
- CIS 679 - Special Topics in Database Management (3 credits)
- CIS 680 - Special Topics in Computer Information Systems (3 credits)
- CIS 685 - Computing Practicum (1 credit)
- CIS 690 - Thesis Research Preparation (3 credits)
- CIS 691 - Medical and Bioinformatics Capstone (3 credits)
- CIS 692 - Master's Capstone (3 credits)
- CIS 693 - Master's Project (3 credits)
- CIS 695 - Master's Thesis (3 credits)
- CIS 696 - Continuation of Master's Project or Thesis Research (1 credit)
- CIS 697 - Professional Learning (1 to 3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- CIS 699 - Directed Readings in Computer Science (1 to 3 credits)

## **Criminal Justice (CJ)**

### **Courses**

- CJ 100 - Careers in Criminal Justice (1 credit)
- CJ 101 - Justice and Society (3 credits)
- CJ 201 - Criminology (3 credits)
- CJ 300 - Research Methods in Criminal Justice (3 credits)
- CJ 302 - Criminal Law (3 credits)
- CJ 305 - Constitutional Rights and Civil Liberties (3 credits)
- CJ 311 - Criminal Investigation (3 credits)
- CJ 312 - Police Process (3 credits)
- CJ 315 - Principles of Security (3 credits)
- CJ 320 - Crimes Against Women (3 credits)
- CJ 325 - Criminal Justice and Human Rights (3 credits)
- CJ 330 - Correctional Process (3 credits)
- CJ 335 - Digital Crime, Media and Culture (3 credits)
- CJ 340 - Courts Process (3 credits)
- CJ 350 - Juvenile Justice Process (3 credits)
- CJ 355 - Youth Culture and Crime (3 credits)
- CJ 360 - Inside-Out Prison Exchange Program (3 credits)
- CJ 370 - Environmental Crime and Justice (3 credits)
- CJ 380 - Special Topics in Criminal Justice and Legal Studies (1 to 3 credits)
- CJ 399 - Independent Readings in Criminal Justice (1 to 3 credits)
- CJ 400 - Qualitative Methods (3 credits)
- CJ 405 - Terrorism (3 credits)
- CJ 408 - White-Collar and Corporate Crime (3 credits)
- CJ 415 - Law Enforcement Physical Education, Defensive Tactics and Firearms (3 credits)
- CJ 416 - Special Operations and Training (3 credits)
- CJ 417 - Criminal Investigations II (3 credits)
- CJ 418 - Patrol and Traffic Administration and Procedure (3 credits)
- CJ 419 - Michigan Criminal Law (3 credits)
- CJ 420 - Juvenile Correctional Counseling (3 credits)
- CJ 442 - Victimology (3 credits)
- CJ 464 - Security Management (3 credits)
- CJ 482 - Culture, Crime and Justice (3 credits)
- CJ 490 - Criminal Justice Internship (1 to 9 credits)
- CJ 492 - Social Justice Issues in the American Criminal Justice System (3 credits)
- CJ 495 - Issues in Criminal Justice (Capstone) (3 credits)
- CJ 499 - Independent Study and Research (1 to 3 credits)
- CJ 592 - Social Justice Issues in the American Criminal Justice System (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- CJ 600 - Qualitative Methodology (3 credits)
- CJ 601 - Criminal Justice Leadership (3 credits)
- CJ 604 - Criminal Justice Policy and Program Evaluation (3 credits)
- CJ 606 - Research Methodology and Data Analysis (3 credits)
- CJ 607 - Criminology (3 credits)
- CJ 609 - Criminal Justice Systems (3 credits)
- CJ 610 - Race, Gender, and Class in the Criminal Justice System (3 credits)
- CJ 619 - Legal Issues in Criminal Justice (3 credits)
- CJ 620 - Policing and Society (3 credits)
- CJ 621 - Corrections and Punishment (3 credits)
- CJ 622 - Juvenile Justice Systems and Issues (3 credits)
- CJ 640 - Graduate Internship (3 credits)
- CJ 642 - Victimology (3 credits)
- CJ 650 - Master's Capstone in Criminal Justice (3 credits)
- CJ 680 - Special Topics in Criminal Justice and Legal Studies (1 to 4 credits)
- CJ 691 - Issues in Research and Writing (3 credits)
- CJ 693 - Criminal Justice Project (3 credits)
- CJ 695 - Criminal Justice Thesis (1 to 6 credits)
- CJ 696 - Continuation of Master's Project or Thesis Research (1 credit)
- CJ 697 - Professional Learning (1 to 3 credits)
- CJ 699 - Directed Readings (1 to 3 credits)

## **Journalism (CJR)**

## **Classics (CLA)**

### **Courses**

- CLA 101 - Greek and Roman Mythology (3 credits)
- CLA 121 - Greek Civilization (3 credits)
- CLA 131 - Roman Civilization (3 credits)
- CLA 195 - Introduction to Ancient Greece and Rome (1 credit)
- CLA 201 - Classical Literature (3 credits)
- CLA 231 - Health and Science in Antiquity (3 credits)
- CLA 250 - Classical Art and Archaeology (3 credits)
- CLA 280 - Special Topics in Classics (3 credits)
- CLA 301 - Re-imagining the Classics (3 credits)
- CLA 302 - The Stages of Greek and Roman Drama (3 credits)
- CLA 311 - Ancient Great Philosophers (3 credits)
- CLA 315 - Ancient Religion (3 credits)
- CLA 325 - Body, Gender, Sexuality in Antiquity (3 credits)
- CLA 350 - Issues in Classical Archaeology (3 credits)
- CLA 365 - Stoicism, Identity and the Happy Life (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- CLA 367 - Thinking Like a (Roman) Lawyer (3 credits)
- CLA 380 - Special Topics in Classics (3 credits)
- CLA 385 - Study Abroad: Classical Civilization (1 to 6 credits)
- CLA 395 - Research Methods in Classics (2 credits)
- CLA 399 - Independent Study in Classics (1 to 3 credits)
- CLA 415 - Museum Studies (3 credits)
- CLA 495 - Notions of the Classics (Capstone) (3 credits)
- CLA 499 - Independent Study and Research (1 to 3 credits)

## **Cell and Molecular Biology (CMB)**

### **Courses**

- CMB 140 - Living Foods: Ferment Them Yourself! (4 credits)
- CMB 150 - Biotechnology and Society (4 credits)
- CMB 155 - Introduction to Cell and Molecular Biology (3 credits)
- CMB 156 - Discoveries in Cell and Molecular Biology: A Research-based Laboratory Course (1 credit)
- CMB 250 - Introduction to Biotechnology (4 credits)
- CMB 321 - Designing Our Future: Babies, Food, Medicine, and Biotechnology (3 credits)
- CMB 350 - Foundations of Brewing (3 credits)
- CMB 380 - Special Topics in Cell and Molecular Biology (1 to 4 credits)
- CMB 405 - Cell and Molecular Biology (4 credits)
- CMB 406 - Cell and Molecular Biology Laboratory (2 credits)
- CMB 409 - Responsible Conduct of Research (1 credit)
- CMB 411 - Genetics of Development and Cancer (3 credits)
- CMB 414 - Molecular Biology of the Gene (3 credits)
- CMB 426 - Research Applications in Nucleic Acids (4 credits)
- CMB 440 - Research Applications in Drosophila Genomics (3 credits)
- CMB 451 - Bioinformatics: Tools and Techniques for Life Scientists (3 credits)
- CMB 452 - Computer Modeling and Drug Design (3 credits)
- CMB 460 - Genomics and Molecular Diagnostics (3 credits)
- CMB 480 - Special Topics in Cell and Molecular Biology (1 to 9 credits)
- CMB 485 - Molecular Ecology (3 credits)
- CMB 490 - Internship (1 to 6 credits)
- CMB 495 - Perspectives in Cell and Molecular Biology (3 credits)
- CMB 499 - Research in Cell and Molecular Biology (1 to 3 credits)
- CMB 501 - Scientific Communication for the Life Sciences and Professional Science Master's (3 credits)
- CMB 505 - Advanced Cell Biology (3 credits)
- CMB 506 - Advanced Molecular Biology (3 credits)
- CMB 509 - Responsible Conduct of Research (1 credit)
- CMB 520 - Laboratory Techniques in Cell and Molecular Biology (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- CMB 551 - Bioinformatics: Tools and Techniques for Life Scientists (3 credits)
- CMB 552 - Computer Modeling and Drug Design (3 credits)
- CMB 560 - Genomics and Molecular Diagnostics (3 credits)
- CMB 580 - Special Topics in Cell and Molecular Biology (1 to 4 credits)
- CMB 585 - Molecular Ecology (3 credits)
- CMB 610 - Foundations of Biotechnology (3 credits)
- CMB 620 - Cell Culture and Bioprocessing (3 credits)
- CMB 626 - Advanced Research Applications in Nucleic Acids (4 credits)
- CMB 680 - Special Topics in Cell and Molecular Biology (1 to 4 credits)
- CMB 695 - Thesis Research (1 to 9 credits)
- CMB 696 - Continuation of Master's Project or Thesis Research (1 credit)
- CMB 697 - Professional Learning (1 to 3 credits)
- CMB 699 - Grad Research in Cell and Molecular Biology (1 to 6 credits)

## **Multi-Media Journalism (CMJ)**

### **Courses**

- CMJ 184 - Introduction to Multimedia Production (3 credits)
- CMJ 236 - News in Society (3 credits)
- CMJ 256 - News Reporting (3 credits)
- CMJ 260 - Multimedia Journalism Workshop (3 credits)
- CMJ 265 - Introduction to Radio (3 credits)
- CMJ 284 - Broadcast News (3 credits)
- CMJ 290 - Media History (3 credits)
- CMJ 310 - Advanced Reporting Techniques (3 credits)
- CMJ 316 - News Design and Layout (3 credits)
- CMJ 325 - Issues in Journalism (3 credits)
- CMJ 364 - Feature Journalism (3 credits)
- CMJ 365 - Advanced Editing (3 credits)
- CMJ 366 - Arts and Entertainment Journalism (3 credits)
- CMJ 380 - Special Topics in Multimedia Journalism (1 to 9 credits)
- CMJ 384 - Producing for Broadcasting (3 credits)
- CMJ 385 - Advanced Radio (3 credits)
- CMJ 390 - Technical Writing (3 credits)
- CMJ 399 - Independent Study (1 to 6 credits)
- CMJ 460 - Multimedia Reporting (3 credits)
- CMJ 481 - Investigative Reporting (3 credits)
- CMJ 484 - TV News Workshop (3 credits)
- CMJ 490 - Internship (1 to 6 credits)
- CMJ 495 - Multimedia Journalism Capstone (3 credits)

## **Communications (COM)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## Courses

- COM 101 - Concepts of Communication (3 credits)
- COM 201 - Speech (3 credits)
- COM 202 - Critical Interpretation (3 credits)
- COM 203 - Argument and Analysis (3 credits)
- COM 209 - Health Communication Systems (3 credits)
- COM 210 - Nonverbal Communication (3 credits)
- COM 215 - Story Making (3 credits)
- COM 220 - Media Literacy (3 credits)
- COM 275 - Foundations of Communication Research (3 credits)
- COM 295 - Communication Theory (3 credits)
- COM 301 - Interpersonal Communication (3 credits)
- COM 302 - Small Group Communication (3 credits)
- COM 303 - Debate (3 credits)
- COM 320 - Vision and Culture (3 credits)
- COM 371 - Media and Society (3 credits)
- COM 372 - Global Communications (3 credits)
- COM 375 - Communication Research (3 credits)
- COM 376 - Communications Policy and Law (3 credits)
- COM 378 - Intercultural Communication (3 credits)
- COM 380 - Special Topics in Communications (1 to 6 credits)
- COM 399 - Independent Study (1 to 6 credits)
- COM 410 - Senior Seminar in Health Communication (3 credits)
- COM 438 - Communication Ethics (3 credits)
- COM 477 - History of Communications Technologies (3 credits)
- COM 490 - Internship (1 to 6 credits)
- COM 495 - Issues in Communication (Capstone) (3 credits)
- COM 498 - Senior Thesis/Project (1 to 6 credits)
- COM 600 - Systems Theory and Communication (3 credits)
- COM 610 - Secondary Information and Analysis (3 credits)
- COM 620 - Empirical Methods in Communication (3 credits)
- COM 624 - Public Health Communication (3 credits)
- COM 634 - Ethics in Professional Communication (3 credits)
- COM 641 - Emerging Communication Technologies (3 credits)
- COM 642 - Communication Law (3 credits)
- COM 643 - Small Group Communication and Leadership (3 credits)
- COM 660 - Communication Management and Cases (3 credits)
- COM 680 - Special Topics in Communications (3 credits)
- COM 693 - Master's Project (3 credits)
- COM 695 - Master's Thesis (3 credits)
- COM 696 - Continuation of Master's Project or Thesis Research (1 credit)
- COM 697 - Professional Learning (1 to 3 credits)
- COM 699 - Independent Study (1 to 4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

# Communication Sciences and Disorders (CSD)

## Courses

- CSD 100 - Introduction to Communication Disorders (3 credits)
- CSD 200 - Introduction to Hearing Science (3 credits)
- CSD 220 - Communication Development (3 credits)
- CSD 302 - Anatomy and Physiology of the Speech and Hearing Mechanism (3 credits)
- CSD 304 - Phonetics (3 credits)
- CSD 306 - Speech Science (3 credits)
- CSD 309 - Basic Audiology (3 credits)
- CSD 401 - Neurological Foundations of Communication Disorders (3 credits)
- CSD 404 - Audiologic Rehabilitation (3 credits)

# Dance (DAN)

## Courses

- DAN 175 - Freshman Company (1 credit)
- DAN 200 - Introduction to Dance (3 credits)
- DAN 211 - Choreography and Improvisation (3 credits)
- DAN 231 - Ballet Partnering (1 credit)
- DAN 241 - Ballet Technique 2 (2 credits)
- DAN 245 - Dance History: Evolving Traditions (3 credits)
- DAN 251 - Modern Technique 2 (2 credits)
- DAN 262 - Pointe (1 credit)
- DAN 271 - Men's Technique (1 credit)
- DAN 275 - Dance Company (1 credit)
- DAN 281 - Jazz Technique 2 (2 credits)
- DAN 311 - Choreography and Production (3 credits)
- DAN 333 - Dance Costuming (2 credits)
- DAN 341 - Ballet Technique 3 (2 credits)
- DAN 345 - Dance History: Expanding Performance (3 credits)
- DAN 351 - Modern Technique 3 (2 credits)
- DAN 380 - Special Topics in Dance (1 to 4 credits)
- DAN 381 - Jazz Technique 3 (2 credits)
- DAN 393 - Dance Conditioning (3 credits)
- DAN 394 - Dance on Camera (3 credits)
- DAN 420 - Dance Pedagogy (3 credits)
- DAN 441 - Ballet Technique 4 (2 credits)
- DAN 451 - Modern Technique 4 (2 credits)
- DAN 481 - Jazz Technique 4 (2 credits)
- DAN 495 - Senior Project (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- DAN 499 - Dance Independent Study and Research in Dance (1 to 4 credits)

## **Digital Studies (DS)**

### **Courses**

- DS 201 - Digital Identities and Communities (3 credits)
- DS 202 - Digital Data and Design (3 credits)
- DS 310 - Digital Preservation and Archiving (3 credits)
- DS 314 - Digital Literacies (3 credits)
- DS 330 - Game Culture (3 credits)
- DS 335 - Digital Crime, Media and Culture (3 credits)
- DS 340 - Identity and Representation in Digital Culture (3 credits)
- DS 350 - Social Media in Culture (3 credits)
- DS 360 - Ethics of Digital Culture (3 credits)
- DS 380 - Special Topics in Digital Studies (1 to 3 credits)
- DS 399 - Independent Study in Digital Studies (1 to 3 credits)
- DS 490 - Internship in Digital Studies (3 credits)
- DS 495 - Digital Studies Capstone (3 credits)

## **East Asian Studies (EAS)**

### **Courses**

- EAS 180 - Special Topics in East Asian Studies (1 to 4 credits)
- EAS 201 - East Asia in the Contemporary World (3 credits)
- EAS 280 - Special Topics in East Asian Studies (1 to 4 credits)
- EAS 301 - Masterpieces of East Asian Literature (3 credits)
- EAS 333 - Study Abroad - East Asian Studies (1 to 6 credits)
- EAS 351 - Asian American Experiences (3 credits)
- EAS 380 - Special Topics in East Asian Studies (1 to 4 credits)
- EAS 399 - Independent Studies (1 to 3 credits)
- EAS 480 - Special Topics in East Asian Studies (1 to 4 credits)

## **Economics (ECO)**

### **Courses**

- ECO 100 - Current Economic Issues (3 credits)
- ECO 200 - Business Economics (3 credits)
- ECO 210 - Introductory Macroeconomics (3 credits)
- ECO 211 - Introductory Microeconomics (3 credits)
- ECO 300 - Data Analytics for Economics and Business (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- ECO 312 - Applied Microeconomics (3 credits)
- ECO 313 - Business Cycles and Growth (3 credits)
- ECO 330 - Sports Economics (3 credits)
- ECO 336 - Urban and Real Estate Economics (3 credits)
- ECO 343 - Health Economics (3 credits)
- ECO 345 - Environmental and Resource Economics (3 credits)
- ECO 349 - Emerging Markets Issues (3 credits)
- ECO 350 - Economics of Gender (3 credits)
- ECO 355 - Markets, Strategy, and Government Policy (3 credits)
- ECO 360 - The Economics of Work and Family (3 credits)
- ECO 365 - Comparative Economic Systems (3 credits)
- ECO 369 - International Economic Issues (3 credits)
- ECO 380 - Special Topics in Economics (1 to 3 credits)
- ECO 385 - GIS in Urban and Regional Analysis (3 credits)
- ECO 400 - Econometrics and Forecasting (3 credits)
- ECO 414 - Money and Banking (3 credits)
- ECO 440 - Public Economics and Ethics (3 credits)
- ECO 450 - Advanced Economic Policy and Analysis (3 credits)
- ECO 480 - Special Topics in Economics (1 to 3 credits)
- ECO 490 - Economics Internship (1 to 6 credits)
- ECO 495 - Senior Economic Project (Capstone) (3 credits)
- ECO 499 - Independent Study and Research (1 to 4 credits)
- ECO 542 - Economic Reasoning (3 credits)
- ECO 641 - Business Economics and Strategy (3 credits)
- ECO 643 - Health Economics (3 credits)
- ECO 680 - Special Topics in Economics (1 to 3 credits)
- ECO 697 - Professional Learning (1 to 3 credits)

## Education Counseling (EDC)

### Courses

- EDC 601 - Content/Curriculum Workshop (1 to 3 credits)
- EDC 621 - The Profession of School Counseling (3 credits)
- EDC 623 - Social/Emotional Development (3 credits)
- EDC 625 - Academic Development (3 credits)
- EDC 649 - Career Development (3 credits)
- EDC 651 - School Counseling Curriculum and Techniques (3 credits)
- EDC 680 - Special Topics in School Counseling (1 to 3 credits)
- EDC 685 - Internship in School Counseling (3 to 6 credits)
- EDC 693 - Master's Project (1 to 3 credits)
- EDC 695 - Master's Thesis (1 to 6 credits)
- EDC 696 - Continuation of Master's Project or Thesis Research (1 credit)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- EDC 697 - Professional Learning (1 to 3 credits)
- EDC 699 - Independent Study in School Counseling (1 to 3 credits)

## **Education Foundation (EDF)**

### **Courses**

- EDF 100 - Teaching and Learning in a Diverse Environment (2 credits)
- EDF 115 - Introduction to Education: An Exploration of Schooling in America (3 credits)
- EDF 215 - Introduction to Philosophies of Early Childhood (3 credits)
- EDF 260 - Educational Research and Assessment: Foundations of Practice (3 credits)
- EDF 315 - Diverse Perspectives on Education (3 credits)
- EDF 316 - Global Perspectives on Education (3 credits)
- EDF 320 - International Teaching Certificate Preparation (1 credit)
- EDF 325 - Learning from Detroit: Education and Community Revitalization (3 credits)
- EDF 380 - Special Topics in Foundations (1 to 3 credits)
- EDF 399 - Independent Study in Foundations (1 to 3 credits)
- EDF 485 - The Context of Educational Issues (3 credits)
- EDF 495 - Capstone: Reflective Inquiry and Practice (3 credits)
- EDF 499 - Independent Study in Foundations (1 to 3 credits)
- EDF 601 - Content/Curriculum Workshop (1 to 3 credits)
- EDF 633 - Race, Class, and Language (3 credits)
- EDF 634 - Teaching the At-Risk Student (3 credits)
- EDF 635 - Survey of Urban Education (3 credits)
- EDF 650 - Classroom Management (K-12) (3 credits)
- EDF 653 - School Learning (3 credits)
- EDF 660 - Educational Inquiry and Evaluation (3 credits)
- EDF 661 - Educational Testing and Measurement (3 credits)
- EDF 671 - Educational Policy and Practice (3 credits)
- EDF 672 - Social/Cultural Foundations of Education (3 credits)
- EDF 675 - Cultural and Educational Foundations of Ecological Issues (3 credits)
- EDF 676 - Introduction to Place-Based Education (3 credits)
- EDF 677 - Citizenship, Activism, and Community Problem-Solving (3 credits)
- EDF 680 - Special Topics in Foundations (1 to 3 credits)
- EDF 693 - Master's Project (1 to 3 credits)
- EDF 695 - Master's Thesis (1 to 6 credits)
- EDF 696 - Continuation of Master's Project or Thesis Research (1 credit)
- EDF 697 - Professional Learning (1 to 3 credits)
- EDF 699 - Independent Study in Foundations (1 to 3 credits)

## **Education Higher Education (EDH)**

### **Courses**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- EDH 181 - Navigating College Success (1 credit)
- EDH 182 - Strategies for Academic Success (2 credits)
- EDH 601 - Content/Curriculum Workshop (1 to 3 credits)
- EDH 647 - Theories of College Student Development (3 credits)
- EDH 648 - The Adult Learner (3 credits)
- EDH 650 - Materials and Methods for Adult and Continuing Education (3 credits)
- EDH 651 - Higher Education and Student Affairs Functions (3 credits)
- EDH 652 - The American College Student (3 credits)
- EDH 653 - Administration of Student Affairs Programs (3 credits)
- EDH 654 - Student Affairs Administrators and the Law (3 credits)
- EDH 655 - Intervention Strategies for Student Development (3 credits)
- EDH 656 - Organization and Administration in Higher Education (3 credits)
- EDH 657 - The Community College (3 credits)
- EDH 658 - Critical Issues in Higher Education (3 credits)
- EDH 659 - Gender and Sexuality in Higher Education (3 credits)
- EDH 680 - Special Topics in Higher Education (1 to 3 credits)
- EDH 685 - Practicum/Graduate Field Experience in Higher Education I (3 credits)
- EDH 686 - CSAL Practicum/Graduate Field Experience II (3 credits)
- EDH 693 - Master's Project (3 credits)
- EDH 695 - Master's Thesis (1 to 6 credits)
- EDH 696 - Continuation of Master's Project or Thesis Research (1 credit)
- EDH 697 - Professional Learning (1 to 3 credits)
- EDH 699 - Independent Study in Higher Education (1 to 3 credits)

## **Education Instruction (EDI)**

### **Courses**

- EDI 310 - Building and Sustaining Positive Learning Environments (3 credits)
- EDI 311 - Assessing the Young Child (3 credits)
- EDI 312 - Child Guidance (3 credits)
- EDI 313 - Programs for Children Birth to Age Three (3 credits)
- EDI 314 - Teaching Young Children with High Needs (3 credits)
- EDI 315 - Curriculum and Learning in Pre-K/Primary Programs (3 credits)
- EDI 317 - Collaborating with Families and Professionals (3 credits)
- EDI 330 - Elementary Apprenticeship PK-6 (6 credits)
- EDI 331 - Methods and Strategies of Secondary Teaching (5 credits)
- EDI 338 - Teachers as Decision Makers: Instruction and Assessment in Elementary Schools (3 credits)
- EDI 339 - Teachers as Decision Makers: Instruction and Assessment in Secondary Schools (3 credits)
- EDI 380 - Special Topics in Instruction and Curriculum (1 to 3 credits)
- EDI 399 - Independent Study in Instruction and Curriculum (1 to 3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- EDI 416 - Teaching Early Language and Literacy (3 credits)
- EDI 418 - Administration and Supervision in Early Childhood Education (3 credits)
- EDI 430 - Student Teaching, Elementary (10 credits)
- EDI 431 - Student Teaching, Secondary (8 credits)
- EDI 432 - Student Teaching, Secondary Content Practicum (2 credits)
- EDI 470 - Directed Teaching in Early Childhood Education (3 credits)
- EDI 499 - Independent Study in Instruction and Curriculum (1 to 3 credits)
- EDI 601 - Content/Curriculum Workshop (1 to 3 credits)
- EDI 610 - Advanced Studies in Child Development Ages 0-8 (3 credits)
- EDI 611 - Assessment of the Young School Child (3 credits)
- EDI 612 - Curriculum Development for Early Childhood Education (3 credits)
- EDI 613 - Administration and Supervision of Early Childhood Education (3 credits)
- EDI 614 - Infant and Toddler Development and Curriculum (3 credits)
- EDI 630 - Teaching Mathematics: K-8 (3 credits)
- EDI 631 - Teaching Science: K-8 (3 credits)
- EDI 632 - Teaching Creative and Performing Arts (3 credits)
- EDI 633 - Teaching Social Studies and Diversity (3 credits)
- EDI 634 - Middle-Level Education (3 credits)
- EDI 635 - Development and Needs of Students (3 credits)
- EDI 636 - Instruction in Middle and High Schools (3 credits)
- EDI 637 - Assessment: K-12 Models and Practices (3 credits)
- EDI 638 - Facilitating School Environments (3 credits)
- EDI 639 - Curriculum Development (3 credits)
- EDI 640 - Fundamentals of Talent Development (3 credits)
- EDI 641 - Teaching for Talent Development (3 credits)
- EDI 680 - Special Topics in Instruction and Curriculum (1 to 3 credits)
- EDI 685 - Practicum/Graduate Field Experience (3 or 6 credits)
- EDI 693 - Master's Project (1 to 3 credits)
- EDI 695 - Master's Thesis (1 to 6 credits)
- EDI 696 - Continuation of Master's Project or Thesis Research (1 credit)
- EDI 697 - Professional Learning (1 to 3 credits)
- EDI 699 - Independent Study in Instruction and Curriculum (1 to 3 credits)
- EDI 710 - Instructional Management and Supervision (3 credits)
- EDI 797 - Professional Learning (1 to 3 credits)
- EDI 799 - Independent Study Curriculum and Instruction (1 to 3 credits)

## **Education Leadership (EDL)**

### **Courses**

- EDL 601 - Content/Curriculum Workshop (1 to 3 credits)
- EDL 650 - Foundations of Special Education Administration (3 credits)
- EDL 651 - Administration of Special Education Programs and Services (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- EDL 652 - Curriculum and Instruction Leadership in Special Education Administration (3 credits)
- EDL 653 - Special Education Law (3 credits)
- EDL 654 - Special Education Finance (3 credits)
- EDL 665 - Educational Leadership (3 credits)
- EDL 666 - Curriculum Leadership (3 credits)
- EDL 667 - Elementary Supervision and Evaluation (3 credits)
- EDL 668 - Personnel Administration (3 credits)
- EDL 669 - School Finance (3 credits)
- EDL 670 - School Law (3 credits)
- EDL 671 - Secondary Supervision and Evaluation (3 credits)
- EDL 677 - School and Community Relationships (3 credits)
- EDL 680 - Special Topics in Leadership (1 to 3 credits)
- EDL 685 - Practicum/Graduate Field Experience (3 to 6 credits)
- EDL 687 - Administrative Internship (3 credits)
- EDL 693 - Master's Project (1 to 3 credits)
- EDL 695 - Master's Thesis (1 to 6 credits)
- EDL 696 - Continuation of Master's Project or Thesis Research (1 credit)
- EDL 697 - Professional Learning (1 to 3 credits)
- EDL 699 - Independent Study in Leadership (1 to 3 credits)
- EDL 700 - Educational Leadership and Change (3 credits)
- EDL 705 - Organizational Behavior, Ethics and Decision-Making (3 credits)
- EDL 715 - Data-Based Decision-Making and Technology (3 credits)
- EDL 720 - Organizational and Community Relations (3 credits)
- EDL 725 - Educational Law, Policy, and Practice (3 credits)
- EDL 740 - The Superintendency (3 credits)
- EDL 742 - School Board Relations (3 credits)
- EDL 744 - Educational Finance and Economic Issues (3 credits)
- EDL 770 - Leadership Theory into Practice (3 credits)
- EDL 797 - Professional Learning (1 to 3 credits)
- EDL 799 - Independent Study in Educational Leadership (1 to 3 credits)

## **Education Reading (EDR)**

### **Courses**

- EDR 317 - Class-conscious: Popular Culture, Schooling, and Identity (3 credits)
- EDR 320 - Emergent Literacy and the Development of Reading, Writing, and Language (3 credits)
- EDR 321 - Content Area Literacy (3 credits)
- EDR 323 - Teaching Students with Language and Literacy Learning Difficulties (3 credits)
- EDR 380 - Special Topics in Literacy Studies (1 to 3 credits)
- EDR 470 - Directed Teaching in ESL: Elementary (5 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- EDR 471 - Directed Teaching in ESL: Secondary (5 credits)
- EDR 499 - Independent Study in Literacy Studies (1 to 3 credits)
- EDR 601 - Content/Curriculum Workshops (1 to 3 credits)
- EDR 602 - Teaching English Language Learners Across Content (3 credits)
- EDR 603 - Bi-literacy Development (3 credits)
- EDR 612 - Reading Assessment: Elementary Teacher (3 credits)
- EDR 613 - Reading Assessment: Secondary Teacher (3 credits)
- EDR 620 - English as a Second Language Methodologies (3 credits)
- EDR 621 - Foundations of Literacy (3 credits)
- EDR 622 - Developmental Literacy for Children (3 credits)
- EDR 623 - Developmental Literacy for Adolescents (3 credits)
- EDR 624 - Elementary Literacy: Learners, Text, and the Environment (3 credits)
- EDR 625 - Secondary Literacy: Learners, Text, and the Environment (3 credits)
- EDR 626 - Field-based Literacy Assessment for Learning (3 credits)
- EDR 627 - Literacy Strategies for Content Areas (3 credits)
- EDR 628 - Literacy Instruction Across Disciplines (PK-6) (3 credits)
- EDR 629 - Teaching Reading to Adults (3 credits)
- EDR 630 - Literacy Instruction Across Disciplines (7-12) (3 credits)
- EDR 631 - Writing, Teaching, and Learning (3 credits)
- EDR 632 - Field-based Literacy and Language Interventions (3 credits)
- EDR 634 - Linguistics for Teachers (3 credits)
- EDR 635 - Sociolinguistics: Language, Society, and Schooling (3 credits)
- EDR 680 - Special Topics in Literacy Studies (1 to 3 credits)
- EDR 685 - Literacy Instruction Practicum (3 credits)
- EDR 687 - Reading/Literacy Specialist and Literacy Coach Practicum (3 credits)
- EDR 689 - Professional Development and Leadership Practicum (3 credits)
- EDR 693 - Master's Project (1 to 3 credits)
- EDR 695 - Master's Thesis (1 to 6 credits)
- EDR 696 - Continuation of Master's Project or Thesis Research (1 credit)
- EDR 697 - Professional Learning (1 to 3 credits)
- EDR 699 - Independent Study in Literacy Studies (1 to 3 credits)

## **Education Special Education (EDS)**

### **Courses**

- EDS 317 - The Myth of Normal: Disability Studies in the 21st Century (3 credits)
- EDS 318 - Teaching Students with Learning and Behavior Difficulties (3 credits)
- EDS 323 - Teaching Students with Language and Literacy Learning Difficulties (3 credits)
- EDS 332 - Methods and Strategies of Special Education Teaching (5 credits)
- EDS 360 - Language and Reading Development (3 credits)
- EDS 361 - Principles, Processes, and Methods in Special Education (3 credits)
- EDS 378 - Universal Design for Learning: Elementary (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- EDS 379 - Universal Design for Learning: Secondary (3 credits)
- EDS 380 - Special Topics in Special Education (1 to 3 credits)
- EDS 399 - Independent Study in Special Education (1 to 3 credits)
- EDS 441 - Curriculum for CI (3 credits)
- EDS 442 - Curriculum for EI (3 credits)
- EDS 463 - Educational Practices and Procedures: Cognitive Impairment (3 credits)
- EDS 464 - Educational Practices and Procedures: Emotional Impairment (3 credits)
- EDS 470 - Directed Teaching in Early Childhood Developmental Delay (3 credits)
- EDS 471 - Directed Teaching in Cognitive Impairment (9 credits)
- EDS 472 - Directed Teaching in Emotional Impairment (9 credits)
- EDS 495 - Diagnostic and Interpretive Procedures (3 credits)
- EDS 497 - Educational Interventions: Cognitive Impairment (3 credits)
- EDS 498 - Educational Interventions: Emotional Impairment (3 credits)
- EDS 499 - Independent Study (1 to 3 credits)
- EDS 550 - Preteaching and Methods of Teaching Special Education (6 credits)
- EDS 601 - Content/Curriculum Workshops (1 to 3 credits)
- EDS 609 - Understanding Students with Emotional Impairment (3 credits)
- EDS 610 - Positive Behavioral Interventions and Supports (3 credits)
- EDS 611 - Curriculum and Instruction for Students with Emotional Impairment (3 credits)
- EDS 615 - Educational Assessment and Interventions for Autism (3 credits)
- EDS 616 - Language and Communication Assessment and Instruction for Autism (3 credits)
- EDS 618 - Understanding Students with Cognitive Impairment (3 credits)
- EDS 619 - Educational Interventions for Mild Cognitive Impairment (3 credits)
- EDS 620 - Educational Interventions for Severe Cognitive Impairment (3 credits)
- EDS 621 - Assistive Technology in Education (3 credits)
- EDS 622 - Assessment for Placement and Program: CI (3 credits)
- EDS 623 - Collaboration in Special Education (3 credits)
- EDS 625 - Inclusive Practices (3 credits)
- EDS 627 - Technology and Professional Practice (3 credits)
- EDS 629 - Transition Practices (3 credits)
- EDS 636 - Diagnostic and Interpretative Procedures (3 credits)
- EDS 637 - Explicit Language Instruction (3 credits)
- EDS 638 - Instructional Practices: Learning Disabilities II (3 credits)
- EDS 640 - Diagnostic-Teaching Clinic (3 credits)
- EDS 646 - Family and Community Collaboration in Early Childhood Education (3 credits)
- EDS 647 - Serving Young Children with Diverse Needs (3 credits)
- EDS 652 - Foundations of Special Education (3 credits)
- EDS 680 - Special Topics in Special Education (1 to 3 credits)
- EDS 685 - Practicum/Graduate Field Experience (3 or 6 credits)
- EDS 693 - Master's Project (1 to 3 credits)
- EDS 695 - Master's Thesis (1 to 6 credits)
- EDS 696 - Continuation of Master's Project or Thesis Research (1 credit)
- EDS 697 - Professional Learning (1 to 3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- EDS 699 - Independent Study in Special Education (1 to 3 credits)

## **Educational Technology (EDT)**

### **Courses**

- EDT 312 - Children and Technology (3 credits)
- EDT 370 - Technology in Education (3 credits)
- EDT 380 - Special Topics in Technology (1 to 3 credits)
- EDT 399 - Independent Study in Technology (1 to 3 credits)
- EDT 476 - Teaching with Technology (3 credits)
- EDT 601 - Content/Curriculum Workshop (1 to 3 credits)
- EDT 619 - Curricular Integration of Ed Technology (3 credits)
- EDT 620 - Evaluating and Applying Instructional Media (3 credits)
- EDT 621 - Topics in Educational Technologies (3 credits)
- EDT 626 - Assessment/Evaluation with Educational Technology (3 credits)
- EDT 627 - Technology Integration for Secondary Teachers (3 credits)
- EDT 629 - Online Instructional Design/Development (3 credits)
- EDT 634 - Planning/Managing Educational Technology (3 credits)
- EDT 635 - Instructional Systems Design (3 credits)
- EDT 680 - Special Topics in Technology (1 to 3 credits)
- EDT 684 - Field Experience - Educational Technology (3 credits)
- EDT 685 - Practicum/Graduate Field Experience (3 credits)
- EDT 693 - Master's Project (1 to 3 credits)
- EDT 695 - Master's Thesis (1 to 6 credits)
- EDT 696 - Continuation of Master's Project or Thesis Research (1 credit)
- EDT 697 - Professional Learning (1 to 3 credits)
- EDT 699 - Independent Study in Educational Technology (1 to 3 credits)

## **Engineering (EGR)**

### **Courses**

- EGR 100 - Introduction to Engineering (1 credit)
- EGR 106 - Introduction to Engineering Design I (3 credits)
- EGR 107 - Introduction to Engineering Design II (3 credits)
- EGR 111 - Introduction to Engineering Graphics (1 credit)
- EGR 112 - Applied Programming for Engineers (2 credits)
- EGR 113 - Introduction to CAD/CAM (1 credit)
- EGR 124 - Introduction to Engineering Problem Solving (3 credits)
- EGR 180 - Special Topics in Engineering (1 to 4 credits)
- EGR 185 - First-year Engineering Design (2 credits)
- EGR 209 - Mechanics and Machines (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- EGR 210 - Solid Mechanics (1 credit)
- EGR 214 - Circuit Analysis I (3 credits)
- EGR 215 - Circuit Analysis I Lab (1 credit)
- EGR 220 - Engineering Measurement and Data Analysis (1 credit)
- EGR 223 - Probability and Signal Analysis (3 credits)
- EGR 224 - Introduction to Digital System Design (3 credits)
- EGR 226 - Microcontroller Programming and Applications (3 credits)
- EGR 227 - Microcontroller Programming and Applications Lab (1 credit)
- EGR 250 - Materials Science and Engineering (3 credits)
- EGR 251 - Materials Laboratory (1 credit)
- EGR 257 - Electronic Materials and Devices (4 credits)
- EGR 280 - Special Topics in Engineering (1 to 4 credits)
- EGR 289 - Engineering Professionalism (1 credit)
- EGR 290 - Engineering Co-op 1 (3 credits)
- EGR 301 - Analytical Tools for Product Design (4 credits)
- EGR 302 - Engineering Decision-Making in Society (3 credits)
- EGR 306 - Urban Sustainability (3 credits)
- EGR 309 - Machine Design I (3 credits)
- EGR 310 - Machine Design I Laboratory (1 credit)
- EGR 311 - Intermediate Computer Aided Design and Manufacturing (3 credits)
- EGR 312 - Dynamics (3 credits)
- EGR 314 - Circuit Analysis II (4 credits)
- EGR 315 - Electronic Circuits I (4 credits)
- EGR 323 - Signals and Systems Analysis (3 credits)
- EGR 326 - Embedded System Design (4 credits)
- EGR 329 - Introduction to Finite Element Analysis (3 credits)
- EGR 330 - Power Systems Analysis (4 credits)
- EGR 343 - Applied Electromagnetics (4 credits)
- EGR 345 - Dynamic System Modeling and Control (4 credits)
- EGR 346 - Mechatronic Systems Dynamics and Control (4 credits)
- EGR 350 - Vibration (4 credits)
- EGR 352 - Kinematics and Dynamics of Machinery (4 credits)
- EGR 360 - Thermodynamics (4 credits)
- EGR 362 - Thermal and Fluid Systems (4 credits)
- EGR 365 - Fluid Mechanics (4 credits)
- EGR 367 - Manufacturing Processes (3 credits)
- EGR 368 - Manufacturing Processes Laboratory (1 credit)
- EGR 380 - Special Topics in Engineering (1 to 4 credits)
- EGR 390 - Engineering Co-op 2 (3 credits)
- EGR 399 - Readings in Engineering (1 to 4 credits)
- EGR 401 - Advanced Product Design (4 credits)
- EGR 403 - Medical Device Design (3 credits)
- EGR 404 - Polymer Science and Processing (4 credits)
- EGR 405 - Materials Failure Analysis and Selection (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- EGR 406 - Renewable Energy Systems: Structure, Policy, and Analysis (3 credits)
- EGR 409 - Machine Design II (4 credits)
- EGR 413 - Materials for Energy Storage (3 credits)
- EGR 415 - Communication Systems (4 credits)
- EGR 418 - Radio Frequency Systems (4 credits)
- EGR 423 - Digital Signal Processing Systems (4 credits)
- EGR 424 - Design of Microcontroller Applications (4 credits)
- EGR 425 - RISC Architecture (4 credits)
- EGR 426 - Integrated Circuit Systems Design (4 credits)
- EGR 430 - Electromechanics (4 credits)
- EGR 432 - Biomedical Imaging and Image Processing (3 credits)
- EGR 433 - Electronic Instrumentation for Biomedical Applications (3 credits)
- EGR 434 - Bioelectric Potentials (3 credits)
- EGR 435 - Mathematical Modeling of Physiologic Systems (3 credits)
- EGR 436 - Embedded Systems Interface (4 credits)
- EGR 440 - Introduction to Production (3 credits)
- EGR 441 - Engineering Economics, Quality Control, and Manufacturing Operations (4 credits)
- EGR 443 - Electromagnetic Compatibility (4 credits)
- EGR 445 - Robotic Systems Engineering (4 credits)
- EGR 447 - Engineering Mechanics of Human Motion (3 credits)
- EGR 450 - Manufacturing Control Systems (4 credits)
- EGR 453 - Biomedical Materials (3 credits)
- EGR 455 - Automatic Control (4 credits)
- EGR 457 - Fundamentals of Nanotechnology (4 credits)
- EGR 458 - Introduction to Fiber Optics (4 credits)
- EGR 463 - Alternative Energy Systems and Applications (4 credits)
- EGR 465 - Computational Fluid Dynamics (CFD) (4 credits)
- EGR 466 - Turbomachinery (4 credits)
- EGR 468 - Heat Transfer (4 credits)
- EGR 475 - Design of HVAC Systems (4 credits)
- EGR 477 - Hybrid Electric Battery Systems (3 credits)
- EGR 480 - Special Topics in Engineering (1 to 4 credits)
- EGR 485 - Senior Engineering Project I (Capstone) (1 credit)
- EGR 486 - Senior Engineering Project II (Capstone) (2 credits)
- EGR 490 - Engineering Co-op 3 (3 credits)
- EGR 499 - Research in Engineering (1 to 4 credits)
- EGR 503 - Medical Device Design (3 credits)
- EGR 513 - Materials for Energy Storage (3 credits)
- EGR 515 - Communication Systems (4 credits)
- EGR 518 - Radio Frequency Systems (4 credits)
- EGR 523 - Digital Signal Processing Systems (4 credits)
- EGR 524 - Design of Microcontroller Applications (4 credits)
- EGR 525 - RISC Architecture (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- EGR 526 - Integrated Circuit System Design (4 credits)
- EGR 530 - Electromechanics (4 credits)
- EGR 532 - Biomedical Imaging and Image Processing (3 credits)
- EGR 533 - Electronic Instrumentation for Biomedical Applications (3 credits)
- EGR 534 - Bioelectric Potentials (3 credits)
- EGR 536 - Embedded Systems Interface (4 credits)
- EGR 541 - Engineering Economics, Quality Control, and Manufacturing Operations (4 credits)
- EGR 543 - Electromagnetic Compatibility (4 credits)
- EGR 545 - Robotic Systems Engineering (4 credits)
- EGR 547 - Engineering Mechanics of Human Motion (3 credits)
- EGR 550 - Manufacturing Control Systems (4 credits)
- EGR 553 - Biomedical Materials (3 credits)
- EGR 555 - Automatic Control (4 credits)
- EGR 557 - Fundamentals of Nanotechnology (4 credits)
- EGR 558 - Introduction to Fiber Optics (4 credits)
- EGR 565 - Computational Fluid Dynamics (CFD) (4 credits)
- EGR 577 - Hybrid Electric Battery Systems (3 credits)
- EGR 580 - Special Topics in Engineering (1 to 4 credits)
- EGR 600 - Advanced Engineering Analysis (3 credits)
- EGR 601 - Principles of Computer Engineering (3 credits)
- EGR 602 - Professional Aspects of Engineering (3 credits)
- EGR 604 - Implementation and Measurement (3 credits)
- EGR 609 - Advanced Structural Analysis (3 credits)
- EGR 610 - Engineering Design (3 credits)
- EGR 611 - Computer-Aided Design and Engineering (3 credits)
- EGR 612 - Analytical Dynamics (3 credits)
- EGR 614 - Opportunity Identification for Medical Devices (3 credits)
- EGR 615 - Applied Finite Element Analysis (3 credits)
- EGR 620 - Material and Process Selection (3 credits)
- EGR 627 - Advanced FPGA Implementation (3 credits)
- EGR 635 - Biomedical Signal Modeling (3 credits)
- EGR 636 - Electronic Prototyping (3 credits)
- EGR 637 - Application Development on Field Programmable Gate Arrays (3 credits)
- EGR 640 - Production Operation Models (3 credits)
- EGR 641 - Applied Optimization (3 credits)
- EGR 642 - Materials Handling and Flow Control (3 credits)
- EGR 643 - PCB Design and EMC (3 credits)
- EGR 653 - Digital and Adaptive Systems (3 credits)
- EGR 655 - Power Electronics (3 credits)
- EGR 656 - Electrical Drive Systems (3 credits)
- EGR 657 - Photovoltaic Systems (3 credits)
- EGR 665 - Advanced Power Electronics (3 credits)
- EGR 670 - Systems Physiology for Engineers (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- EGR 680 - Special Topics in Engineering (1 to 4 credits)
- EGR 685 - Graduate Practicum (3 credits)
- EGR 690 - Capstone Design Project (3 credits)
- EGR 693 - Master's Project (1 to 6 credits)
- EGR 695 - Master's Thesis (1 to 6 credits)
- EGR 696 - Continuation of Master's Project or Thesis Research (1 credit)
- EGR 699 - Independent Study in Engineering (1 to 3 credits)

## **Executive MBA (EMBA)**

### **Courses**

- EMBA 601 - Financial Accounting for Executives (1.5 credits)
- EMBA 610 - Strategic Information Systems for Executives (2 credits)
- EMBA 611 - Managerial Accounting for Executives (1.5 credits)
- EMBA 621 - Finance for Executives (3 credits)
- EMBA 626 - Financial Policy for Executives (3 credits)
- EMBA 635 - Organizational Change Management (2 credits)
- EMBA 636 - Emerging Trends--Industry Disruptions and Firm Sustainability (3 credits)
- EMBA 641 - Business Economics for Executives (3 credits)
- EMBA 651 - Marketing Management for Executives (3 credits)
- EMBA 652 - Negotiations for Executives (2 credits)
- EMBA 667 - Service and Value Chain Management (3 credits)
- EMBA 675 - Law for Executives (3 credits)
- EMBA 678 - Executive Leadership and Ethics (3 credits)
- EMBA 680 - Special Topics in Executive MBA (1 to 3 credits)
- EMBA 681 - Developing the Strategic Mindset (1 credit)
- EMBA 682 - Systems Thinking and Advanced Tactics (2 credits)
- EMBA 683 - Corporate Strategy for Executives (3 credits)
- EMBA 697 - Professional Learning (1 to 3 credits)

## **English (ENG)**

### **Courses**

- ENG 100 - Reading for College in All Majors (3 credits)
- ENG 105 - Literatures in English (3 credits)
- ENG 112 - Much Ado About Shakespeare (3 credits)
- ENG 115 - Introduction to Science Fiction (3 credits)
- ENG 180 - Special Topics in English (1 to 9 credits)
- ENG 201 - Foundations of Literacy Instruction (3 credits)
- ENG 203 - World Literature (3 credits)
- ENG 204 - World Mythology (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- ENG 215 - Foundations of Literary Study: Genre (3 credits)
- ENG 216 - Foundations of Literary Study: Critical Approaches (3 credits)
- ENG 220 - British Literature I (3 credits)
- ENG 221 - British Literature II (3 credits)
- ENG 225 - American Literature I: to 1860 (3 credits)
- ENG 226 - American Literature II: from 1860 (3 credits)
- ENG 231 - Early African American Literature (3 credits)
- ENG 232 - Modern African American Literature (3 credits)
- ENG 261 - Foundations of Language Study (3 credits)
- ENG 280 - Special Topics in English (1 to 9 credits)
- ENG 301 - Reading and Writing in the Elementary Classroom (3 credits)
- ENG 302 - Introduction to Language Arts: Teaching Writing and Children's Literature (3 credits)
- ENG 303 - Studies in World Literature (3 credits)
- ENG 304 - International Literature for Children and Young Adults (3 credits)
- ENG 307 - Teaching Writing: Elementary (3 credits)
- ENG 308 - Teaching Reading: The Necessary Skills (4 credits)
- ENG 309 - Teaching Literature to Children (3 credits)
- ENG 310 - Teaching Writing: Secondary (3 credits)
- ENG 311 - Teaching Literature to Adolescents (3 credits)
- ENG 313 - British Literature: Shakespeare (3 credits)
- ENG 314 - Digital Literacies (3 credits)
- ENG 320 - Studies in Poetry (3 credits)
- ENG 321 - British Literature: Medieval (3 credits)
- ENG 322 - British Literature: Renaissance (3 credits)
- ENG 323 - British Literature: 18th-Romantic (3 credits)
- ENG 324 - British Literature: Victorian-Present (3 credits)
- ENG 325 - American Literature to 1800 (3 credits)
- ENG 326 - Nineteenth-Century American Literature (3 credits)
- ENG 327 - Modern American Literature (3 credits)
- ENG 328 - Contemporary American Literature (3 credits)
- ENG 330 - Studies in Fiction (3 credits)
- ENG 331 - Comics and Graphic Novels in Contemporary Culture (3 credits)
- ENG 334 - American Multicultural Literature for Children and Young Adults (3 credits)
- ENG 335 - Literature of American Minorities (3 credits)
- ENG 336 - Lesbian, Gay and Queer Literature (3 credits)
- ENG 337 - Contemporary Black Literature (3 credits)
- ENG 340 - Studies in Drama (3 credits)
- ENG 355 - Teaching English Learners, PK-6 (3 credits)
- ENG 360 - Studies in Nonfiction (3 credits)
- ENG 362 - History of the English Language (3 credits)
- ENG 363 - Applied Linguistics (3 credits)
- ENG 364 - Sociolinguistics (3 credits)
- ENG 365 - Teaching English as a Second Language (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- ENG 366 - English Grammar and Usage (3 credits)
- ENG 378 - Contemporary Latin American Literature (3 credits)
- ENG 380 - Special Topics in English (1 to 3 credits)
- ENG 382 - Literature and the Environment (3 credits)
- ENG 383 - "Make It New": Literary Modernism (3 credits)
- ENG 384 - Literature of War (3 credits)
- ENG 386 - Literary Responses to Death and Dying (3 credits)
- ENG 388 - Emigration and Immigration in Contemporary World Literature (3 credits)
- ENG 390 - Topics in Language and Rhetoric (3 credits)
- ENG 392 - Language and Power (3 credits)
- ENG 399 - Independent Studies (1 to 4 credits)
- ENG 400 - Critical Issues in K-12 Literacy (3 credits)
- ENG 401 - Languages, Literacies, and Cultures (3 credits)
- ENG 436 - Women and Literature (3 credits)
- ENG 440 - Studies in Major Author(s) (3 credits)
- ENG 445 - Studies in Literary Criticism and Theory (3 credits)
- ENG 461 - Language and Gender (3 credits)
- ENG 465 - Teaching Second Language Reading and Writing (3 credits)
- ENG 467 - Language Disorders and English Literacy (3 credits)
- ENG 469 - ESL Teaching Practicum (3 credits)
- ENG 490 - Internship (1 to 3 credits)
- ENG 495 - Language and Literature (3 credits)
- ENG 499 - Advanced Scholarly Writing Project (1 to 3 credits)
- ENG 600 - Graduate Literary Studies Seminar (3 credits)
- ENG 603 - Seminar in British Literature (3 credits)
- ENG 605 - Seminar in American Literature (3 credits)
- ENG 612 - Women Writers (3 credits)
- ENG 614 - Literature of American Ethnic Minorities (3 credits)
- ENG 616 - World Literature in English (3 credits)
- ENG 624 - Genre Studies (3 credits)
- ENG 632 - Summer Invitational Writing Institute (3 credits)
- ENG 633 - Advanced Writing (3 credits)
- ENG 651 - Literary Period Seminar (3 credits)
- ENG 655 - History of Literary Criticism and Theory (3 credits)
- ENG 660 - Principles of Educational Linguistics (3 credits)
- ENG 661 - Author or Topic Seminar (3 credits)
- ENG 662 - Pedagogical Grammar (3 credits)
- ENG 663 - Shakespeare (3 credits)
- ENG 664 - Sociolinguistics and Language Teaching (3 credits)
- ENG 665 - Second Language Acquisition (3 credits)
- ENG 667 - Introduction to Applied Linguistics Research (3 credits)
- ENG 668 - Second Language Assessment (3 credits)
- ENG 669 - Teaching English as an Additional Language (EAL) (3 credits)
- ENG 670 - World Englishes: History and Variation (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- ENG 675 - Second Language Reading and Writing (3 credits)
- ENG 679 - Practicum (3 credits)
- ENG 680 - Special Topics in English (1 to 4 credits)
- ENG 693 - Master's Project (3 credits)
- ENG 695 - Master's Thesis (1 to 3 credits)
- ENG 696 - Continuation of Master's Project or Thesis Research (1 credit)
- ENG 697 - Professional Learning (1 to 3 credits)
- ENG 699 - Independent Study (1 to 3 credits)

## **Environmental and Sustainability Studies (ENS)**

### **Courses**

- ENS 180 - Special Topics in Environmental Studies (1 to 9 credits)
- ENS 183 - Sustainability as a Lifestyle (1 credit)
- ENS 201 - Introduction to Environmental and Sustainability Studies (3 credits)
- ENS 280 - Special Topics in Environmental Studies (1 to 9 credits)
- ENS 300 - Principles of Sustainability (3 credits)
- ENS 303 - Introduction to U.S. Environmental Policy (3 credits)
- ENS 305 - Sustainability Assessment and Reporting (3 credits)
- ENS 310 - How Biosphere Works (3 credits)
- ENS 311 - To Bee or Not to Bee; Honey Bees and Social Impact (3 credits)
- ENS 380 - Special Topics in Environmental Studies (1 to 9 credits)
- ENS 392 - Sustainable Agriculture: Ideas and Techniques (3 credits)
- ENS 399 - Independent Readings in Environmental Studies (1 to 3 credits)
- ENS 401 - Environmental Problem Solving (3 credits)
- ENS 412 - Global Climate and Environmental Change (3 credits)
- ENS 490 - Internship (1 to 6 credits)
- ENS 491 - Practicum (1 to 6 credits)

## **Entrepreneurship (ENT)**

### **Courses**

- ENT 150 - Entrepreneurial Quest (3 credits)
- ENT 151 - New Venture Feasibility (3 credits)
- ENT 350 - Entrepreneurial Business Plan (3 credits)
- ENT 351 - Entrepreneurial Project (3 credits)

## **English as a Second Language (ESL)**

### **Courses**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- ESL 98 - English as a Second Language (ESL): Composition (4 credits)

## **Exercise Science (EXS)**

### **Courses**

- EXS 209 - Research Methods in Exercise and Health Sciences (3 credits)
- EXS 320 - Exercise Testing and Prescription (3 credits)
- EXS 321 - Exercise Testing Lab (1 credit)
- EXS 390 - Fieldwork in Exercise Science (2 credits)
- EXS 420 - Laboratory Practicum in Exercise Science (3 credits)
- EXS 460 - Strength and Conditioning for Athletic Performance (3 credits)
- EXS 465 - Cardiopulmonary Rehabilitation for the Clinical Exercise Physiologist (3 credits)
- EXS 470 - Exercise for Special Populations (3 credits)
- EXS 490 - Internship in Exercise Science (6, 9, or 12 credits)
- EXS 495 - Professionalism in Exercise Science (3 credits)

## **Finance (FIN)**

### **Courses**

- FIN 221 - Personal Finance (3 credits)
- FIN 300 - Fundamentals of Finance for Non-Business Majors (3 credits)
- FIN 301 - Personal Finance: Managing Your Money During a Crisis (1 credit)
- FIN 320 - Managerial Finance (3 credits)
- FIN 321 - Investments (3 credits)
- FIN 322 - Intermediate Managerial Finance (3 credits)
- FIN 330 - Ethics in Finance (3 credits)
- FIN 331 - Risk and Insurance (3 credits)
- FIN 350 - Real Estate Principles (3 credits)
- FIN 380 - Special Topics in Finance (3 credits)
- FIN 420 - Bank Management (3 credits)
- FIN 422 - Advanced Managerial Finance (3 credits)
- FIN 427 - Derivative Assets and Markets (3 credits)
- FIN 428 - Portfolio Management I (3 credits)
- FIN 429 - International Financial Management (3 credits)
- FIN 438 - Portfolio Management II (3 credits)
- FIN 480 - Special Topics in Finance (1 to 9 credits)
- FIN 490 - Finance Internship (1 to 6 credits)
- FIN 499 - Independent Research (1 to 3 credits)
- FIN 520 - Statistics and Mathematics of Finance (3 credits)
- FIN 621 - Financial Policy for Managers (3 credits)
- FIN 624 - Investment and Portfolio Management (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- FIN 626 - Advanced Managerial Finance (3 credits)
- FIN 627 - Derivative Assets and Markets (3 credits)
- FIN 629 - International Finance (3 credits)
- FIN 680 - Special Topics in Finance (1 to 3 credits)
- FIN 697 - Professional Learning (1 to 3 credits)
- FIN 699 - Independent Study (1 to 3 credits)

## **Fitness, Skill, & Activity (FIT)**

### **Courses**

- FIT 100 - Self Defense (R.A.D.) for Women (1 credit)
- FIT 101 - Pilates (1 credit)
- FIT 102 - Personal Self-Defense (1 credit)
- FIT 103 - Tae Kwon Do (1 credit)
- FIT 104 - Recreational Gymnastics (1 credit)
- FIT 105 - Boxing (1 credit)
- FIT 106 - Cardio Kickboxing (1 credit)
- FIT 107 - Tai Chi (1 credit)
- FIT 109 - Yoga (1 credit)
- FIT 111 - Training for a 5K Road Race (1 credit)
- FIT 112 - Core Strength (1 credit)
- FIT 118 - Archery (1 credit)
- FIT 119 - Outdoor Skills (1 credit)
- FIT 120 - Bowling (1 credit)
- FIT 121 - Golf: Fundamental Shots (1 credit)
- FIT 123 - Golf: Shaping Shots (1 credit)
- FIT 124 - Basics of Weight Training (1 credit)
- FIT 125 - Performance Weight Training (1 credit)
- FIT 126 - Conditioning and Flexibility (1 credit)
- FIT 128 - Rock Climbing (1 credit)
- FIT 130 - Volleyball (1 credit)
- FIT 131 - Basketball (1 credit)
- FIT 133 - Softball (1 credit)
- FIT 134 - Soccer (1 credit)
- FIT 139 - Team Sports (1 credit)
- FIT 140 - Racquetball (1 credit)
- FIT 142 - Tennis (1 credit)
- FIT 143 - Core and Spin (1 credit)
- FIT 144 - Badminton (1 credit)
- FIT 145 - Total Body Strength (1 credit)
- FIT 147 - Olympic Weightlifting (1 credit)
- FIT 148 - Indoor Fitness Cycling (1 credit)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- FIT 150 - Swimming: Strokes and Drills (1 credit)
- FIT 151 - Fitness Swimming (1 credit)
- FIT 152 - Rowing (1 credit)
- FIT 153 - Sailing-Large Boat (1 credit)
- FIT 156 - Zumba (1 credit)
- FIT 157 - Belly Dance (1 credit)
- FIT 158 - Scuba - Open Water (1 credit)
- FIT 160 - Jazz Dance (1 credit)
- FIT 164 - Modern Dance (1 credit)
- FIT 166 - Ballet Dance (1 credit)
- FIT 168 - Dance for Fitness (1 credit)
- FIT 178 - Ballroom Dance (1 credit)
- FIT 180 - Selected Topics in Fitness, Skill, and Activity (1 to 9 credits)
- FIT 280 - Special Topics in Fitness (1 to 3 credits)

## **French (FRE)**

### **Courses**

- FRE 101 - Beginning French I: Language and Culture (4 credits)
- FRE 102 - Beginning French II: Language and Culture (4 credits)
- FRE 150 - Accelerated Beginning French I and II: Language and Culture (4 credits)
- FRE 180 - Special Topics in French (1 to 4 credits)
- FRE 201 - Intermediate French I: Language and Culture (4 credits)
- FRE 202 - Intermediate French II: Language and Culture (4 credits)
- FRE 280 - Special Topics in French (1 to 6 credits)
- FRE 315 - French Conversation (3 credits)
- FRE 316 - Advanced French Grammar (3 credits)
- FRE 317 - Writing in French (3 credits)
- FRE 318 - Introduction to French Literature (3 credits)
- FRE 321 - Survey of French Literature I (3 credits)
- FRE 322 - Survey of French Literature II (3 credits)
- FRE 323 - Survey of French Literature III (3 credits)
- FRE 331 - French Phonetics (3 credits)
- FRE 332 - Introduction to French Linguistics (3 credits)
- FRE 333 - Theory and Practice of Translation (3 credits)
- FRE 334 - Foreign Language Acquisition and Pedagogy (3 credits)
- FRE 341 - French History and Civilization (3 credits)
- FRE 342 - Contemporary French Culture and Society (3 credits)
- FRE 343 - Francophone Civilization (3 credits)
- FRE 351 - Business French (3 credits)
- FRE 380 - Special Topics in French (1 to 6 credits)
- FRE 385 - French Language (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- FRE 386 - French Culture Abroad (3 credits)
- FRE 387 - EUSA Paris-Language (3 credits)
- FRE 388 - EUSA Paris-Internship (3 to 6 credits)
- FRE 395 - Advanced Speaking Strategies and Skills (3 credits)
- FRE 399 - Independent Study (1 to 4 credits)
- FRE 421 - Medieval French Literature (3 credits)
- FRE 422 - Renaissance French Literature (3 credits)
- FRE 423 - 17th Century French Literature (3 credits)
- FRE 424 - 18th Century French Literature (3 credits)
- FRE 425 - French Literature of the 19th Century (3 credits)
- FRE 426 - Modern French Literature (3 credits)
- FRE 427 - Francophone Literatures and Cultures (3 credits)
- FRE 480 - Special Topics in French (1 to 4 credits)
- FRE 495 - Advanced Topics in French (Capstone) (3 credits)
- FRE 499 - Independent Research (1 to 4 credits)

## **Film and Video Production (FVP)**

### **Courses**

- FVP 123 - Survey of Media Production Modes (3 credits)
- FVP 125 - Media Production I (3 credits)
- FVP 225 - Film Culture (3 credits)
- FVP 226 - Media Production II (3 credits)
- FVP 227 - Post-Production Techniques (3 credits)
- FVP 261 - Scriptwriting I (3 credits)
- FVP 282 - Audio Production I (3 credits)
- FVP 321 - Fiction Filmmaking I (3 credits)
- FVP 322 - Documentary Production I (3 credits)
- FVP 323 - Media Technologies (3 credits)
- FVP 324 - 3-D Computer Animation (3 credits)
- FVP 325 - Animation I (3 credits)
- FVP 326 - New Media I (3 credits)
- FVP 327 - Film and Video Art (3 credits)
- FVP 328 - Intermediate Film Practicum (3 or 6 credits)
- FVP 330 - Digital Post Production (3 credits)
- FVP 348 - Film Theories (3 credits)
- FVP 362 - Scriptwriting II (3 credits)
- FVP 368 - Lighting for Film and Video Productions (3 credits)
- FVP 370 - American Cinema (3 credits)
- FVP 371 - History of Animation (3 credits)
- FVP 372 - History of Documentary Film (3 credits)
- FVP 373 - Issues of Representation (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- FVP 374 - Experimental Film and Video (3 credits)
- FVP 375 - World Cinema (3 credits)
- FVP 376 - Latin American Cinema (3 credits)
- FVP 380 - Special Topics in Film and Video (3 credits)
- FVP 382 - Audio Production II (3 credits)
- FVP 399 - Independent Study (1 to 6 credits)
- FVP 421 - Fiction Filmmaking II (3 credits)
- FVP 422 - Documentary Production II (3 credits)
- FVP 425 - Animation II (3 credits)
- FVP 426 - New Media II (3 credits)
- FVP 428 - Advanced Film Practicum (3 or 6 credits)
- FVP 429 - Post Production Practicum (3 credits)
- FVP 470 - Producing for Clients (3 credits)
- FVP 482 - Sound Design for Film and Video (3 credits)
- FVP 490 - Internship (1 to 6 credits)
- FVP 495 - Issues in Film and Media Arts (3 credits)
- FVP 498 - Senior Thesis/Project (1 to 6 credits)
- FVP 499 - Independent Study (1 to 5 credits)

## Geology (GEO)

### Courses

- GEO 100 - Environmental Geology (3 credits)
- GEO 103 - Oceans (3 credits)
- GEO 105 - Living with the Great Lakes (3 credits)
- GEO 111 - Exploring the Earth (4 credits)
- GEO 112 - Earth History (4 credits)
- GEO 175 - Research Tools for Geosciences (1 credit)
- GEO 180 - Special Topics in the Geological Sciences (1 to 4 credits)
- GEO 201 - The Geosphere for K-8 Pre-Service Teachers (4 credits)
- GEO 202 - Hydrosphere for Teachers (4 credits)
- GEO 203 - Weather and Climate for Pre-Service Teachers (3 credits)
- GEO 214 - Solid Earth Materials and Systems (4 credits)
- GEO 220 - Earth Surface Materials and Systems (4 credits)
- GEO 280 - Special Topics in the Geological Sciences (1 to 4 credits)
- GEO 311 - Structural Geology (4 credits)
- GEO 312 - Sedimentation-Stratigraphy (4 credits)
- GEO 314 - Petrography: Mineral and Rock Analysis (2 credits)
- GEO 315 - Geological Field Methods (3 credits)
- GEO 320 - Geomorphology (4 credits)
- GEO 360 - Earth Resources in Transition: Conventional to Sustainable (3 credits)
- GEO 380 - Special Topics in the Geological Sciences (1 to 4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- GEO 399 - Readings in Geology (1 to 4 credits)
- GEO 411 - Global Tectonics (3 credits)
- GEO 414 - Advanced Petrology (2 credits)
- GEO 415 - Invertebrate Paleontology (3 credits)
- GEO 420 - Glacial and Quaternary Geology (4 credits)
- GEO 425 - GIS Applications in Geology (3 credits)
- GEO 430 - Oceanography (3 credits)
- GEO 440 - Geohydrology (3 credits)
- GEO 445 - Introduction to Geochemistry (3 credits)
- GEO 470 - Geophysics (4 credits)
- GEO 480 - Special Topics in the Geological Sciences (1 to 4 credits)
- GEO 485 - Geology Research and Writing Seminar (1 credit)
- GEO 486 - Geology Reading Seminar (1 credit)
- GEO 490 - Geology Internship (1 to 10 credits)
- GEO 493 - Applied Field Geology (1 to 8 credits)
- GEO 499 - Independent Study or Research in Geology (1 to 4 credits)
- GEO 580 - Special Topics in the Geological Sciences (1 to 4 credits)
- GEO 697 - Professional Learning (1 to 3 credits)

## German (GER)

### Courses

- GER 101 - Beginning German I: Language and Culture (4 credits)
- GER 102 - Beginning German II: Language and Culture (4 credits)
- GER 180 - Special Topics in German (1 to 4 credits)
- GER 201 - Intermediate German I: Language and Culture (4 credits)
- GER 202 - Intermediate German II: Language and Culture (4 credits)
- GER 280 - Special Topics in German (1 to 4 credits)
- GER 301 - German Composition (3 credits)
- GER 302 - German Conversation (3 credits)
- GER 303 - Introduction to German Literature I (3 credits)
- GER 304 - Introduction to German Literature II (3 credits)
- GER 311 - The Long 19th Century (3 credits)
- GER 312 - Contemporary German Culture (3 credits)
- GER 314 - Foreign Language Acquisition and Pedagogy (3 credits)
- GER 315 - German Cinema (3 credits)
- GER 321 - Improving German Pronunciation (3 credits)
- GER 322 - Introduction to German Linguistics (3 credits)
- GER 331 - Business German (3 credits)
- GER 341 - Advanced German Grammar (3 credits)
- GER 342 - Advanced Speaking Strategies and Skills (3 credits)
- GER 380 - Special Topics in German (1 to 9 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- GER 385 - German Language (3 credits)
- GER 386 - German Culture and Society (3 credits)
- GER 399 - Independent Reading (1 to 4 credits)
- GER 401 - Modern German Literature (3 credits)
- GER 402 - German Authors (3 credits)
- GER 421 - History of the German Language (3 credits)
- GER 480 - Special Topics in German (1 to 4 credits)
- GER 495 - Advanced Topics in German (3 credits)
- GER 499 - Independent Study and Research (1 to 4 credits)

## Geography (GPY)

### Courses

- GPY 100 - Physical and Environmental Geography (3 credits)
- GPY 101 - Sustainability and Place (1 credit)
- GPY 111 - Cities, Towns, and Villages (3 credits)
- GPY 112 - Global Climate Crisis (1 credit)
- GPY 200 - Computer Cartography (3 credits)
- GPY 209 - Introduction to Urban and Regional Planning (3 credits)
- GPY 220 - Cultural Geography (3 credits)
- GPY 235 - Geography for a Changing World (3 credits)
- GPY 307 - Introduction to Geographic Information Systems (3 credits)
- GPY 310 - Land Use Planning (3 credits)
- GPY 312 - Urban and Regional Environmental Planning (3 credits)
- GPY 314 - Land Use and Planning Law (3 credits)
- GPY 316 - Introduction to Transportation Planning (3 credits)
- GPY 324 - Urbanization (3 credits)
- GPY 335 - Globalization and Development (3 credits)
- GPY 345 - The Geography and Land Use Management of Michigan and the Great Lakes Area (3 credits)
- GPY 350 - Geopolitics, Energy and Environment of Russia and Central Eurasia (3 credits)
- GPY 351 - Geography of Africa (3 credits)
- GPY 352 - Geography of Latin America (3 credits)
- GPY 353 - Geography of the United States and Canada (3 credits)
- GPY 354 - Geography and Globalization of Asia (3 credits)
- GPY 356 - The Geography, Culture and Land Use Management of Europe (3 credits)
- GPY 361 - People, Environment, and Development in the Amazon (3 credits)
- GPY 362 - Farmers, Crops, and Our Challenging Agricultural World (3 credits)
- GPY 363 - World Forests and Their Use (3 credits)
- GPY 365 - GIS for Economic and Business Decision-Making (3 credits)
- GPY 370 - Introduction to Remote Sensing (3 credits)
- GPY 380 - Special Topics in Geography (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- GPY 381 - Study Abroad I (3 to 9 credits)
- GPY 385 - GIS in Urban and Regional Analysis (3 credits)
- GPY 399 - Independent Readings (1 to 3 credits)
- GPY 407 - Advanced GIS (4 credits)
- GPY 410 - Landscape Analysis and Green Infrastructure (3 credits)
- GPY 412 - Global Climate and Environmental Change (3 credits)
- GPY 470 - Digital Image Processing (3 credits)
- GPY 490 - Internship (1 to 9 credits)
- GPY 495 - Senior Thesis (3 credits)
- GPY 496 - Field Research Project (3 credits)
- GPY 499 - Independent Research (1 to 3 credits)

## **Greek (GRK)**

### **Courses**

- GRK 101 - Elementary Ancient Greek I (4 credits)
- GRK 102 - Elementary Ancient Greek II (4 credits)
- GRK 201 - Intermediate Ancient Greek I (4 credits)
- GRK 202 - Intermediate Ancient Greek II (3 credits)
- GRK 285 - Study Abroad: Intermediate Ancient Greek (1 to 6 credits)
- GRK 350 - Greek Prose (3 credits)
- GRK 351 - Greek Poetry (3 credits)
- GRK 385 - Study Abroad: Advanced Ancient Greek (1 to 6 credits)
- GRK 399 - Independent Reading (1 to 3 credits)
- GRK 400 - Advanced Greek Prose (3 credits)
- GRK 401 - Advanced Greek Poetry (3 credits)

## **Global Studies & Social Impact (GSI)**

### **Courses**

- GSI 201 - (Dis)Order and (In)Justice: An Introduction to Global Studies (3 credits)
- GSI 202 - History of Global Change and Social Transformation (3 credits)
- GSI 215 - Global Migration (3 credits)
- GSI 290 - Changemakers! Introduction to Social Impact (3 credits)
- GSI 399 - Independent Reading (1 to 3 credits)
- GSI 490 - Global Studies Internship (1 to 3 credits)
- GSI 491 - Practicum: Immigrants and Refugees in the Community (3 credits)
- GSI 495 - Global Studies and Social Impact (3 credits)

## **Health Information Management (HIM)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## Courses

- HIM 301 - Introduction to Health Information Management (3 credits)
- HIM 302 - Health Care Law (3 credits)
- HIM 304 - Advanced Med Terms of Disease (3 credits)
- HIM 310 - Functional and Administrative Practices in Health Information Management (3 credits)
- HIM 311 - CPT/HCPCS Coding (3 credits)
- HIM 320 - Applications of Organizational Planning for Health Information Management (3 credits)
- HIM 345 - Orientation to Health Information Management Practicum (1 credit)
- HIM 361 - Disease Classification System I (3 credits)
- HIM 362 - Disease Classification System II (3 credits)
- HIM 364 - Financial Reimbursement (3 credits)
- HIM 365 - Quality Management in Health Care (3 credits)
- HIM 366 - Health Information Data Systems and Statistics (3 credits)
- HIM 402 - Health Information Management Review (1 credit)
- HIM 470 - Field Practicum in Health Information Management (11 credits)

## Honors College (HNR)

### Courses

- HNR 151 - First Year Interdisciplinary Sequence 1 (3 credits)
- HNR 152 - First Year Interdisciplinary Sequence 2 (3 credits)
- HNR 153 - First Year Interdisciplinary Sequence 3 (3 credits)
- HNR 154 - First-Year Interdisciplinary Sequence 4 (3 credits)
- HNR 200 - Campus/Community Engagement (3 credits)
- HNR 201 - Live. Learn. Lead. (3 credits)
- HNR 209 - The Middle East Beyond the Headlines 1 (3 credits)
- HNR 210 - The Middle East Beyond the Headlines 2 (3 credits)
- HNR 211 - The Worlds of Greece and Rome 1 (3 credits)
- HNR 212 - The Worlds of Greece and Rome 2 (3 credits)
- HNR 213 - American Civilization 1 (3 credits)
- HNR 214 - American Civilization 2 (3 credits)
- HNR 215 - Europe: The Center and the Margins 1 (3 credits)
- HNR 216 - Europe: The Center and the Margins 2 (3 credits)
- HNR 219 - The Middle East Beyond the Headlines 3 (3 credits)
- HNR 220 - The Middle East Beyond the Headlines 4 (3 credits)
- HNR 221 - The Worlds of Greece and Rome 3 (3 credits)
- HNR 222 - The Worlds of Greece and Rome 4 (3 credits)
- HNR 223 - American Civilization 3 (3 credits)
- HNR 224 - American Civilization 4 (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- HNR 225 - Europe: The Center and the Margins 3 (3 credits)
- HNR 226 - Europe: The Center and the Margins 4 (3 credits)
- HNR 231 - The Holocaust (3 credits)
- HNR 236 - Modern Art and Modernity (3 credits)
- HNR 241 - The Earth, A Global View (4 credits)
- HNR 242 - Plants and People (3 credits)
- HNR 243 - The Human Body in Motion I (4 credits)
- HNR 244 - The Human Body in Motion II (3 credits)
- HNR 245 - Microbes and Society (3 credits)
- HNR 246 - Chemistry in Perspective (4 credits)
- HNR 247 - Molecules of Life in Perspective (3 credits)
- HNR 250 - Project-Based Learning (3 credits)
- HNR 251 - Project-Based Learning/QL (3 credits)
- HNR 254 - Africa Seen Through African Eyes 1 (3 credits)
- HNR 255 - Africa Seen Through African Eyes 2 (3 credits)
- HNR 256 - East Asia and the World: Ideas, Inventions, and Power 1 (3 credits)
- HNR 257 - East Asia and the World: Ideas, Inventions, and Power 2 (3 credits)
- HNR 258 - History of Science I (3 credits)
- HNR 259 - History of Science I (3 credits)
- HNR 260 - Alliance and Conflict: World Construction in Religion and Society (3 credits)
- HNR 261 - Alliance and Conflict: World Construction in Religion and Society (3 credits)
- HNR 262 - Alliance and Conflict: World Construction in Religion and Society (3 credits)
- HNR 263 - Theory and Practice of Rights 1 (3 credits)
- HNR 264 - Theory and Practice of Rights 2 (3 credits)
- HNR 265 - Theory and Practice of Rights 3 (3 credits)
- HNR 274 - Africa Seen Through African Eyes 3 (3 credits)
- HNR 275 - Africa Seen Through African Eyes 4 (3 credits)
- HNR 276 - East Asia and the World: Ideas, Inventions, and Power 3 (3 credits)
- HNR 277 - East Asia and the World: Ideas, Inventions, and Power 4 (3 credits)
- HNR 278 - History of Science II (3 credits)
- HNR 279 - History of Science II (3 credits)
- HNR 280 - Honors Special Topics (1 to 3 credits)
- HNR 281 - Study Abroad - Ghana (3 credits)
- HNR 311 - Honors Junior Seminar (3 credits)
- HNR 312 - Honors Junior Seminar (3 credits)
- HNR 313 - Honors Junior Seminar (3 credits)
- HNR 350 - Integrative Seminar (3 credits)
- HNR 351 - Honors Integrative Seminar/QL (3 credits)
- HNR 380 - Honors Advanced Special Topics (1 to 4 credits)
- HNR 399 - Independent Study (1 to 4 credits)
- HNR 401 - Senior Project Proposal (1 credit)
- HNR 499 - Honors Senior Project (1 to 4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

# **Health and Physical Education (HPE)**

## **Audiology (HRG)**

### **Courses**

- HRG 501 - Anatomy and Physiology of Hearing and Balance (3 credits)
- HRG 504 - Instrumentation and Hearing Science (3 credits)
- HRG 508 - Psychoacoustics (2 credits)
- HRG 521 - Audiologic Assessment (3 credits)
- HRG 525 - Neurophysiologic Measures I (3 credits)
- HRG 526 - Neurophysiologic Measures II (3 credits)
- HRG 527 - Vestibular Assessment and Rehabilitation (3 credits)
- HRG 541 - Amplification I (3 credits)
- HRG 542 - Amplification II (3 credits)
- HRG 545 - Auditory Habilitation and Rehabilitation (3 credits)
- HRG 562 - Professional Issues in Audiology (1 credit)
- HRG 566 - Evidence-Based Practice in Audiology (1 credit)
- HRG 570 - Audiology Fieldwork (1 credit)
- HRG 606 - Auditory Pathophysiology and Heredity (2 credits)
- HRG 607 - Radiographic Imaging and Pharmacology for Audiology (2 credits)
- HRG 623 - Hearing Across the Lifespan (3 credits)
- HRG 629 - Clinical Decision Making in Audiology (2 credits)
- HRG 642 - Educational Audiology and Auditory Processing Disorders (2 credits)
- HRG 645 - Cochlear Implants and Tinnitus (3 credits)
- HRG 648 - Mentoring and Counseling in Audiology (2 credits)
- HRG 661 - Hearing Conservation (2 credits)
- HRG 664 - Audiology Practice Management (2 credits)
- HRG 670 - Audiology Practicum (2 credits)
- HRG 690 - Research Preparation in Audiology (3 credits)
- HRG 697 - Professional Learning (1 to 3 credits)
- HRG 760 - Special Topics in Audiology (1 credit)
- HRG 770 - Audiology Internship (6 credits)
- HRG 797 - Professional Learning (1 to 3 credits)
- HRG 799 - Independent Study in Audiology (1 to 6 credits)

## **Human Rights (HRT)**

### **Courses**

- HRT 105 - Introduction to Human Rights (3 credits)
- HRT 316 - Human Rights in International Politics (3 credits)
- HRT 319 - Human Traffic and Trafficking (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- HRT 320 - Voices of the Civil Rights Movement in the United States (3 credits)
- HRT 335 - Theory of Human Rights (3 credits)
- HRT 389 - Study Abroad in Human Rights (3 credits)
- HRT 399 - Independent Studies in HRT (1 to 3 credits)
- HRT 450 - Reflection on Human Rights (1 credit)
- HRT 490 - Internship in Human Rights (3 credits)
- HRT 499 - Independent Study in HRT (1 to 3 credits)

## History of Science (HSC)

### Courses

- HSC 201 - The Scientific Revolution (3 credits)
- HSC 202 - The Technological Revolution (3 credits)
- HSC 399 - Readings in the History of Science (1 to 3 credits)

## History (HST)

### Courses

- HST 101 - Introduction to World Civilizations (3 credits)
- HST 102 - Introduction to European Civilizations (3 credits)
- HST 103 - Introduction to American Civilizations (3 credits)
- HST 180 - Special Topics in History (3 credits)
- HST 200 - Introduction to the Study of History (3 credits)
- HST 202 - History of Global Change and Social Transformation (3 credits)
- HST 203 - World History to 1500 A.D. (3 credits)
- HST 204 - World History since 1500 (3 credits)
- HST 205 - American History to 1877 (3 credits)
- HST 206 - American History since 1877 (3 credits)
- HST 207 - European Civilization to the Later Middle Ages (3 credits)
- HST 208 - European Civilization since the Later Middle Ages (3 credits)
- HST 209 - History and Social Studies for Elementary Teachers (3 credits)
- HST 211 - History of Islamic Civilization (3 credits)
- HST 212 - India: History and Civilization (3 credits)
- HST 230 - Latin America in World History (3 credits)
- HST 240 - A History of East Asia to 1800 (3 credits)
- HST 241 - A History of East Asia since 1800 (3 credits)
- HST 290 - Research Methods in History (3 credits)
- HST 301 - Colonial America (3 credits)
- HST 302 - Revolutionary America (3 credits)
- HST 303 - Era of Sectional Conflict, Civil War, and Reconstruction (3 credits)
- HST 305 - America Confronts Modernity (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- HST 306 - The 'American Century': From the Great Depression to Vietnam (3 credits)
- HST 307 - United States since 1970 (3 credits)
- HST 308 - Cultural and Social Topics in U.S. History (3 credits)
- HST 309 - Cultural and Social Topics in European History (3 credits)
- HST 310 - Cultural and Social Topics in Nonwestern History (3 credits)
- HST 311 - History of Religion in the United States (3 credits)
- HST 312 - History of American Women (3 credits)
- HST 314 - African American History (3 credits)
- HST 315 - Latinos: The Forging of Ethnic Identities (3 credits)
- HST 316 - U.S. Civil Rights Movement History (3 credits)
- HST 317 - History of American Foreign Relations (3 credits)
- HST 318 - History of Democracy in America (3 credits)
- HST 319 - Human Traffic and Trafficking (3 credits)
- HST 320 - American Indians (3 credits)
- HST 322 - American Identity and Sports (3 credits)
- HST 323 - Michigan History (3 credits)
- HST 325 - Topics in the History of Sport (3 credits)
- HST 327 - History of United States Urban Society (3 credits)
- HST 328 - U.S. Constitutional and Legal History (3 credits)
- HST 329 - U.S. Intellectual History (3 credits)
- HST 330 - Colonial Latin America (3 credits)
- HST 331 - Modern Latin America (3 credits)
- HST 332 - Emergence of Modern India and South Asia (3 credits)
- HST 333 - Modern China (3 credits)
- HST 334 - The Making of the Caribbean (3 credits)
- HST 335 - Africa Before 1870 (3 credits)
- HST 336 - Africa After 1870 (3 credits)
- HST 337 - The Age of Islamic Empire (3 credits)
- HST 338 - Modern Middle East (3 credits)
- HST 339 - Modern Iran (3 credits)
- HST 342 - History of Buddhism and East Asian Religions (3 credits)
- HST 343 - History of South Africa (3 credits)
- HST 350 - Ancient Greece (3 credits)
- HST 351 - Ancient Rome (3 credits)
- HST 355 - Medieval Europe (3 credits)
- HST 357 - The Black Diaspora and the Meaning of Sports, 1800 to the Present (3 credits)
- HST 360 - Tudor and Stuart England (3 credits)
- HST 361 - Modern Britain (3 credits)
- HST 364 - Renaissance and Reformation Europe (3 credits)
- HST 370 - History of Medicine and Health (3 credits)
- HST 371 - Historical Perspectives on Gender and Sexualities (3 credits)
- HST 372 - From Slavery to Freedom (3 credits)
- HST 374 - Revolution in the Americas (3 credits)
- HST 375 - History of Mexico (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- HST 376 - History of Witch Hunts (3 credits)
- HST 377 - History of Warfare (3 credits)
- HST 378 - Contesting Human Rights (3 credits)
- HST 380 - Special Topics in History (1 to 4 credits)
- HST 386 - 20th Century Europe (3 credits)
- HST 387 - Modern Germany (3 credits)
- HST 389 - Russian History (3 credits)
- HST 390 - Soviet History (3 credits)
- HST 393 - Study Abroad: Jamaica (1 to 6 credits)
- HST 399 - Independent Study (1 to 3 credits)
- HST 400 - Junior Seminar in History (3 credits)
- HST 405 - Local and Community History (3 credits)
- HST 410 - History Journal (3 credits)
- HST 415 - Museum Studies (3 credits)
- HST 420 - Public History (3 credits)
- HST 490 - History Internship (1 to 3 credits)
- HST 495 - Varieties of History (Capstone) (3 credits)
- HST 498 - Senior Thesis (3 credits)
- HST 680 - Special Topics in History (1 to 3 credits)
- HST 697 - Professional Learning (1 to 3 credits)

## **Hospitality and Tourism Management (HTM)**

### **Courses**

- HTM 100 - Career Readiness for the Business World (1 credit)
- HTM 101 - Introduction to Hospitality and Tourism (3 credits)
- HTM 175 - International Food and Culture (3 credits)
- HTM 180 - Special Topics in Hospitality and Tourism Management (1 to 4 credits)
- HTM 190 - Field Preparation (1 credit)
- HTM 201 - Good Food Gone Bad: Food Safety for Everyone (1 credit)
- HTM 202 - International Tourism (3 credits)
- HTM 213 - Introduction to Food and Beverage Management (3 credits)
- HTM 222 - Introduction to Lodging Management (3 credits)
- HTM 235 - Tourism and Recreation Management (3 credits)
- HTM 237 - Fundamentals of Recreation and Leisure Programming (3 credits)
- HTM 240 - Introduction to Meeting and Event Management (3 credits)
- HTM 242 - Cannabis Regulations and Tourism (3 credits)
- HTM 250 - Food Production and Kitchen Management (4 credits)
- HTM 253 - Convention Sales and Service (3 credits)
- HTM 268 - Adventure Tourism (3 credits)
- HTM 273 - Hospitality and Tourism Financial Decision Making (3 credits)
- HTM 275 - Culinary Tourism (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- HTM 280 - Special Topics in Hospitality and Tourism Management (1 to 4 credits)
- HTM 281 - Disney College Program I (2 credits)
- HTM 282 - Disney College Program II (2 credits)
- HTM 290 - HTM Field Experience I (2 credits)
- HTM 318 - Responsible Beverage Management (3 credits)
- HTM 323 - Festival and Special Event Management (3 credits)
- HTM 330 - International Event Management (3 credits)
- HTM 333 - Hospitality Facilities Management (3 credits)
- HTM 343 - Human Resource Management (4 credits)
- HTM 350 - Banquet and Catering Management (3 credits)
- HTM 361 - Hospitality Law and Legislation (3 credits)
- HTM 368 - Geotourism (3 credits)
- HTM 373 - Hospitality Information Analysis (4 credits)
- HTM 375 - Hospitality and Tourism Research (3 credits)
- HTM 380 - Special Topics in Hospitality and Tourism Management (1 to 4 credits)
- HTM 390 - HTM Field Experience II (2 credits)
- HTM 399 - Independent Study (1 to 4 credits)
- HTM 402 - Tourism Policy Issues (3 credits)
- HTM 413 - Advanced Food and Beverage Management (3 credits)
- HTM 422 - Advanced Lodging Management (3 credits)
- HTM 437 - Leadership in Recreation and Leisure (3 credits)
- HTM 440 - Advanced Meeting and Event Management (3 credits)
- HTM 452 - Hospitality and Tourism Marketing (3 credits)
- HTM 480 - Special Topics in Hospitality and Tourism Management (3 credits)
- HTM 490 - HTM Senior Internship (2 credits)
- HTM 495 - Hospitality Management (Capstone) (3 credits)
- HTM 499 - Independent Research (1 to 4 credits)

## **Interdisciplinary Studies (IDS)**

### **Courses**

- IDS 180 - Interdisciplinary Studies Special Topics (1 to 3 credits)
- IDS 181 - Intercultural Competence Through Study Abroad (1 credit)
- IDS 182 - Community Reading Project (1 credit)
- IDS 325 - Learning from Detroit: Education and Community Revitalization (3 credits)
- IDS 350 - Civil Discourse (3 credits)
- IDS 380 - Special Topics in Interdisciplinary Studies (1 to 12 credits)
- IDS 399 - Independent Readings (1 to 3 credits)
- IDS 400 - Liberal Education and Problem Solving in the Workplace (2 credits)

## **Integrated Studies (INT)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Courses**

- INT 100 - Reflect, Connect, Engage (3 credits)
- INT 180 - Special Topics in Liberal Studies (1 to 6 credits)
- INT 201 - Diversity in the United States (3 credits)
- INT 301 - Interdisciplinary Research Methods (3 credits)
- INT 310 - Creativity and Innovative Problem-Solving (3 credits)
- INT 311 - Meaning: The Humanities Resource (3 credits)
- INT 312 - Collaborative Communication (3 credits)
- INT 314 - Life Journeys (3 credits)
- INT 319 - Human Traffic and Trafficking (3 credits)
- INT 320 - Voices of the Civil Rights Movement in the United States (3 credits)
- INT 322 - Wicked Problems of Sustainability (3 credits)
- INT 323 - Design Thinking to Meet Real-World Needs (3 credits)
- INT 325 - LGBTQ Identities (3 credits)
- INT 326 - Sexuality, Justice, and Advocacy (3 credits)
- INT 330 - The Idea of Nature (3 credits)
- INT 331 - Person and Profession in a Global Environment (3 credits)
- INT 341 - Leadership for Social Change (3 credits)
- INT 342 - Food Matters (3 credits)
- INT 350 - The Immigrant Experience in the U.S. (3 credits)
- INT 366 - American Society and Media (3 credits)
- INT 380 - Special Topics in Liberal Studies (3 credits)
- INT 382 - LEADS Portfolio Development (1 credit)
- INT 399 - Independent Reading (1 to 6 credits)
- INT 400 - Global Visionary Leadership (3 credits)
- INT 401 - American Visionary Leadership (3 credits)
- INT 402 - Feminist Visionary Thinkers (3 credits)
- INT 480 - Special Topics in Liberal Studies (1 credit)
- INT 490 - Internship (1 to 6 credits)
- INT 491 - Practicum (1 to 6 credits)
- INT 495 - Senior Seminar (Capstone) (3 credits)
- INT 499 - Independent Research (1 to 6 credits)

## **Inter-Professional Education (IPE)**

### **Courses**

- IPE 407 - Integrated Team Health Care (2 credits)
- IPE 507 - Integrated Team Health Care (2 credits)
- IPE 697 - Professional Learning (1 to 3 credits)

## **International Relations (IR)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Courses**

- IR 380 - Special Topics in International Relations (1 to 3 credits)
- IR 399 - Independent Readings (1 to 3 credits)
- IR 490 - International Relations Internship (2 to 6 credits)
- IR 495 - Seminar in International Relations (Capstone) (3 credits)
- IR 499 - Independent Research (1 to 3 credits)

## **Italian (ITA)**

### **Courses**

- ITA 101 - Beginning Italian I: Language and Culture (4 credits)
- ITA 102 - Beginning Italian II: Language and Culture (4 credits)
- ITA 201 - Intermediate Italian I: Language and Culture (4 credits)
- ITA 202 - Intermediate Italian II: Language and Culture (4 credits)
- ITA 280 - Special Topics in Italian (1 to 4 credits)
- ITA 299 - Independent Study (1 to 4 credits)
- ITA 380 - Special Topics in Italian (1 to 9 credits)

## **Intercultural Training (ITC)**

### **Courses**

- ITC 100 - Introduction to Intercultural Competence (3 credits)
- ITC 480 - Special Topics in ITC (1 to 3 credits)
- ITC 490 - Practicum: Intercultural Learning Experience (1 to 6 credits)
- ITC 495 - Culminating Seminar in Intercultural Competence (3 credits)

## **Japanese (JPN)**

### **Courses**

- JPN 101 - Beginning Japanese I: Language and Culture (4 credits)
- JPN 102 - Beginning Japanese II: Language and Culture (4 credits)
- JPN 150 - Accelerated Beginning Japanese I and II: Language and Culture (4 credits)
- JPN 180 - Special Topics in Japanese (1 to 4 credits)
- JPN 201 - Intermediate Japanese I: Language and Culture (4 credits)
- JPN 202 - Intermediate Japanese II: Language and Culture (4 credits)
- JPN 221 - Pre-modern Japanese Literature and Culture (to 1600) (3 credits)
- JPN 222 - Early Modern Japanese Literature and Theatre (1600-1868) (3 credits)
- JPN 224 - Post-World War II Japan through Literature and Film (3 credits)
- JPN 280 - Special Topics in Japanese (1 to 4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- JPN 301 - Advanced Intermediate Japanese (3 credits)
- JPN 302 - Advanced Intermediate Japanese II (3 credits)
- JPN 323 - Modern Japanese Literature and Film (to WWII) (3 credits)
- JPN 380 - Special Topics in Japanese (3 credits)
- JPN 386 - Traditional Japanese Theater (3 credits)
- JPN 399 - Independent Reading (1 to 4 credits)
- JPN 480 - Special Topics in Japanese (1 to 4 credits)

## **Korean (KOR)**

### **Courses**

- KOR 180 - Special Topics in Korean (1 to 9 credits)
- KOR 280 - Special Topics in Korean (1 to 9 credits)

## **Latin American Studies (LAS)**

### **Courses**

- LAS 210 - Exploring Latin America (3 credits)
- LAS 220 - Introduction to Latino/a Studies (3 credits)
- LAS 320 - Model Organization of American States (3 credits)
- LAS 325 - Human Rights in Latin America (3 credits)
- LAS 330 - Colonial Latin America (3 credits)
- LAS 331 - Modern Latin America (3 credits)
- LAS 333 - Study Abroad - Latin America (1 to 6 credits)
- LAS 352 - Geography of Latin America (3 credits)
- LAS 361 - People, Environment, and Development in the Amazon (3 credits)
- LAS 372 - From Slavery to Freedom (3 credits)
- LAS 373 - Latinos/as in West Michigan (3 credits)
- LAS 374 - Revolution in the Americas (3 credits)
- LAS 375 - History of Mexico (3 credits)
- LAS 376 - Latin American Cinema (3 credits)
- LAS 378 - Contemporary Latin American Literature (3 credits)
- LAS 380 - Special Topics in Latin American Studies (1 to 3 credits)
- LAS 399 - Independent Studies (1 to 3 credits)
- LAS 490 - Latin American Studies Internship (1 to 3 credits)

## **Latin (LAT)**

### **Courses**

- LAT 101 - Elementary Latin I (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- LAT 102 - Elementary Latin II (4 credits)
- LAT 199 - Independent Study (1 to 4 credits)
- LAT 201 - Intermediate Latin I (4 credits)
- LAT 202 - Intermediate Latin II (3 credits)
- LAT 285 - Study Abroad: Intermediate Latin (1 to 6 credits)
- LAT 350 - Latin Prose (3 credits)
- LAT 351 - Roman Epic (3 credits)
- LAT 352 - Roman Poetry (3 credits)
- LAT 353 - Latin Prose Composition (3 credits)
- LAT 380 - Special Topics in Latin (1 to 4 credits)
- LAT 385 - Study Abroad: Advanced Latin (1 to 6 credits)
- LAT 399 - Independent Reading (1 to 3 credits)
- LAT 400 - Advanced Latin Prose (3 credits)
- LAT 401 - Advanced Roman Poetry (3 credits)

## **Legal Studies (LS)**

### **Courses**

- LS 101 - Law in our Lives (3 credits)
- LS 224 - Legal Research (3 credits)
- LS 226 - Civil Litigation I (3 credits)
- LS 320 - Property and Probate Law (3 credits)
- LS 322 - Commercial Law (3 credits)
- LS 324 - Legal Research and Writing (3 credits)
- LS 350 - Family Law (3 credits)
- LS 370 - Women and the Law (3 credits)
- LS 380 - Special Topics in Legal Studies (1 to 4 credits)
- LS 399 - Independent Reading in Legal Studies (1 to 3 credits)
- LS 428 - Civil Litigation II (3 credits)
- LS 490 - Legal Studies Internship (1 to 6 credits)
- LS 495 - Legal Thought (Capstone) (3 credits)
- LS 499 - Independent Study and Research (1 to 3 credits)

## **Laker Strategies for Success (LSS)**

### **Courses**

- LSS 180 - Laker Strategies for Success (0 credits)

## **Music, Art, Theatre (MAT)**

### **Courses**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- MAT 300 - Music, Art, and Theatre for Elementary Education (3 credits)
- MAT 380 - Special Topics in Music, Art, and Theatre (1 to 9 credits)

## **Full-Time Integrated MBA (MBA)**

### **Courses**

- MBA 601 - Applied Data Analysis and Decision Making (1 credit)
- MBA 610 - Management Information Systems and Business Intelligence (2 credits)
- MBA 611 - Accounting for Managers (3 credits)
- MBA 621 - Financial Management (3 credits)
- MBA 631 - Leading People and Organizations (3 credits)
- MBA 641 - Applied Business Economics (3 credits)
- MBA 651 - Marketing for Professionals (3 credits)
- MBA 660 - Operations and Supply Chain Management (3 credits)
- MBA 674 - Self-Awareness and Leadership Style for MBAs (1 credit)
- MBA 675 - Legal Environment for Business (1 credit)
- MBA 676 - Leading People and Teams (1 credit)
- MBA 677 - Advanced Leadership and Ethics (1.5 credits)
- MBA 678 - Advanced Leadership and Ethics (1.5 credits)
- MBA 679 - Effective Leadership (1 credit)
- MBA 680 - Special Topics in MBA (1 to 9 credits)
- MBA 681 - Strategic Mindset and Customer Centricity (1 credit)
- MBA 683 - Strategic and Global Competitiveness (6 credits)
- MBA 684 - Professional Consulting and Communications (1 credit)
- MBA 697 - Professional Learning (1 to 3 credits)

## **Middle East Studies (MES)**

### **Courses**

- MES 201 - Introduction to the Middle East (3 credits)
- MES 202 - Arab Americans (3 credits)
- MES 301 - International Business and Culture (3 credits)
- MES 330 - Arab Identity in Literature and Culture (3 credits)
- MES 333 - Study Abroad - Middle East Studies (1 to 6 credits)
- MES 350 - Islam: Scripture and Ritual (3 credits)
- MES 370 - Contemporary Issues in the Middle East: The Model Arab League (3 credits)
- MES 380 - Special Topics in Middle East Studies (3 credits)
- MES 386 - Arabic through Culture and Customs (3 credits)
- MES 399 - Independent Studies (1 to 3 credits)

## **Management (MGT)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## Courses

- MGT 268 - Business Processes and Management Information Systems (3 credits)
- MGT 300 - Fundamentals of Management for Non-Business Majors (3 credits)
- MGT 303 - International Business and Culture (3 credits)
- MGT 305 - Managerial Skills (3 credits)
- MGT 330 - Entrepreneurship and Small Business Management (3 credits)
- MGT 331 - Managing People and Organizations (3 credits)
- MGT 333 - Human Resource Management (3 credits)
- MGT 334 - Employment and Labor Law (3 credits)
- MGT 336 - Compensation and Benefits Management (3 credits)
- MGT 337 - Supply Chain Management (3 credits)
- MGT 340 - Ethics and Business, Social Justice and Sustainability (3 credits)
- MGT 345 - Team Building (3 credits)
- MGT 350 - Principles of Electronic Commerce (3 credits)
- MGT 351 - Enterprise Information Systems (3 credits)
- MGT 355 - The Diversified Workforce (3 credits)
- MGT 361 - Management Science (3 credits)
- MGT 362 - Computers in Operations Management (3 credits)
- MGT 363 - Managing Quality (3 credits)
- MGT 364 - Service Operations Management (3 credits)
- MGT 365 - Strategic Management of Operations (3 credits)
- MGT 366 - Operations Management (3 credits)
- MGT 367 - Manufacturing Planning and Control (3 credits)
- MGT 371 - Systems Analyses and Design (3 credits)
- MGT 380 - Special Topics in Management (3 credits)
- MGT 429 - Staffing and Development (3 credits)
- MGT 430 - Organizational Development (3 credits)
- MGT 431 - Strategic Human Resources Management (3 credits)
- MGT 432 - Grievance Administration, Arbitration, and Collective Bargaining (3 credits)
- MGT 433 - International Human Resource Management (3 credits)
- MGT 437 - Family Business (3 credits)
- MGT 438 - Business Ethics (3 credits)
- MGT 466 - International Management and Multinational Corporations (3 credits)
- MGT 467 - Advanced Topics in Operations and Supply Chain Management (3 credits)
- MGT 471 - Enterprise Systems Configuration (3 credits)
- MGT 475 - Customized ERP Solutions (3 credits)
- MGT 477 - Applied Business Intelligence (3 credits)
- MGT 478 - Business Intelligence Development (3 credits)
- MGT 480 - Special Topics in Management (3 credits)
- MGT 490 - Management Internship (1 to 6 credits)
- MGT 495 - Administrative Policy (3 credits)
- MGT 499 - Independent Research (1 to 3 credits)
- MGT 580 - Special Topics in Management (1 to 3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- MGT 660 - Operations and Supply Chain Management (3 credits)
- MGT 665 - Enterprise Information Systems (3 credits)
- MGT 672 - Creativity and Social Entrepreneurship (3 credits)
- MGT 680 - Special Topics in Management (1 to 3 credits)
- MGT 697 - Professional Learning (1 to 3 credits)
- MGT 699 - Independent Study (1 to 3 credits)

## **Microbiology (MIC)**

### **Courses**

- MIC 495 - Microbiology and Infectious Disease (3 credits)

## **Marketing (MKT)**

### **Courses**

- MKT 300 - Fundamentals of Marketing for Non-Business Majors (3 credits)
- MKT 350 - Marketing Management (3 credits)
- MKT 351 - Consumer Behavior (3 credits)
- MKT 352 - Marketing Research (3 credits)
- MKT 353 - Marketing Negotiations (3 credits)
- MKT 354 - Distribution Institutions and Logistics (3 credits)
- MKT 355 - International Logistics (3 credits)
- MKT 356 - Professional Selling (3 credits)
- MKT 357 - Retailing (3 credits)
- MKT 358 - Advertising and Marketing Communications (3 credits)
- MKT 359 - Multinational Marketing (3 credits)
- MKT 360 - Digital Marketing (3 credits)
- MKT 361 - Sports Marketing (3 credits)
- MKT 365 - GIS for Economic and Business Decision-Making (3 credits)
- MKT 369 - Creativity in Marketing Innovation (3 credits)
- MKT 370 - New Product Development (3 credits)
- MKT 375 - Marketing Ethics (3 credits)
- MKT 380 - Special Topics in Marketing (3 credits)
- MKT 425 - Brand Management (3 credits)
- MKT 451 - Marketing Strategy (3 credits)
- MKT 452 - Marketing Analytics (3 credits)
- MKT 456 - Sales Management (3 credits)
- MKT 457 - Logistics and Transportation (3 credits)
- MKT 490 - Marketing Internship (1 to 6 credits)
- MKT 499 - Independent Research (1 to 3 credits)
- MKT 651 - Marketing Management (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- MKT 680 - Special Topics in Marketing (1 to 3 credits)
- MKT 697 - Professional Learning (1 to 3 credits)
- MKT 699 - Independent Study (1 to 3 credits)

## **Modern Languages and Literature (MLL)**

### **Courses**

- MLL 100 - How to Learn a Foreign Language (1 credit)
- MLL 300 - What's Language Got To Do With It?: Exploring Identity Through Language, Culture, and Literature (3 credits)
- MLL 380 - Special Topics in Modern Languages and Literature (1 to 9 credits)

## **Medical Laboratory Science (MLS)**

### **Courses**

- MLS 102 - Introduction to Medical Laboratory Sciences (1 credit)
- MLS 320 - General Laboratory Practice (2 credits)
- MLS 350 - Management for Laboratory Science (2 credits)
- MLS 370 - Parasitology and Mycology (4 credits)
- MLS 371 - Parasitology and Mycology Lab (1 credit)
- MLS 372 - Diagnostic Microbiology (3 credits)
- MLS 373 - Diagnostic Microbiology Laboratory (1 credit)
- MLS 380 - Special Topics in Medical Laboratory Science (1 to 4 credits)
- MLS 399 - Readings in Medical Laboratory Science (1 to 4 credits)
- MLS 400 - Molecular Diagnostics/Virology (3 credits)
- MLS 410 - Clinical Immunoserology (3 credits)
- MLS 416 - Hematology (3 credits)
- MLS 417 - Clinical Hematology Laboratory (1 credit)
- MLS 422 - Clinical Chemistry (4 credits)
- MLS 423 - Clinical Chemistry Laboratory (2 credits)
- MLS 450 - Clinical Practicum I (1 credit)
- MLS 461 - Medical Laboratory Science Simulation Laboratory (2 credits)
- MLS 462 - Transfusion Medicine (3 credits)
- MLS 463 - Hemostasis (2 credits)
- MLS 464 - Bacteriology and Antibiotics (1 credit)
- MLS 490 - Clinical Practicum II (5 credits)
- MLS 495 - Issues in Medical Laboratory Science (3 credits)

## **Movement Science (MOV)**

### **Courses**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- MOV 101 - Foundations of Human Movement Science (3 credits)
- MOV 102 - First Aid, CPR and AED (2 credits)
- MOV 180 - Special Topics in Movement Science (1 to 4 credits)
- MOV 201 - Psychosocial Aspects of Physical Education and Sport (3 credits)
- MOV 280 - Special Topics in Movement Science (1 to 4 credits)
- MOV 300 - Kinesiology (3 credits)
- MOV 304 - Introduction to Exercise Physiology (3 credits)
- MOV 310 - Motor Skill Development (3 credits)
- MOV 350 - The Obesogenic Environment (3 credits)
- MOV 365 - Clinical Exercise Physiology (3 credits)
- MOV 380 - Special Topics in Movement Science (1 to 4 credits)
- MOV 399 - Independent Readings (1 to 3 credits)
- MOV 435 - Measurement in Biomechanics (3 credits)
- MOV 480 - Special Topics in Movement Science (1 to 3 credits)
- MOV 499 - Independent Study and Research (1 to 3 credits)
- MOV 535 - Measurement in Biomechanics (3 credits)
- MOV 580 - Special Topics in Movement Science (1 to 3 credits)
- MOV 680 - Special Topics in Movement Science (1 to 3 credits)
- MOV 697 - Professional Learning (1 to 3 credits)

## **Military Science and Leadership (MSL)**

## **Mathematics (MTH)**

### **Courses**

- MTH 097 - Elementary Algebra (4 credits)
- MTH 110 - Algebra (4 credits)
- MTH 122 - College Algebra (3 credits)
- MTH 123 - Trigonometry (3 credits)
- MTH 124 - Precalculus: Functions and Models (5 credits)
- MTH 125 - Survey of Calculus (3 credits)
- MTH 126 - Mathematics for Elementary Teachers (2 credits)
- MTH 131 - Introduction to Mathematics (3 credits)
- MTH 180 - Special Topics in Mathematics (1 to 3 credits)
- MTH 201 - Calculus I (4 credits)
- MTH 202 - Calculus II (4 credits)
- MTH 203 - Calculus III (4 credits)
- MTH 204 - Linear Algebra I (3 credits)
- MTH 205 - Linear Algebra II (3 credits)
- MTH 210 - Communicating in Mathematics (4 credits)
- MTH 223 - Mathematics for Elementary Teachers III (5 credits)
- MTH 225 - Discrete Structures: Computer Science (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- MTH 226 - Mathematics for PK-6: Whole Numbers and Operations (3 credits)
- MTH 229 - Mathematical Activities for Secondary Teachers (3 credits)
- MTH 300 - Vector Analysis (3 credits)
- MTH 302 - Linear Algebra and Differential Equations (4 credits)
- MTH 304 - Analysis of Differential Equations (3 credits)
- MTH 305 - Mathematical Modeling (3 credits)
- MTH 312 - Cryptography and Privacy (3 credits)
- MTH 315 - Discrete Mathematics (3 credits)
- MTH 322 - Geometry for Elementary Teachers (3 credits)
- MTH 323 - Probability and Statistics for Elementary Teachers (3 credits)
- MTH 324 - Algebra for Elementary Teachers (3 credits)
- MTH 325 - Discrete Structures: Computer Science 2 (3 credits)
- MTH 326 - Math for PK-6: Fractions, Decimals, and Proportional Reasoning (3 credits)
- MTH 328 - Early Childhood Mathematics (PK-3) (3 credits)
- MTH 329 - Teaching Middle Grades Mathematics (3 credits)
- MTH 331 - Euclidean Geometry (3 credits)
- MTH 350 - Modern Algebra I (3 credits)
- MTH 360 - Operations Research (3 credits)
- MTH 380 - Special Topics in Mathematics (1 to 4 credits)
- MTH 386 - Study Abroad in Mathematics Education (1 to 6 credits)
- MTH 399 - Independent Readings (1 to 4 credits)
- MTH 401 - Mathematics for the Physical Sciences (4 credits)
- MTH 402 - Complex Variables (3 credits)
- MTH 405 - Numerical Analysis (3 credits)
- MTH 406 - Linear Algebra III (3 credits)
- MTH 408 - Real Analysis 1 (3 credits)
- MTH 409 - Real Analysis 2 (3 credits)
- MTH 428 - Teaching Math in the Elementary Grades (1 credit)
- MTH 431 - Non-Euclidean Geometry (3 credits)
- MTH 441 - Topology (3 credits)
- MTH 450 - Modern Algebra II (3 credits)
- MTH 465 - Automata and Theory of Computation (3 credits)
- MTH 480 - Special Topics in Mathematics (1 to 4 credits)
- MTH 490 - Mathematics Internship Seminar (2 credits)
- MTH 495 - The Nature of Modern Mathematics (Capstone) (3 credits)
- MTH 496 - Senior Thesis (Capstone) (3 credits)
- MTH 498 - Project-Based Applied Mathematics (Capstone) (3 credits)
- MTH 499 - Independent Study and Research (1 to 4 credits)
- MTH 625 - Number Theory (3 credits)
- MTH 641 - Modern Geometry (3 credits)
- MTH 645 - Discrete Mathematics (3 credits)
- MTH 680 - Special Topics in Mathematics (1 to 4 credits)
- MTH 697 - Professional Learning (1 to 3 credits)
- MTH 699 - Directed Readings in Mathematics (1 to 3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

# Music (MUS)

## Courses

- MUS 100 - Introduction to Music Literature (3 credits)
- MUS 101 - University Singers (1 credit)
- MUS 102 - Concert Band (1 credit)
- MUS 103 - Grand Valley Symphony Orchestra (1 credit)
- MUS 104 - Chamber Music Ensembles (0.5 credits)
- MUS 105 - Grand Valley Jazz Ensemble (1 credit)
- MUS 107 - Grand Valley Marching Band (1 credit)
- MUS 108 - New Music Ensemble (1 credit)
- MUS 109 - Anima Vocal Ensemble (1 credit)
- MUS 110 - Early Music Ensemble (1 credit)
- MUS 111 - Grand Valley Basketball Pep Band (1 credit)
- MUS 112 - Wind Symphony (1 credit)
- MUS 113 - Grand Valley Percussion Ensemble (1 credit)
- MUS 115 - Grand Valley Chamber Orchestra (1 credit)
- MUS 116 - Cantate Chamber Ensemble (1 credit)
- MUS 117 - Grand Valley University Arts Chorale (1 credit)
- MUS 118 - Varsity Glee Club (1 credit)
- MUS 119 - Survey of Music Literature I (3 credits)
- MUS 120 - Survey of Music Literature II (3 credits)
- MUS 121 - University Band (1 credit)
- MUS 126 - Collaborative Piano (1 credit)
- MUS 128 - Strum and Drum for Everyone (3 credits)
- MUS 129 - Fundamentals of Music (3 credits)
- MUS 130 - Music Theory I (3 credits)
- MUS 131 - Music Theory II (3 credits)
- MUS 133 - Aural Perception and Sight-Singing I (1 credit)
- MUS 134 - Aural Perception and Sight-Singing II (1 credit)
- MUS 140 - Developmental Applied Music (1 credit)
- MUS 141 - Private Instruction in Voice and Instruments - Freshman (1 credit)
- MUS 142 - Private Instruction in Voice and Instruments - Freshman (1 credit)
- MUS 144 - Private Instruction in Voice and Instruments - Freshman (3 credits)
- MUS 145 - Private Instruction in Voice and Instruments - Freshman (3 credits)
- MUS 170 - Stage Movement (1 credit)
- MUS 180 - Special Topics in Music (1 credit)
- MUS 182 - Arts at Noon (1 credit)
- MUS 200 - Introduction to Music Education (1 credit)
- MUS 218 - World Music (3 credits)
- MUS 219 - Jazz History (3 credits)
- MUS 230 - Music Theory III (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- MUS 231 - Music Theory IV (3 credits)
- MUS 233 - Aural Perception and Sight-Singing III (1 credit)
- MUS 234 - Aural Perception and Sight-Singing IV (1 credit)
- MUS 241 - Private Instruction in Voice and Instruments - Sophomore (1 credit)
- MUS 242 - Private Instruction in Voice and Instruments - Sophomore (1 credit)
- MUS 244 - Private Instruction in Voice and Instruments - Sophomore (3 credits)
- MUS 245 - Private Instruction in Voice and Instruments - Sophomore (3 credits)
- MUS 248 - Singing for Non-Majors (1 credit)
- MUS 253 - Woodwind Techniques (2 credits)
- MUS 255 - Brass Techniques (2 credits)
- MUS 257 - Class Percussion (1 credit)
- MUS 258 - String Techniques (2 credits)
- MUS 263 - Keyboard Musicianship I (1 credit)
- MUS 264 - Keyboard Musicianship II (1 credit)
- MUS 267 - Opera Workshop (1 credit)
- MUS 283 - Keyboard Musicianship III (1 credit)
- MUS 284 - Keyboard Musicianship IV (1 credit)
- MUS 285 - Advanced Keyboard Musicianship (1 credit)
- MUS 300 - From Rag to Rock - Exploring American Music (3 credits)
- MUS 301 - History of Rock and Roll (3 credits)
- MUS 302 - Music: Medieval and Renaissance Eras (3 credits)
- MUS 303 - Music: Baroque Era (3 credits)
- MUS 304 - Music: Classical Era (3 credits)
- MUS 305 - Music: 19th Century (3 credits)
- MUS 306 - Music from 1900-1960 (3 credits)
- MUS 307 - Music Since 1960 (3 credits)
- MUS 308 - Music History Seminar (3 credits)
- MUS 310 - Piano Literature (2 credits)
- MUS 320 - Introduction to Conducting (2 credits)
- MUS 330 - Instrumentation/Orchestration (3 credits)
- MUS 333 - Form and Analysis in Western Music (3 credits)
- MUS 338 - Techniques of Jazz Instruction (1 credit)
- MUS 341 - Private Instruction in Voice and Instruments - Junior (1 credit)
- MUS 342 - Private Instruction in Voice and Instruments - Junior (1 credit)
- MUS 344 - Private Instruction in Voice and Instruments - Junior (3 credits)
- MUS 345 - Private Instruction in Voice and Instruments - Junior (3 credits)
- MUS 354 - Teaching the Developing Voice (2 credits)
- MUS 357 - Opera Theatre (1 credit)
- MUS 359 - Diction for Singers (2 credits)
- MUS 360 - Performance Literature (2 credits)
- MUS 361 - Piano Pedagogy I (3 credits)
- MUS 362 - Marching Band Techniques (2 credits)
- MUS 370 - Performance Pedagogy (2 credits)
- MUS 371 - Piano Pedagogy II (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- MUS 379 - Piano Pedagogy Masterclass (1 credit)
- MUS 380 - Special Topics in Music (1 to 4 credits)
- MUS 399 - Special Readings in Music (1 to 4 credits)
- MUS 441 - Private Instruction in Voice and Instruments - Senior (1 credit)
- MUS 442 - Private Instruction in Voice and Instruments - Senior (1 credit)
- MUS 444 - Private Instruction in Voice and Instruments - Senior (3 credits)
- MUS 445 - Private Instruction in Voice and Instruments - Senior (3 credits)
- MUS 446 - Private Instruction in Voice and Instruments - Elective (3 credits)
- MUS 456 - Teaching Music in the Elementary School (2 credits)
- MUS 461 - Instrumental Music Methods and Materials (2 credits)
- MUS 465 - Choral/General Music in the Secondary School (2 credits)
- MUS 479 - B.A. Senior Project (1 to 2 credits)
- MUS 495 - Analytical Techniques (Capstone) (3 credits)
- MUS 499 - Independent Study and Research in Music (1 to 4 credits)
- MUS 643 - Applied Music (3 credits)
- MUS 680 - Special Topics in Music (1 to 3 credits)
- MUS 697 - Professional Learning (1 to 3 credits)
- MUS 699 - Independent Study and Research (1 to 4 credits)

## **Natural Resources Management (NRM)**

### **Courses**

- NRM 140 - The Climatic Factor (4 credits)
- NRM 150 - Introduction to Natural Resources (3 credits)
- NRM 180 - Special Topics in Natural Resources Management (1 to 4 credits)
- NRM 230 - Introduction to Wildland Fire Management (2 credits)
- NRM 240 - Principles of Climatology (4 credits)
- NRM 250 - Resource Measurement and Maps (3 credits)
- NRM 263 - Forest Vegetation of the Great Lakes Region (2 credits)
- NRM 280 - Special Topics in Natural Resources Management (1 to 4 credits)
- NRM 281 - Principles of Soil Science (4 credits)
- NRM 300 - Ethical Recreation: Leave No Trace (1 credit)
- NRM 308 - Wildlife Ecology (4 credits)
- NRM 320 - Introduction to Resource Systems (3 credits)
- NRM 330 - Environmental Pollution (3 credits)
- NRM 380 - Special Topics in Natural Resources Management (1 to 4 credits)
- NRM 386 - Ecological Restoration and Management (4 credits)
- NRM 395 - GIS Applications in Resource Management (3 credits)
- NRM 399 - Readings in Resource Management (1 to 3 credits)
- NRM 406 - Renewable Energy Systems: Structure, Policy, and Analysis (3 credits)
- NRM 407 - Natural Resources and Society: Study Abroad (1 to 4 credits)
- NRM 408 - Wildlife Management (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- NRM 415 - Fire Ecology and Management (3 credits)
- NRM 417 - International Field Studies in Resource Ecology and Management (1 to 4 credits)
- NRM 420 - Wildland Recreation Management (3 credits)
- NRM 430 - Advanced Wildland Fire Management (2 credits)
- NRM 450 - Applied Spatial Analysis of Natural Resources (3 credits)
- NRM 451 - Natural Resource Policy (3 credits)
- NRM 452 - Watershed and Wetland Management (4 credits)
- NRM 462 - Forest Ecosystem Management (4 credits)
- NRM 480 - Special Topics in Natural Resources Management (1 to 4 credits)
- NRM 486 - Restoration Ecology (3 credits)
- NRM 490 - Internship in Resource Management (1 to 5 credits)
- NRM 495 - Trends in Natural Resource Management (Capstone) (4 credits)
- NRM 496 - Trends in Western U.S. Natural Resource Management (2 credits)
- NRM 497 - Field Trip - Issues in Western U.S. Natural Resources Management (2 credits)
- NRM 499 - Research in Resource Management (1 to 3 credits)
- NRM 508 - Wildlife Management (4 credits)
- NRM 515 - Fire Ecology and Management (3 credits)
- NRM 551 - Natural Resource Policy (3 credits)
- NRM 552 - Fisheries Management (3 credits)
- NRM 562 - Forest Ecosystem Management (4 credits)
- NRM 576 - Aquatic Ecosystem Management (3 credits)
- NRM 580 - Special Topics in Natural Resources Management (1 to 4 credits)
- NRM 586 - Restoration Ecology (3 credits)
- NRM 597 - Field Trip - Issues in Western U.S. Natural Resources Management (2 credits)
- NRM 680 - Special Topics in Natural Resources Management (1 to 4 credits)
- NRM 691 - Graduate Internship (3 to 9 credits)
- NRM 693 - Graduate Project (3 to 9 credits)
- NRM 695 - Graduate Thesis Research (3 to 9 credits)
- NRM 696 - Continuation of Master's Project or Thesis Research (1 credit)
- NRM 697 - Professional Learning (1 to 3 credits)
- NRM 699 - Independent Study (1 to 3 credits)

## **Nursing (NUR)**

### **Courses**

- NUR 180 - Special Topics in Nursing (1 to 3 credits)
- NUR 265 - Introduction to Nursing Research and Evidence-based Practice (3 credits)
- NUR 266 - Professional Nursing I (4 credits)
- NUR 267 - Clinical Nursing I (4 credits)
- NUR 280 - Special Topics in Nursing (1 to 3 credits)
- NUR 311 - Dimensions of Nursing Practice (2 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- NUR 312 - Professional Nursing Issues (2 credits)
- NUR 316 - Professional Nursing II (4 credits)
- NUR 317 - Clinical Nursing II (6 credits)
- NUR 322 - Theoretical Foundations for Health Assessment and Promotion (3 credits)
- NUR 323 - Clinical Application of Health Assessment and Promotion (4 credits)
- NUR 324 - Introduction to Professional Nursing Theory (3 credits)
- NUR 325 - Clinical Judgment in Health Assessment and Promotion (1 credit)
- NUR 328 - Clinical Pharmacology for Nursing (3 credits)
- NUR 332 - Adult Health Theory (6 credits)
- NUR 333 - Adult Health Clinical (5 credits)
- NUR 335 - Clinical Judgment in Adult Health (1 credit)
- NUR 336 - Research and Evidence Based Nursing Practice (3 credits)
- NUR 338 - Critical Appraisal of Evidence Based Practice in Nursing (1 credit)
- NUR 344 - Healthy Aging: A Lifelong Journey (3 credits)
- NUR 354 - Living with Life-Limiting Illness (3 credits)
- NUR 362 - Professional Nursing III - Foundations (2 credits)
- NUR 363 - Clinical Nursing III - Foundations (3 credits)
- NUR 364 - Embracing Wicked Problems in Healthcare (3 credits)
- NUR 366 - Professional Nursing III (4 credits)
- NUR 367 - Clinical Nursing III (6 credits)
- NUR 380 - Special Topics in Nursing (1 to 4 credits)
- NUR 381 - Perioperative Nursing Care (2 credits)
- NUR 399 - Readings in Nursing (1 to 4 credits)
- NUR 411 - Community-based Nursing Care (4 credits)
- NUR 412 - Nursing Care for Populations (4 credits)
- NUR 414 - Collaboration for Nurses (2 credits)
- NUR 416 - Professional Nursing IV (4 credits)
- NUR 417 - Clinical Nursing IV (6 credits)
- NUR 442 - Childbearing and Childrearing Theory (4 credits)
- NUR 443 - Childbearing and Childrearing Clinical (3 credits)
- NUR 445 - Clinical Judgment in Childbearing, Childrearing, Community Health and Mental Health (1 credit)
- NUR 446 - Community Health and Mental Health Theory (4 credits)
- NUR 447 - Community Health and Mental Health Clinical (2 credits)
- NUR 456 - Transformative Nursing Leadership (4 credits)
- NUR 467 - Professional Nursing V (10 credits)
- NUR 472 - Transitions to Professional Nursing (3 credits)
- NUR 473 - Clinical Immersion (4 credits)
- NUR 475 - Clinical Judgment in Immersion (1 credit)
- NUR 476 - Population Health theory (3 credits)
- NUR 477 - Population Health Clinical (2 credits)
- NUR 480 - Special Topics in Nursing (1 to 4 credits)
- NUR 481 - Critical Care: Infants and Children (2 credits)
- NUR 499 - Research in Nursing (1 to 4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- NUR 500 - Comprehensive Health Assessment for Nurses (3 credits)
- NUR 580 - Special Topics in Nursing (1 to 3 credits)
- NUR 581 - Chronic and Terminal Illness: The Palliative/Hospice Model (3 credits)
- NUR 582 - Complex Pain and Symptom Management (3 credits)
- NUR 605 - Theoretical Perspectives in Nursing (3 credits)
- NUR 607 - Health Care System, Policy and Politics (3 credits)
- NUR 608 - Leadership Roles in Complex Systems (3 credits)
- NUR 610 - Advanced Assessment and Diagnostic Reasoning (4 credits)
- NUR 612 - Quality Improvement and Clinical Outcomes in Nursing (4 credits)
- NUR 613 - Nursing Research and Evidence-Based Practice (3 credits)
- NUR 614 - Nursing Research and Evidence-Based Practice II (1 credit)
- NUR 615 - Advanced Generalist Clinical Practicum I (4 credits)
- NUR 616 - Advanced Generalist Clinical Practicum II (4 credits)
- NUR 620 - Clinical Pharmacology (3 credits)
- NUR 621 - Clinical Pathophysiology (4 credits)
- NUR 625 - Health Issues in Vulnerable Populations (4 credits)
- NUR 628 - Psychopharmacology for Advanced Practice (3 credits)
- NUR 629 - Developmental Health: Child/Adolescent (3 credits)
- NUR 630 - Developmental Health: Adult/Older Adult (3 credits)
- NUR 631 - Human Development Across the Lifespan (3 credits)
- NUR 646 - Theories of Health Systems Leadership Part I (4 credits)
- NUR 650 - Business and Quality in Nursing (3 credits)
- NUR 676 - Health Perspectives: Mental Health (3 credits)
- NUR 677 - Mental Health Practicum: Diagnosis and Treatment of Individuals (3 credits)
- NUR 678 - Mental Health Practicum: Group and Family Therapy (3 credits)
- NUR 679 - Advanced Psychiatric Mental Health Nurse Practitioner Practicum (4 credits)
- NUR 680 - Special Topics in Nursing (1 to 6 credits)
- NUR 690 - Introduction to Scientific Inquiry (3 credits)
- NUR 691 - Evidence-Based Practice in Nursing (3 credits)
- NUR 696 - Continuation of Nursing Inquiry M.S.N. Project (1 credit)
- NUR 697 - Professional Learning (1 to 3 credits)
- NUR 699 - Readings in Nursing (1 to 3 credits)
- NUR 702 - Nursing Leadership and Health Services Research (3 credits)
- NUR 703 - Health Care Informatics (3 credits)
- NUR 704 - Quality Management in Healthcare (3 credits)
- NUR 705 - Healthcare Decision Support (3 credits)
- NUR 706 - Telehealth (3 credits)
- NUR 710 - D.N.P. Clinical Immersion I: Nurse Practitioner (1 credit)
- NUR 711 - DNP Clinical Immersion II: Nurse Practitioner (2 credits)
- NUR 712 - DNP Clinical Immersion III: Nurse Practitioner (1 credit)
- NUR 722 - Management of Chronic Conditions: Child/Adolescent (3 credits)
- NUR 723 - Chronic Care Practicum: Child/Adolescent (4 credits)
- NUR 724 - Chronic and Complex Care: Child/Adolescent (3 credits)
- NUR 725 - Chronic and Complex Care Practicum: Child/Adolescent (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- NUR 726 - Complex Behavioral Problems: Child/Adolescent (3 credits)
- NUR 732 - Management of Chronic Conditions in Adults and Older Adults (3 credits)
- NUR 733 - Chronic Care Practicum: Adult/Older Adult (4 credits)
- NUR 734 - Transitions and Complex Care of the Adult/Older Adult (3 credits)
- NUR 735 - Transitions and Complex Care Practicum: Adult/Older Adult (4 credits)
- NUR 736 - Complex Behavioral Problems: Adult/Older Adult (3 credits)
- NUR 740 - Health Systems Leadership: Practicum I (4 credits)
- NUR 741 - Health Systems Leadership: Practicum II (5 credits)
- NUR 742 - Health Systems Leadership: Practicum III (5 credits)
- NUR 743 - Health Systems Leadership: Practicum IV (5 credits)
- NUR 750 - Mental Health for Primary Care Practitioners (3 credits)
- NUR 751 - Primary Care Mental Health Practicum: Child/Adolescent (2 credits)
- NUR 752 - Primary Care Mental Health Practicum: Adult/Older Adult (2 credits)
- NUR 753 - Primary Care for Mental Health Practitioners (4 credits)
- NUR 760 - Health Promotion and Risk Management: Child/Adolescent (2 credits)
- NUR 761 - NP Practicum I: Health Promotion-Risk Management: Child/Adolescent (2 credits)
- NUR 762 - Common Health Problems: Child/Adolescent (2 credits)
- NUR 763 - NP Practicum II: Common Health Problems: Child/Adolescent (3 credits)
- NUR 764 - Complex Health Problems: Child/Adolescent (2 credits)
- NUR 765 - NP Practicum III: Complex Health Problems - Child/Adolescent (3 credits)
- NUR 766 - Care Transitions/Interprofessional Practice: Child/Adolescent (3 credits)
- NUR 767 - NP Practicum IV: Care Transitions/Interprofessional Practice: Child/Adolescent (3 credits)
- NUR 770 - Health Promotion and Risk Management in the Adult and Older Adult (2 credits)
- NUR 771 - NP Practicum I: Health Promotion-Risk Management: Adult/Older Adult (2 credits)
- NUR 772 - Common Health Problems in Adults and Older Adults (2 credits)
- NUR 773 - NP Practicum II: Common Health Problems: Adult/Older Adult (3 credits)
- NUR 774 - Complex Health Problems in the Adult and Older Adult (2 credits)
- NUR 775 - NP Practicum III: Complex Health Problems: Adult/Older Adult (3 credits)
- NUR 776 - Care Transitions Interprofessional Practice: AOA (3 credits)
- NUR 777 - NP Practicum IV: Care Transitions: Adult/Older Adult (3 credits)
- NUR 792 - Scholarly Inquiry in Nursing Practice I (1 to 2 credits)
- NUR 793 - Scholarly Inquiry in Nursing Practice II (2 credits)
- NUR 796 - Continuation of Doctoral Project or Dissertation Research (1 credit)
- NUR 797 - Professional Learning (1 to 3 credits)

## **Occupational Safety and Health (OSH)**

### **Courses**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- OSH 180 - Special Topics in Occupational Safety and Health (1 to 4 credits)
- OSH 300 - Introduction to Occupational Safety and Health (3 credits)
- OSH 310 - Hazard Control (3 credits)
- OSH 316 - Health and Safety Techniques (3 credits)
- OSH 326 - Principles of Industrial Hygiene (3 credits)
- OSH 330 - Principles of Loss Control (3 credits)
- OSH 350 - Behavioral Aspects of Safety (3 credits)
- OSH 360 - Motor Fleet Safety (3 credits)
- OSH 370 - Product Safety and Liability (3 credits)
- OSH 380 - Special Topics in Occupational Safety and Health (1 to 4 credits)
- OSH 390 - OSH Internship Preparation (1 credit)
- OSH 400 - Critical Incident Analysis (3 credits)
- OSH 410 - Ergonomic Safety Engineering (3 credits)
- OSH 414 - Environmental Safety and Health Regulations (3 credits)
- OSH 416 - Advanced Industrial Hygiene (3 credits)
- OSH 420 - Health Care Facility Safety (3 credits)
- OSH 424 - Fire Science (3 credits)
- OSH 430 - Construction Safety (3 credits)
- OSH 440 - Safety and Health Program Development (3 credits)
- OSH 460 - Environmental Compliance Applications (3 credits)
- OSH 480 - Special Topics in Occupational Safety and Health (1 to 9 credits)
- OSH 485 - Field Case Study (1 to 3 credits)
- OSH 490 - Internship in Occupational Safety and Health Management (3 to 6 credits)
- OSH 495 - Safety and Health Administration (3 credits)
- OSH 499 - Independent Study in Occupational Safety and Health (1 to 3 credits)

## **Occupational Science and Therapy (OST)**

### **Courses**

- OST 502 - Theoretical Foundations in Occupational Therapy (3 credits)
- OST 503 - Group Occupations in Practice (3 credits)
- OST 505 - Limitations on Occupation (3 credits)
- OST 551 - Conceptual Foundations of Occupational Therapy (3 credits)
- OST 552 - Practical Foundations of Occupational Therapy (3 credits)
- OST 553 - Level I Fieldwork (Part 1) (2 credits)
- OST 555 - Professional Socialization in Occupational Therapy (3 credits)
- OST 557 - Research Design in Occupational Therapy (2 credits)
- OST 558 - Mental Health Services in Occupational Therapy (3 credits)
- OST 559 - Mental Health Laboratory (2 credits)
- OST 561 - Child and Adolescent Practice (3 credits)
- OST 562 - Child and Adolescent Laboratory (2 credits)
- OST 563 - Level I Fieldwork (Part 2) (1 credit)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- OST 564 - Occupational Therapy Research Proposal (2 credits)
- OST 565 - Occupational Therapy Services Administration (3 credits)
- OST 571 - Adult Practice (3 credits)
- OST 572 - Adult Laboratory (3 credits)
- OST 573 - Level I Fieldwork (Part 3) (1 credit)
- OST 599 - Independent Study in Occupational Therapy (1 to 3 credits)
- OST 600 - Occupational Science for Therapy (2 credits)
- OST 651 - Older Adult Practice (3 credits)
- OST 652 - Older Adult Laboratory (3 credits)
- OST 653 - Level I Fieldwork (Part 4) (1 credit)
- OST 660 - Level II Fieldwork (Part 1) (9 credits)
- OST 661 - Level II Fieldwork (Part 2) (9 credits)
- OST 680 - Special Topics in Occupational Therapy (1 to 6 credits)
- OST 693 - Occupational Therapy Research Project (1 to 3 credits)
- OST 695 - Occupational Therapy Master's Thesis (2 to 4 credits)
- OST 696 - Continuation of Master's Project or Thesis Research (1 credit)
- OST 697 - Professional Learning (1 to 3 credits)
- OST 699 - Independent Study in Occupational Therapy (1 to 3 credits)
- OST 710 - Health Disparities and Social Determinants of Health (3 credits)
- OST 715 - Critical Analysis of Occupational Science (3 credits)
- OST 720 - Cultural and Contextual Influences on Occupational Performance (3 credits)
- OST 725 - Leadership for Occupational Therapy (3 credits)
- OST 730 - Applied Research Strategies for Practice (3 credits)
- OST 735 - Public Policy and Advocacy (3 credits)
- OST 738 - Outcome Measures for Occupational Performance (3 credits)
- OST 740 - Best Practice in School-Based Occupational Therapy (3 credits)
- OST 744 - Advanced Occupational Therapy Practice: Birth to 3 years (3 credits)
- OST 750 - Critical Thinking and Transformative Learning (3 credits)
- OST 754 - Curriculum Design in Occupational Therapy (3 credits)
- OST 758 - Evaluation in Occupational Therapy Education (3 credits)
- OST 760 - Introduction to Hand Rehabilitation (3 credits)
- OST 780 - Special Topics in Occupational Therapy (1 to 3 credits)
- OST 790 - Doctoral Project Preparation (3 credits)
- OST 793 - Doctoral Project Defense (1 to 6 credits)
- OST 797 - Professional Learning (1 to 3 credits)
- OST 799 - Independent Study in Occupational Therapy (1 to 3 credits)

## **Public Administration (PA)**

## **Physician Assistant Studies (PAS)**

### **Courses**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- PAS 501 - Clinical Applications I (2 credits)
- PAS 502 - Clinical Applications II (1 credit)
- PAS 503 - Clinical Applications III (1 credit)
- PAS 504 - Clinical Applications IV (1 credit)
- PAS 511 - Foundations of Clinical Medicine (4 credits)
- PAS 512 - Clinical Medicine I (6 credits)
- PAS 513 - Clinical Medicine II (6 credits)
- PAS 514 - Clinical Medicine III (6 credits)
- PAS 521 - Medical Physiology (3 credits)
- PAS 522 - Clinical Pathophysiology I (1 credit)
- PAS 523 - Clinical Pathophysiology II (1 credit)
- PAS 524 - Clinical Pathophysiology III (3 credits)
- PAS 532 - Practical Therapeutics I (2 credits)
- PAS 533 - Practical Therapeutics II (2 credits)
- PAS 534 - Practical Therapeutics III (2 credits)
- PAS 542 - Clinical Problem Solving Sessions I (1 credit)
- PAS 543 - Clinical Problem Solving Sessions II (1 credit)
- PAS 544 - Clinical Problem Solving Sessions III (1 credit)
- PAS 551 - Physician Assistant Profession Issues I (1 credit)
- PAS 554 - Physician Assistant Profession Issues II (1 credit)
- PAS 561 - Clinical Applications Lab I (1 credit)
- PAS 562 - Clinical Applications Lab II (1 credit)
- PAS 563 - Clinical Applications Lab III (1 credit)
- PAS 564 - Clinical Applications Lab IV (1 credit)
- PAS 572 - Hospital Community Experience I (1 credit)
- PAS 573 - Hospital Community Experience II (1 credit)
- PAS 574 - Hospital Community Experience III (1 credit)
- PAS 580 - Special Topics in Physician Assistant Studies (1 to 3 credits)
- PAS 582 - Evidence-based Medicine I (3 credits)
- PAS 583 - Evidence-based Medicine II (2 credits)
- PAS 584 - Evidence-Based Medicine III (2 credits)
- PAS 610 - Clinical Rotations I (12 credits)
- PAS 620 - Clinical Rotations II (12 credits)
- PAS 630 - Clinical Rotations III (12 credits)
- PAS 680 - Special Topics in Physician Assistant Studies (1 to 3 credits)
- PAS 690 - Master's Thesis Proposal (1 credit)
- PAS 693 - Physician Assistant Research II (3 credits)
- PAS 695 - Master's Thesis (3 credits)
- PAS 696 - Continuation of Master's Project or Thesis Research (1 credit)
- PAS 697 - Professional Learning (1 to 3 credits)
- PAS 699 - Independent Study - Physician Assistant Studies (1 to 3 credits)

## **Pedagogical Content Knowledge (PCK)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

# Physical Education (PED)

## Courses

- PED 180 - Special Topics in Physical Education (1 to 3 credits)
- PED 207 - Personal Health and Wellness (3 credits)
- PED 218 - Officiating Seasonal Sports (2 credits)
- PED 265 - Teaching Health in Elementary Schools (2 credits)
- PED 266 - Move-Dance-Learn! PE and Dance for Elementary Education (2 credits)
- PED 280 - Special Topics in Physical Education (1 to 3 credits)
- PED 345 - Disability, Sport and Physical Activity (3 credits)
- PED 380 - Special Topics in Physical Education (1 to 3 credits)
- PED 399 - Independent Readings (1 to 3 credits)
- PED 480 - Special Topics in Physical Education (1 to 3 credits)
- PED 499 - Independent Study and Research (1 to 3 credits)
- PED 580 - Special Topics in Physical Education (1 to 3 credits)
- PED 680 - Special Topics in Physical Education (1 to 3 credits)
- PED 697 - Professional Learning (1 to 3 credits)

# Public Health (PH)

## Courses

- PH 222 - Public Health Concepts (3 credits)
- PH 500 - Introduction to Public Health (3 credits)
- PH 505 - Social and Behavioral Public Health (3 credits)
- PH 510 - Public Health Epidemiology (3 credits)
- PH 520 - Environmental and Occupational Health (3 credits)
- PH 525 - Quantitative Research Methods in Public Health (3 credits)
- PH 530 - Qualitative Research Methods in Public Health (3 credits)
- PH 540 - Public Health Law and Ethics (3 credits)
- PH 580 - Special Topics in Public Health (1 to 9 credits)
- PH 600 - Advanced Quantitative Research Methods in Public Health (3 credits)
- PH 602 - Chronic Disease Epidemiology (3 credits)
- PH 603 - Epidemiology of Aging (3 credits)
- PH 604 - Women's and Children's Epidemiology (3 credits)
- PH 605 - Pharmacoepidemiology (3 credits)
- PH 606 - Environmental and Occupational Epidemiology (3 credits)
- PH 608 - Infectious Disease Epidemiology (3 credits)
- PH 610 - Cancer Epidemiology (3 credits)
- PH 612 - Public Health Genetics (3 credits)
- PH 613 - Psychiatric Epidemiology (3 credits)
- PH 620 - Health Education (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- PH 621 - Introduction to Urban Health Studies (3 credits)
- PH 622 - Health Behavior and Promotion (3 credits)
- PH 623 - Food, Health, and Justice (3 credits)
- PH 625 - Urban Health Field Studies (3 credits)
- PH 626 - Health Advocacy and Literacy (3 credits)
- PH 627 - Public Health Interest Groups (3 credits)
- PH 628 - Health Program Evaluation (3 credits)
- PH 629 - Advocacy Strategies in Public Health (3 credits)
- PH 630 - Health and Disease Disparities in Diverse Communities (3 credits)
- PH 631 - Critical Issues in Public Health Advocacy and Policy (3 credits)
- PH 632 - Public Health Social Campaigning and Distribution (3 credits)
- PH 633 - Public Health and Environmental Impact Assessment (3 credits)
- PH 634 - Environmental Justice (3 credits)
- PH 645 - Global Environmental and Occupational Health (3 credits)
- PH 660 - Public Health in a Global Setting (3 credits)
- PH 680 - Special Topics in Public Health (1 to 9 credits)
- PH 688 - Public Health Practicum (3 credits)
- PH 689 - Public Health Practicum in a Global Setting (3 credits)
- PH 693 - Public Health Master's Project (1 to 3 credits)
- PH 695 - Public Health Master's Thesis (3 credits)
- PH 696 - Continuation of Master's Project or Thesis Research (1 credit)
- PH 697 - Professional Learning (1 to 3 credits)

## **Philosophy (PHI)**

### **Courses**

- PHI 101 - Introduction to Philosophy (3 credits)
- PHI 102 - Ethics (3 credits)
- PHI 103 - Logic (3 credits)
- PHI 202 - Philosophy and Ethics of Health (3 credits)
- PHI 203 - Intermediate Logic (3 credits)
- PHI 204 - Knowledge, Politics, and Social Media (3 credits)
- PHI 210 - Eastern Philosophy (3 credits)
- PHI 220 - Aesthetics (3 credits)
- PHI 230 - American Philosophy (3 credits)
- PHI 240 - Middle Eastern Philosophy (3 credits)
- PHI 250 - Existentialism (3 credits)
- PHI 300 - Theories of Human Nature (3 credits)
- PHI 311 - Origins of Western Thought: Ancient Philosophy (3 credits)
- PHI 312 - Divine Revelation meets Greek Rationality: Medieval Philosophy (3 credits)
- PHI 313 - Reason, Experience, Morality at the Dawn of Modernity: Early Modern Philosophy (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- PHI 314 - Capitalism, Secularism, Nationalism: 19th Century Philosophy (3 credits)
- PHI 315 - Philosophy Now: Contemporary Great Philosophers (3 credits)
- PHI 320 - Power, Justice, and Freedom: Social and Political Philosophy (3 credits)
- PHI 325 - Ethics in Professional Life (3 credits)
- PHI 330 - Crime, Morality, Punishment: Philosophy of Law (3 credits)
- PHI 341 - Philosophy of Death and Dying (3 credits)
- PHI 343 - God, Faith, and Reason: Philosophy of Religion (3 credits)
- PHI 370 - Sex Matters: Feminist Philosophy in the Contemporary World (3 credits)
- PHI 380 - Special Topics in Philosophy (3 credits)
- PHI 399 - Independent Readings (1 to 4 credits)
- PHI 400 - Wisdom of the East: Advanced Topics in Asian Philosophy (3 credits)
- PHI 420 - Philosophy of Science (3 credits)
- PHI 430 - Mind, Brain, Consciousness: Philosophy of Mind (3 credits)
- PHI 440 - Perception, Hallucination, Trust: Perspectives on Knowledge (3 credits)
- PHI 450 - Reality, Identity, Change: Metaphysics (3 credits)
- PHI 460 - Rights, Duties, and the Meaning of Life: Moral Philosophy (3 credits)
- PHI 470 - Truth, Meaning, Communication: Philosophy of Language (3 credits)
- PHI 480 - Special Topics in Philosophy (3 credits)
- PHI 495 - Reality, Knowledge, and Value (Capstone) (3 credits)

## Photography (PHO)

### Courses

- PHO 171 - Photography I (4 credits)
- PHO 172 - Photography II (3 credits)
- PHO 175 - Understanding Still Photography (3 credits)
- PHO 266 - History of Photography I (3 credits)
- PHO 272 - Digital Photography 1 (3 credits)
- PHO 273 - Classic 4 x 5 Photography (3 credits)
- PHO 279 - Color Photography 1 (3 credits)
- PHO 280 - Special Topics in Photography (1 to 3 credits)
- PHO 366 - History of Photography II (3 credits)
- PHO 368 - Alternative Photographic Print Processes (3 credits)
- PHO 371 - Experimental Black and White Photography (3 credits)
- PHO 373 - Digital Photography 2 (3 credits)
- PHO 374 - Color Photography 2 (3 credits)
- PHO 375 - Studio Photography (3 credits)
- PHO 377 - The Social Eye (4 credits)
- PHO 378 - Advanced Problems in Photography (3 credits)
- PHO 380 - Special Topics in Photography (1 to 3 credits)
- PHO 399 - Independent Study (1 to 6 credits)
- PHO 480 - Special Topics in Photography (1 to 3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- PHO 490 - Internship (1 to 6 credits)
- PHO 495 - Photography Capstone and Thesis Seminar (1 to 6 credits)

## Physics (PHY)

### Courses

- PHY 105 - Descriptive Astronomy (3 credits)
- PHY 180 - Special Topics in Physics (1 to 4 credits)
- PHY 200 - Physics for the Life Sciences (4 credits)
- PHY 201 - Inquiry: The Mechanical and Thermal World (4 credits)
- PHY 202 - Physics for K-8 Teachers, Motion, Energy, and Forces (2 credits)
- PHY 203 - Physics for K-8 Teachers, Light, Sound, and Electromagnetism (2 credits)
- PHY 205 - Astronomy for K-8 Pre-Service Teachers (2 credits)
- PHY 216 - Physics of Sports (4 credits)
- PHY 220 - General Physics I (5 credits)
- PHY 221 - General Physics II (5 credits)
- PHY 230 - Principles of Physics I (5 credits)
- PHY 231 - Principles of Physics II (5 credits)
- PHY 234 - Engineering Physics (4 credits)
- PHY 280 - Special Topics in Physics (1 to 4 credits)
- PHY 302 - Introduction to Modern Physics (4 credits)
- PHY 309 - Experimental Methods in Physics (4 credits)
- PHY 311 - Advanced Laboratory II (2 credits)
- PHY 320 - Optics (3 credits)
- PHY 330 - Intermediate Mechanics (4 credits)
- PHY 340 - Electromagnetic Fields (4 credits)
- PHY 350 - Introduction to Quantum Mechanics (4 credits)
- PHY 360 - Statistical Thermodynamics (4 credits)
- PHY 370 - Solid State Physics (3 credits)
- PHY 380 - Special Topics in Physics (1 to 4 credits)
- PHY 399 - Readings in Physics (1 to 4 credits)
- PHY 430 - Advanced Mechanics (3 credits)
- PHY 440 - Advanced Electricity and Magnetism (3 credits)
- PHY 450 - Quantum Mechanics (3 credits)
- PHY 475 - General Relativity (3 credits)
- PHY 480 - Special Topics in Physics (1 to 4 credits)
- PHY 485 - Senior Physics Project (Capstone) (1 credit)
- PHY 486 - Senior Physics Project (Capstone) (2 credits)
- PHY 499 - Research in Physics (1 to 4 credits)
- PHY 670 - Modern Physics with Computer Visualization (3 credits)
- PHY 680 - Special Topics in Physics (1 to 4 credits)
- PHY 697 - Professional Learning (1 to 3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

# Political Science (PLS)

## Courses

- PLS 102 - American Government and Politics (3 credits)
- PLS 103 - Issues in World Politics (3 credits)
- PLS 105 - Introduction to Human Rights (3 credits)
- PLS 180 - Special Topics in Political Science (3 credits)
- PLS 202 - American Election Campaigns (3 credits)
- PLS 203 - State Politics (3 credits)
- PLS 205 - The Policy Process (3 credits)
- PLS 206 - American Constitutional Foundations (3 credits)
- PLS 211 - International Relations (3 credits)
- PLS 212 - Great Decisions (3 credits)
- PLS 215 - Global Migration (3 credits)
- PLS 221 - Government and Politics of Western Europe (3 credits)
- PLS 231 - Classical Political Thought (3 credits)
- PLS 232 - Modern Political Thought (3 credits)
- PLS 240 - The Holocaust (3 credits)
- PLS 281 - Comparative Political Systems: Canada (3 credits)
- PLS 283 - Chinese Politics and U.S.-China Relations (3 credits)
- PLS 284 - Latin American Politics (3 credits)
- PLS 300 - Political Analysis (3 credits)
- PLS 301 - Poverty, Inequality, and U.S. Public Policy (3 credits)
- PLS 302 - Women, Politics, and Public Policy (3 credits)
- PLS 303 - Introduction to U.S. Environmental Policy (3 credits)
- PLS 304 - Political Parties and Interest Groups (3 credits)
- PLS 305 - Congress and the Presidency (3 credits)
- PLS 306 - American Constitutional Law I (3 credits)
- PLS 307 - American Constitutional Law II (3 credits)
- PLS 310 - Politics and Health Policy (3 credits)
- PLS 311 - International Conflict and Conflict Resolution (3 credits)
- PLS 312 - U.S. Foreign Policy (3 credits)
- PLS 313 - International Organization (3 credits)
- PLS 314 - International Law (3 credits)
- PLS 315 - International Political Economy (3 credits)
- PLS 316 - Human Rights in International Politics (3 credits)
- PLS 319 - African Politics (3 credits)
- PLS 320 - Comparative Politics of the Middle East (3 credits)
- PLS 321 - The European Union (3 credits)
- PLS 325 - Human Rights and Democracy in Russia and the Post-Communist World (3 credits)
- PLS 327 - Politics of Developing Countries (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- PLS 330 - Religion and Politics in America (3 credits)
- PLS 333 - Contemporary Political Thought (3 credits)
- PLS 334 - Sex, Power, and Politics (3 credits)
- PLS 335 - Theory of Human Rights (3 credits)
- PLS 337 - U.S. Political Thought (3 credits)
- PLS 338 - Citizenship (3 credits)
- PLS 339 - Democracy and the Authoritarian Challenge (3 credits)
- PLS 340 - Mass Media and American Politics (3 credits)
- PLS 341 - Elections and Voting Behavior (3 credits)
- PLS 350 - Comparative Public Opinion (3 credits)
- PLS 380 - Special Topics in Political Science (3 credits)
- PLS 399 - Readings in Political Science (1 to 3 credits)
- PLS 490 - Internship (2 to 6 credits)
- PLS 495 - Seminar in the Study of Politics (Capstone) (3 credits)
- PLS 499 - Independent Research (2 to 6 credits)

## **Public, Nonprofit, and Health (PNH)**

### **Polish (POL)**

#### **Courses**

- POL 101 - Elementary Polish I (4 credits)
- POL 102 - Elementary Polish II (4 credits)
- POL 180 - Special Topics in Polish (1 to 4 credits)
- POL 201 - Intermediate Polish I (4 credits)
- POL 202 - Intermediate Polish II (4 credits)
- POL 380 - Special Topics in Polish (1 to 6 credits)

### **Professional Science Master's (PSM)**

#### **Courses**

- PSM 650 - Ethics and Professionalism in Applied Science (3 credits)
- PSM 662 - Seminar in Professional Science Practice (2 credits)
- PSM 691 - Internship (1 to 9 credits)
- PSM 697 - Professional Learning (1 to 3 credits)

### **Psychology (PSY)**

#### **Courses**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- PSY 101 - Introductory Psychology (3 credits)
- PSY 300 - Research Methods in Psychology (3 credits)
- PSY 301 - Child Development (3 credits)
- PSY 303 - Psychopathology (3 credits)
- PSY 304 - The Psychology and Education of the Exceptional Child (3 credits)
- PSY 305 - Infant and Early Childhood Development (3 credits)
- PSY 310 - Behavior Modification (3 credits)
- PSY 311 - Controversial Issues in Psychology (3 credits)
- PSY 315 - Psychology of Sex Differences (3 credits)
- PSY 316 - The Psychology of Human Intimacy and Sexuality (3 credits)
- PSY 324 - Developmental Psychopathology (3 credits)
- PSY 325 - Educational Psychology (3 credits)
- PSY 326 - Intellectual/Developmental Disabilities (3 credits)
- PSY 330 - Foundations of Behavioral Neuroscience (3 credits)
- PSY 331 - Adolescent Development (3 credits)
- PSY 349 - Psychology Applied to Media (3 credits)
- PSY 350 - Psychology Research and Data Applications (3 credits)
- PSY 355 - Psychology and Culture (3 credits)
- PSY 357 - Psychology of Language (3 credits)
- PSY 360 - Social Psychology: Psychology's View (3 credits)
- PSY 361 - Perception (3 credits)
- PSY 362 - Environmental Psychology (3 credits)
- PSY 364 - Life Span Developmental Psychology (3 credits)
- PSY 365 - Cognition (3 credits)
- PSY 366 - Perspectives on Aging (3 credits)
- PSY 367 - Health Psychology (3 credits)
- PSY 370 - Cognitive Neuroscience (3 credits)
- PSY 375 - Comparative Psychology (3 credits)
- PSY 380 - Special Topics in Psychology (1 to 4 credits)
- PSY 381 - Group Dynamics (3 credits)
- PSY 386 - Study Abroad (1 to 9 credits)
- PSY 399 - Independent Readings (1 to 3 credits)
- PSY 400 - Advanced Research in Psychology (3 credits)
- PSY 405 - History and Systems (3 credits)
- PSY 410 - Tests and Measurements (3 credits)
- PSY 420 - Theories of Personality (3 credits)
- PSY 431 - Introduction to Neuropsychology (3 credits)
- PSY 432 - Psychopharmacology (3 credits)
- PSY 435 - Advanced Neuroscience and Behavior (3 credits)
- PSY 445 - Industrial/Organizational Psychology (3 credits)
- PSY 452 - Counseling: Theories and Applications (3 credits)
- PSY 490 - Practicum (1 to 6 credits)
- PSY 492 - Advanced General: The Capstone (3 credits)
- PSY 499 - Independent Study and Research (1 to 4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- PSY 500 - Introduction to School Psychology (3 credits)
- PSY 510 - Tests and Measurements (3 credits)
- PSY 522 - Applied Behavior Analysis I (ABA): Foundational Concepts and Principles (3 credits)
- PSY 523 - Applied Behavior Analysis II: Application to Behavior Change (3 credits)
- PSY 524 - Developmental Psychopathology (3 credits)
- PSY 525 - Behavior Analysis Applied to Autism Spectrum Disorders and Developmental Disorders (3 credits)
- PSY 527 - Ethics and Diversity in Professional Practice (3 credits)
- PSY 532 - Psychopharmacology (3 credits)
- PSY 540 - Introduction to Autism Spectrum Disorder (3 credits)
- PSY 542 - Behavior Support for Students with Autism Spectrum Disorder (3 credits)
- PSY 550 - Research in Applied Settings (3 credits)
- PSY 580 - Special Topics in Psychology (1 to 9 credits)
- PSY 590 - Applied Behavior Analysis Practicum (1 to 3 credits)
- PSY 615 - Educational Assessment and Interventions for Autism (3 credits)
- PSY 622 - Educational Assessment (3 credits)
- PSY 623 - Intellectual Assessment (3 credits)
- PSY 624 - Behavioral Assessment and Intervention (3 credits)
- PSY 642 - Assessment Practicum (1 credit)
- PSY 644 - Clinical Practicum (1 credit)
- PSY 654 - School-based Intervention and Consultation (3 credits)
- PSY 655 - School-based Consultation and Intervention II (3 credits)
- PSY 658 - Advanced Concepts in Applied Behavior Analysis (3 credits)
- PSY 668 - Health Profession Disability Psychology (3 credits)
- PSY 675 - School Psychology Practicum (3 credits)
- PSY 680 - Special Topics in Psychology (1 to 9 credits)
- PSY 685 - School Psychology Internship (1 to 5 credits)
- PSY 693 - Master's Project (3 credits)
- PSY 697 - Professional Learning (1 to 3 credits)
- PSY 699 - Independent Study (1 to 3 credits)

## **Physical Therapy (PT)**

### **Courses**

- PT 435 - Measurement in Biomechanics (3 credits)
- PT 510 - Lifespan Motor Development (2 credits)
- PT 511 - Foundations in Physical Therapy Examination (3 credits)
- PT 512 - Introduction to Evidence Based Practice in Physical Therapy (1 credit)
- PT 513 - Clinical Science I (2 credits)
- PT 515 - Professional Topics I (1 credit)
- PT 517 - Kinesiology and Biomechanics I (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- PT 521 - Musculoskeletal Examination (4 credits)
- PT 522 - Musculoskeletal Interventions (4 credits)
- PT 523 - Clinical Science II (3 credits)
- PT 526 - Clinical Seminar I (2 credits)
- PT 528 - Kinesiology and Biomechanics II (3 credits)
- PT 535 - Measurement in Biomechanics (3 credits)
- PT 580 - Special Topics in Physical Therapy (1 to 3 credits)
- PT 610 - Research in Physical Therapy (2 credits)
- PT 631 - Cardiopulmonary Physical Therapy I (2 credits)
- PT 632 - Integumentary Practice Management (2 credits)
- PT 634 - Clinical Seminar II (1 credit)
- PT 636 - Clinical Education I (4 credits)
- PT 641 - Neuromuscular Examination (4 credits)
- PT 642 - Interventions in Neuromuscular Physical Therapy (4 credits)
- PT 643 - Clinical Science III (3 credits)
- PT 644 - Clinical Seminar III (2 credits)
- PT 647 - Cardiopulmonary Physical Therapy II (2 credits)
- PT 651 - Spinal Exam and Intervention (4 credits)
- PT 654 - Applied Geriatric Practice (2 credits)
- PT 655 - Professional Topics II (1 credit)
- PT 656 - Clinical Education II (5 credits)
- PT 657 - Teaching for Physical Therapists (2 credits)
- PT 661 - Exam and Intervention for Rehabilitation (4 credits)
- PT 662 - Pediatric Practice Management (3 credits)
- PT 665 - Professional Topics III (2 credits)
- PT 675 - Clinical Education III (6 credits)
- PT 677 - Clinical Education IV (6 credits)
- PT 680 - Special Topics in Physical Therapy (1 to 3 credits)
- PT 681 - Advanced Clinical Decision-Making (2 credits)
- PT 682 - Health, Wellness and Special Topics in Physical Therapy (3 credits)
- PT 684 - Advanced Topics: Sports Physical Therapy (3 credits)
- PT 685 - Professional Topics IV (2 credits)
- PT 686 - Advanced Topics: Pediatric Physical Therapy (3 credits)
- PT 687 - Advanced Topics: Spinal Manual Therapy (3 credits)
- PT 688 - Advanced Topics: Neurologic Physical Therapy (3 credits)
- PT 689 - Advanced Topics: Cardiopulmonary Physical Therapy (2 credits)
- PT 697 - Professional Learning (1 to 3 credits)
- PT 698 - Clinical Education V (6 credits)
- PT 699 - Independent Study in Physical Therapy (1 to 3 credits)
- PT 790 - Physical Therapy Research I (1 credit)
- PT 793 - Physical Therapy Research II (2 credits)
- PT 797 - Professional Learning (1 to 3 credits)

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## **Religious Studies (REL)**

### **Courses**

- REL 100 - Religions of the World (3 credits)
- REL 200 - Understanding Religions in Human Experience (3 credits)
- REL 300 - Religions in the World Today: Theories, Methods, and Issues (3 credits)
- REL 305 - Christianity: Scriptures and Tradition (3 credits)
- REL 306 - Hinduism and South Asian Religions (3 credits)
- REL 310 - Jewish Scriptures and Traditions (3 credits)
- REL 335 - Sacred Words, Global Understanding (3 credits)
- REL 340 - Religion and Popular Culture in the United States (3 credits)
- REL 380 - Special Topics in Religious Studies (1 to 9 credits)
- REL 399 - Independent Readings in Religious Studies (1 to 4 credits)
- REL 482 - Integrative Statement (1 credit)
- REL 495 - Religious Studies Senior Seminar (3 credits)
- REL 499 - Independent Research in Religious Studies (1 to 4 credits)

## **Radiology and Imaging Echocardiogram (RIE)**

### **Courses**

- RIE 330 - Echocardiography I (4 credits)
- RIE 331 - Echocardiography I Laboratory (2 credits)
- RIE 332 - Echocardiography II (3 credits)
- RIE 333 - Echocardiography II Laboratory (1 credit)
- RIE 340 - Cardiac and Vascular Hemodynamics (2 credits)
- RIE 341 - ECG in Radiologic and Imaging Sciences (2 credits)
- RIE 360 - Introduction to Echocardiography Clinical (2 credits)
- RIE 361 - Echocardiography Clinical Education I (2 credits)
- RIE 362 - Echocardiography Clinical Education II (3 credits)
- RIE 363 - Pediatric Echo Clinical Education I (2 credits)
- RIE 366 - Vascular Sonography Clinical Education I (2 credits)
- RIE 380 - Special Topics in Echo and Vascular Sonography (1 to 5 credits)
- RIE 432 - Vascular Sonography I (2 credits)
- RIE 433 - Vascular Sonography I Laboratory (1 credit)
- RIE 434 - Pediatric Echocardiography I (3 credits)
- RIE 435 - Pediatric Echocardiography I Laboratory (1 credit)
- RIE 436 - Vascular Sonography II (2 credits)
- RIE 437 - Vascular Sonography II Laboratory (2 credits)
- RIE 438 - Pediatric Echocardiography II (3 credits)
- RIE 439 - Vascular Sonography III (2 credits)
- RIE 440 - Vascular Sonography III Laboratory (1 credit)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- RIE 457 - Cardiovascular Image Evaluation (2 credits)
- RIE 463 - Pediatric Echocardiography Clinical Education II (3 credits)
- RIE 464 - Pediatric Echocardiography Clinical Education III (3 credits)
- RIE 466 - Vascular Sonography Clinical Education II (3 credits)
- RIE 467 - Vascular Sonography Clinical Education III (3 credits)
- RIE 480 - Special Topics in Echocardiography and Vascular Sonography (1 to 9 credits)
- RIE 495 - Advanced Clinical Problems in Echocardiography and Vascular Sonography (3 credits)

## **Radiology and Imaging Therapy (RIT)**

### **Courses**

- RIT 302 - Radiation Protection Physics (2 credits)
- RIT 310 - Radiation Therapy Patient Care (3 credits)
- RIT 322 - Radiation Biology (2 credits)
- RIT 330 - Radiation Therapy Principles and Practices I (4 credits)
- RIT 331 - Radiation Therapy Principles and Practices I Laboratory (1 credit)
- RIT 332 - Radiation Therapy Principles and Practices II (3 credits)
- RIT 333 - Radiation Therapy Principles and Practices II Laboratory (1 credit)
- RIT 361 - Radiation Therapy Clinical Education I (2 credits)
- RIT 362 - Radiation Therapy Clinical Education II (4 credits)
- RIT 380 - Special Topics in Radiation Therapy (1 to 5 credits)
- RIT 401 - Radiologic Information Technology (3 credits)
- RIT 420 - Radiation Therapy Physics I (2 credits)
- RIT 422 - Radiation Therapy Physics II (2 credits)
- RIT 424 - Image Guided Principles of Radiation Therapy (4 credits)
- RIT 430 - Radiation Therapy Principles and Practices III (3 credits)
- RIT 431 - Radiation Therapy Principles and Practices III Lab (1 credit)
- RIT 432 - Radiation Therapy Principles and Practices IV (3 credits)
- RIT 433 - Radiation Therapy Principles and Practices Lab IV (1 credit)
- RIT 441 - Gross Human Sectional Anatomy (4 credits)
- RIT 458 - Neoplasms (3 credits)
- RIT 460 - Radiation Therapy Clinical Education III (3 credits)
- RIT 461 - Radiation Therapy Clinical Education IV (3 credits)
- RIT 470 - Radiation Therapy Treatment Planning (2 credits)
- RIT 471 - Radiation Therapy Treatment Planning Lab (1 credit)
- RIT 472 - Introduction to Medical Dosimetry (2 credits)
- RIT 473 - Introduction to Medical Dosimetry Lab (1 credit)
- RIT 495 - Advanced Clinical Problems in Radiation Therapy (3 credits)

## **Radiology and Imaging Ultrasound (RIU)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Courses**

- RIU 301 - DMS Image Evaluation I (1 credit)
- RIU 302 - DMS Image Evaluation II (1 credit)
- RIU 320 - Applied Ultrasound Physics Instruction I (2 credits)
- RIU 321 - Applied Ultrasound Physics Instruction I Lab (1 credit)
- RIU 322 - Principles of Radiologic Imaging Sciences (3 credits)
- RIU 324 - Applied Doppler Ultrasound Physics (2 credits)
- RIU 330 - Abdominal Sonography I (4 credits)
- RIU 331 - Abdominal Sonography I Lab (2 credits)
- RIU 332 - Obstetrics-Gynecology Sonography I (3 credits)
- RIU 333 - Obstetrics-Gynecology Sonography Lab (1 credit)
- RIU 360 - Introduction to Clinical Ultrasound (2 credits)
- RIU 361 - Clinical Ultrasound Education I (2 credits)
- RIU 362 - Clinical Ultrasound Education II (4 credits)
- RIU 380 - Special Topics in Diagnostic Medical Sonography (1 to 5 credits)
- RIU 420 - Applied Ultrasound Physics Instruction II (2 credits)
- RIU 430 - Abdominal Sonography II (2 credits)
- RIU 431 - Abdominal Sonography II Lab (1 credit)
- RIU 434 - Breast Sonography Procedures (2 credits)
- RIU 435 - Obstetrics-Gynecology Sonography II (2 credits)
- RIU 436 - Vascular Technology Procedures I For General Ultrasound (2 credits)
- RIU 437 - Vascular Technology Procedures I For General Ultrasound Lab (1 credit)
- RIU 438 - Vascular Technology Procedures II for General Ultrasound (2 credits)
- RIU 439 - Vascular Technology Procedures II for General Ultrasound Lab (1 credit)
- RIU 454 - Advanced Obstetric-Gynecologic Sonography (3 credits)
- RIU 460 - Clinical Ultrasound Education III (3 credits)
- RIU 461 - Clinical Ultrasound Education IV (3 credits)
- RIU 495 - Advanced Clinical Problems in Ultrasound (3 credits)

## **Radiation Medical Dosimetry (RMD)**

### **Courses**

- RMD 620 - Dosimetry Treatment Planning I (3 credits)
- RMD 621 - Dosimetry Treatment Planning I Lab (1 credit)
- RMD 622 - Dosimetry Treatment Planning II (3 credits)
- RMD 623 - Dosimetry Treatment Planning II Lab (1 credit)
- RMD 630 - Medical Dosimetry I (3 credits)
- RMD 632 - Medical Dosimetry II (3 credits)
- RMD 661 - Medical Dosimetry Clinical Education I (1 to 4 credits)
- RMD 662 - Medical Dosimetry Clinical Education II (1 to 4 credits)
- RMD 663 - Medical Dosimetry Clinical Education III (1 to 4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- RMD 670 - Professional Issues in Medical Dosimetry (3 credits)
- RMD 693 - Medical Dosimetry Research Project (1 to 3 credits)
- RMD 695 - Medical Dosimetry Thesis (1 to 3 credits)
- RMD 696 - Continuation of Master's Project or Thesis Research (1 credit)

## **Respiratory Care (RSC)**

Respiratory Care

## **Russian Studies (RST)**

### **Courses**

- RST 180 - Special Topics in Russian Studies (1 to 4 credits)
- RST 280 - Special Topics in Russian Studies (1 to 4 credits)
- RST 380 - Special Topics in Russian Studies (1 to 9 credits)
- RST 399 - Independent Reading (1 to 3 credits)
- RST 480 - Special Topics in Russian Studies (1 to 4 credits)
- RST 499 - Independent Study and Research (1 to 4 credits)

## **Recreational Therapy (RTX)**

### **Courses**

- RTX 300 - Foundations of Recreational Therapy (3 credits)
- RTX 302 - Leisure, Health, and Wellness (3 credits)
- RTX 304 - Diagnostic Groups in Recreational Therapy (3 credits)
- RTX 306 - Comprehensive Recreational Therapy Programming (3 credits)
- RTX 308 - Leadership for Recreational Therapy (3 credits)
- RTX 310 - Interventions in Recreational Therapy (3 credits)
- RTX 313 - Recreational Therapy for Physical Disability (3 credits)
- RTX 315 - Recreational Therapy for Mental Health (3 credits)
- RTX 316 - Therapeutic Recreation with the Elderly (3 credits)
- RTX 317 - Recreational Therapy for Pediatrics (3 credits)
- RTX 380 - Special Topics in Therapeutic Recreation (1 to 4 credits)
- RTX 389 - Recreational Therapy Placement Preparation (1 credit)
- RTX 390 - Fieldwork in Recreational Therapy (3 credits)
- RTX 399 - Independent Readings and Special Activities (1 to 3 credits)
- RTX 404 - Trends and Issues in Recreational Therapy (3 credits)
- RTX 405 - Management in Recreational Therapy (3 credits)
- RTX 407 - Assessment and Documentation in Recreational Therapy (3 credits)
- RTX 410 - Research and Evaluation in Recreational Therapy (3 credits)
- RTX 490 - Internship in Recreational Therapy (6 or 12 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- RTX 499 - Independent Study and Research (1 to 3 credits)
- RTX 502 - Classification of Functioning and Diagnosis in Recreational Therapy (3 credits)
- RTX 504 - Trends and Issues in Recreational Therapy (3 credits)
- RTX 505 - Management in Recreational Therapy (3 credits)
- RTX 507 - Recreational Therapy Assessment and Documentation (3 credits)
- RTX 508 - Recreational Therapy Interventions and Techniques (3 credits)
- RTX 510 - Research and Evaluation in Recreational Therapy (3 credits)
- RTX 590 - Clinical Internship in Recreational Therapy (6 credits)
- RTX 606 - Program Development and Consulting in Recreational Therapy (3 credits)
- RTX 607 - Advanced Practice in Recreational Therapy Assessment and Evaluation (3 credits)
- RTX 613 - Advanced Recreational Therapy Practice in Physical Rehabilitation (3 credits)
- RTX 615 - Advanced Recreational Therapy Practice in Behavioral Health (3 credits)
- RTX 616 - Advanced Recreational Therapy Practice with Older Adults (3 credits)
- RTX 673 - Integrated Evidence-Based Research in Recreational Therapy 1 (3 credits)
- RTX 675 - Integrated Evidence-based Research in Recreational Therapy 2 (3 credits)
- RTX 697 - Professional Learning (1 to 3 credits)
- RTX 698 - Integrated Evidence-Based Research in Recreational Therapy 3 (3 credits)

## **Russian (RUS)**

### **Courses**

- RUS 101 - Beginning Russian I: Language and Culture (4 credits)
- RUS 102 - Beginning Russian II: Language and Culture (4 credits)
- RUS 180 - Special Topics in Russian (1 to 4 credits)
- RUS 201 - Intermediate Russian I: Language and Culture (4 credits)
- RUS 202 - Intermediate Russian II: Language and Culture (4 credits)
- RUS 280 - Special Topics in Russian (3 to 4 credits)
- RUS 380 - Special Topics in Russian (1 to 6 credits)
- RUS 399 - Independent Reading (1 to 4 credits)
- RUS 480 - Special Topics in Russian (1 to 4 credits)
- RUS 499 - Independent Study and Research (1 to 4 credits)

## **Sciences and Arts for Teaching (SAT)**

### **Courses**

- SAT 495 - Teaching Sciences and Arts in Elementary Classrooms (3 credits)

## **Science (SCI)**

### **Courses**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- SCI 225 - Integrated Life Science for PK-3 Teachers (4 credits)
- SCI 226 - Integrated Physical Science for PK-3 Teachers (3 credits)
- SCI 227 - Integrated Life and Earth Science for 3-6 Teachers (3 credits)
- SCI 319 - Science in Elementary Education (2 credits)
- SCI 336 - Ecology for K-8 Pre-Service Teachers (4 credits)
- SCI 380 - Special Topics in Science (1 to 4 credits)
- SCI 440 - Physics and Chemistry in Secondary Education (3 credits)
- SCI 450 - Earth and Life Science in Secondary Education (3 credits)
- SCI 495 - Teaching Science in the 21st Century (3 credits)
- SCI 580 - Special Topics in Science (1 to 3 credits)
- SCI 697 - Professional Learning (1 to 3 credits)

## **Social Innovation (SI)**

### **Courses**

- SI 600 - Cultures of Social Innovation (3 credits)
- SI 610 - Research Methods for Social Inquiry (3 credits)
- SI 620 - Case Studies in Social Innovation (3 credits)
- SI 630 - Engaging Diversity through Social Innovation (3 credits)
- SI 650 - Place and Environmental Justice (3 credits)
- SI 661 - Social Innovation Internship (1 to 6 credits)
- SI 690 - Social Innovation Research Design (3 credits)
- SI 693 - Master's Project in Social Innovation (1 to 3 credits)
- SI 697 - Professional Learning (1 to 3 credits)

## **Speech and Language Pathology (SLP)**

### **Courses**

- SLP 308 - Articulation and Phonological Disorders (3 credits)
- SLP 402 - Voice and Fluency (3 credits)
- SLP 403 - Diagnostics in Communication Disorders (3 credits)
- SLP 405 - Clinical Methods (3 credits)
- SLP 407 - Pediatric Language and Articulation Disorders (2 credits)
- SLP 420 - Adult Language and Cognitive Communication Disorders (2 credits)
- SLP 421 - Motor Speech and Fluency Disorders (2 credits)
- SLP 422 - Dysphagia and Voice Disorders (2 credits)
- SLP 480 - Special Topics in Speech Language Pathology (1 to 9 credits)
- SLP 510 - Applied Research in Speech-Language Pathology (1 credit)
- SLP 560 - School Age and Adolescent Language Disorders (3 credits)
- SLP 561 - Advanced Study of Phonological Disorders (3 credits)
- SLP 562 - Aphasia and Related Disorders (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- SLP 570 - Infant, Toddler, Preschool Language Disorders (3 credits)
- SLP 571 - Voice Disorders and Laryngectomy (3 credits)
- SLP 572 - Dysphagia (3 credits)
- SLP 573 - Fluency Disorders (2 credits)
- SLP 580 - Special Topics in Speech Language Pathology (1 to 9 credits)
- SLP 581 - Cognitive Communication Disorders (3 credits)
- SLP 582 - Motor Speech and Craniofacial Disorders (3 credits)
- SLP 583 - Autism Spectrum Disorder in Speech-Language Pathology (2 credits)
- SLP 584 - Augmentative and Alternative Communication (2 credits)
- SLP 670 - Professional Seminar in Speech-Language Pathology (1 credit)
- SLP 681 - Clinical Practicum in Speech-Language Pathology I (3 credits)
- SLP 682 - Clinical Practicum in Speech-Language Pathology II (4 credits)
- SLP 683 - Clinical Practicum in Speech-Language Pathology III (4 credits)
- SLP 684 - Clinical Internship in Speech-Language Pathology (12 credits)
- SLP 695 - Master's Thesis in Speech-Language Pathology (1 to 6 credits)
- SLP 696 - Continuation of Master's Project or Thesis Research (1 credit)
- SLP 697 - Professional Learning (1 to 3 credits)
- SLP 699 - Independent Study in Speech-Language Pathology (1 to 3 credits)

## **Sociology (SOC)**

### **Courses**

- SOC 101 - Introduction to Sociology (3 credits)
- SOC 105 - Social Problems (3 credits)
- SOC 180 - Special Topics in Sociology (3 credits)
- SOC 204 - Introduction to Social Theory (3 credits)
- SOC 250 - Perspectives on Madness (3 credits)
- SOC 251 - Criminology (3 credits)
- SOC 252 - Sociology of Drug Use and Abuse (3 credits)
- SOC 285 - Families in Society (3 credits)
- SOC 286 - Sociology of Health Care (3 credits)
- SOC 287 - Sociology of Religion (3 credits)
- SOC 288 - Sociology of Food (3 credits)
- SOC 289 - Sociology of Art (3 credits)
- SOC 304 - Quantitative Methods in Sociology (3 credits)
- SOC 305 - Qualitative Methods in Sociology (3 credits)
- SOC 306 - The Sociology of Human Rights (3 credits)
- SOC 313 - Race and Ethnicity (3 credits)
- SOC 315 - Social Class Inequality (3 credits)
- SOC 317 - Sociology of Gender (3 credits)
- SOC 318 - Sociology of Sexuality (3 credits)
- SOC 319 - Classic Social Theory (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- SOC 321 - Contemporary Sociological Theory (3 credits)
- SOC 322 - Sociology of Community (3 credits)
- SOC 333 - Sociology of the Civil Rights Movement (3 credits)
- SOC 345 - Cultural Sociology (3 credits)
- SOC 350 - Family and Gender in the Developing World (3 credits)
- SOC 351 - Urban Sociology (3 credits)
- SOC 355 - Sociology of Work and Employment (3 credits)
- SOC 360 - Social Psychology: Sociology's View (3 credits)
- SOC 366 - American Society and Media (3 credits)
- SOC 377 - Globalization: Structures and Movements (3 credits)
- SOC 379 - Sociology of Love (3 credits)
- SOC 380 - Special Topics in Sociology (1 to 3 credits)
- SOC 381 - Class, Race, Gender, and Sexuality (3 credits)
- SOC 386 - Death and Dying (3 credits)
- SOC 387 - Sociology of Childhood (3 credits)
- SOC 388 - Middle Age and Aging (3 credits)
- SOC 389 - Child Maltreatment (3 credits)
- SOC 392 - Social Deviance and Social Control (3 credits)
- SOC 399 - Independent Readings (1 to 3 credits)
- SOC 490 - Practicum: Career-Service (1 to 9 credits)
- SOC 495 - Senior Seminar in Sociology (Capstone) (3 credits)
- SOC 499 - Independent Study and Research (1 to 3 credits)

## Spanish (SPA)

### Courses

- SPA 101 - Beginning Spanish I: Language and Culture (4 credits)
- SPA 102 - Beginning Spanish II: Language and Culture (4 credits)
- SPA 150 - Accelerated Beginning Spanish: Language and Culture (4 credits)
- SPA 180 - Special Topics in Spanish (1 to 4 credits)
- SPA 201 - Intermediate Spanish I: Language and Culture (4 credits)
- SPA 202 - Intermediate Spanish II: Language and Culture (4 credits)
- SPA 203 - Spanish for Heritage Speakers (4 credits)
- SPA 204 - Supplemental Spanish Grammar (4 credits)
- SPA 280 - Special Topics in Spanish (1 to 4 credits)
- SPA 285 - Intermediate Spanish in Mexico (4 credits)
- SPA 286 - Mexican Culture (2 credits)
- SPA 300 - Reading and Telling Stories (3 credits)
- SPA 303 - Professional Writing (3 credits)
- SPA 304 - Spanish for Health Professionals (3 credits)
- SPA 305 - Spanish for Law Enforcement (3 credits)
- SPA 306 - Spanish for Business (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- SPA 307 - Death and Dying in Hispanic Literature (3 credits)
- SPA 308 - Spanish Phonetics (3 credits)
- SPA 309 - Advanced Spanish Grammar (3 credits)
- SPA 310 - Spanish Civilization and Culture (3 credits)
- SPA 311 - Latin American Civilization and Culture I (3 credits)
- SPA 312 - Latin American Civilization and Culture II (3 credits)
- SPA 313 - U.S. Latino/a Civilization and Culture (3 credits)
- SPA 314 - Teaching Methods (3 credits)
- SPA 315 - One-Act Hispanic Drama (3 credits)
- SPA 320 - Composition and Conversation for Spanish Heritage Speakers (3 credits)
- SPA 321 - Composition and Conversation I (3 credits)
- SPA 322 - Composition and Conversation II (3 credits)
- SPA 327 - The History of the Spanish Language (3 credits)
- SPA 329 - Sociolinguistics of Spanish (3 credits)
- SPA 330 - Introduction to Literary Analysis (3 credits)
- SPA 331 - Survey of Spanish Literature (3 credits)
- SPA 332 - Survey of Spanish American Literature (3 credits)
- SPA 335 - Introduction to Spanish Linguistics (3 credits)
- SPA 350 - Spanish Laboratory Theatre (3 credits)
- SPA 360 - Perspectives on Hispanic Culture and Society (3 credits)
- SPA 361 - Spanish/Latin American Culture Through Film (3 credits)
- SPA 378 - Contemporary Latin American Literature (3 credits)
- SPA 380 - Special Topics in Spanish (1 to 6 credits)
- SPA 385 - Advanced Spanish in Mexico (4 credits)
- SPA 386 - Mexican Culture (2 credits)
- SPA 387 - EUSA Madrid-Language (3 credits)
- SPA 388 - EUSA Madrid-Internship (3 to 6 credits)
- SPA 395 - Advanced Speaking Strategies and Skills (3 credits)
- SPA 399 - Independent Reading (1 to 4 credits)
- SPA 410 - Spanish American Narrative (3 credits)
- SPA 420 - Topics in Early Spanish Literature (3 credits)
- SPA 430 - U.S. Latino/a Literature (3 credits)
- SPA 440 - Cervantes (3 credits)
- SPA 450 - Modern Spanish Novel (3 credits)
- SPA 460 - Women Authors (3 credits)
- SPA 480 - Special Topics in Spanish (1 to 6 credits)
- SPA 495 - Cross-National Literary Movements (Capstone) (3 credits)
- SPA 499 - Independent Study and Research (1 to 4 credits)

## **Sport Management (SPM)**

### **Courses**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- SPM 202 - Social Cultural Dimensions of Sport (3 credits)
- SPM 225 - Introduction to Sport Management (3 credits)
- SPM 355 - Contemporary Concepts of Coaching (3 credits)
- SPM 356 - Current Topics in Sport Management (3 credits)
- SPM 360 - Practicum in Sport Coaching (3 credits)
- SPM 376 - Sport Facility and Event Management (3 credits)
- SPM 380 - Special Topics in Sport Management (1 to 3 credits)
- SPM 390 - Practicum in Sport Management (3 credits)
- SPM 399 - Independent Study in Sport Management (1 to 3 credits)
- SPM 490 - Internship in Sport Management (6 to 12 credits)
- SPM 495 - Administration in Sport Management (3 credits)
- SPM 499 - Independent Study in Sport Management (1 to 3 credits)

## **Social Studies (SST)**

### **Courses**

- SST 308 - Teaching Elementary Social Studies: Grades PK-3 (3 credits)
- SST 309 - Teaching Elementary Social Studies: Grades 3-6 (3 credits)
- SST 310 - Teaching Social Studies: Secondary (3 credits)
- SST 311 - Data Literacy for Social Studies Teachers (3 credits)
- SST 495 - Education in Plural Societies (Capstone) (3 credits)

## **Statistics (STA)**

### **Courses**

- STA 126 - Statistics for Elementary Teachers (2 credits)
- STA 185 - Statistics Study Abroad (1 to 6 credits)
- STA 215 - Introductory Applied Statistics (3 credits)
- STA 216 - Intermediate Applied Statistics (3 credits)
- STA 220 - Statistical Modeling for Engineers (2 credits)
- STA 285 - Statistics Study Abroad (1 to 6 credits)
- STA 301 - Questionnaire Design and Execution (3 credits)
- STA 310 - Introduction to Biostatistics (3 credits)
- STA 311 - Introduction to Survey Sampling (3 credits)
- STA 312 - Probability and Statistics (3 credits)
- STA 314 - Statistical Quality Methods (3 credits)
- STA 315 - Design of Experiments (3 credits)
- STA 317 - Nonparametric Statistical Analysis (3 credits)
- STA 318 - Statistical Computing (3 credits)
- STA 321 - Applied Regression Analysis (3 credits)
- STA 323 - Predictive Analytics (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- STA 340 - Statistics in the Media (3 credits)
- STA 341 - Demographic Methods (3 credits)
- STA 345 - Statistics in Sports (3 credits)
- STA 380 - Special Topics in Statistics (1 to 3 credits)
- STA 385 - Statistics Study Abroad (1 to 6 credits)
- STA 412 - Mathematical Statistics I (4 credits)
- STA 415 - Mathematical Statistics II (Capstone) (4 credits)
- STA 418 - Statistical Computing and Graphics with R (3 credits)
- STA 419 - Statistics Project (3 credits)
- STA 421 - Bayesian Data Analysis (3 credits)
- STA 425 - Actuarial Probability and Statistics (3 credits)
- STA 426 - Multivariate Data Analysis (3 credits)
- STA 430 - History of Statistics (1 credit)
- STA 490 - Statistics Internship (1 to 3 credits)
- STA 499 - Independent Study and Research (1 to 3 credits)
- STA 518 - Statistical Computing and Graphics with R (3 credits)
- STA 526 - Multivariate Data Analysis (3 credits)
- STA 580 - Special Topics in Statistics (1 to 4 credits)
- STA 610 - Applied Statistics for Health Professions (3 credits)
- STA 615 - Design of Experiments for Engineers (3 credits)
- STA 616 - Statistical Programming (3 credits)
- STA 620 - Applied Multivariate Methods for Health Care (3 credits)
- STA 621 - Design of Experiments and Regression (4 credits)
- STA 622 - Statistical Methods for Biologists (3 credits)
- STA 623 - Categorical Data Analysis (3 credits)
- STA 625 - Clinical Trials (2 credits)
- STA 628 - Survival Analysis (3 credits)
- STA 630 - Topics in Advanced Statistical Applications (3 credits)
- STA 631 - Statistical Modeling and Regression (3 credits)
- STA 680 - Special Topics in Statistics (1 to 4 credits)
- STA 697 - Professional Learning (1 to 3 credits)
- STA 699 - Independent Study (1 to 4 credits)

## **Social Work (SW)**

### **Courses**

- SW 150 - Introduction to Social Work and Social Welfare (3 credits)
- SW 300 - Social Work and Difference, Diversity, and Privilege (3 credits)
- SW 316 - Interviewing in Social Work (3 credits)
- SW 317 - Generalist Practice I (3 credits)
- SW 318 - Generalist Practice II (3 credits)
- SW 319 - Social Welfare Policy and Services (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- SW 320 - Child Welfare Policy and Practice (3 credits)
- SW 322 - Responding to Chronic Illness (3 credits)
- SW 333 - Community Work with the Lesbian, Gay, Bisexual and Transgender Community (3 credits)
- SW 340 - Human Behavior and the Social Environment I (3 credits)
- SW 341 - Human Behavior and the Social Environment II (3 credits)
- SW 344 - Responding to Loss, Death, and Grief (3 credits)
- SW 348 - Professional Development in Social Work (3 credits)
- SW 351 - Cross-Cultural Service Learning (3 credits)
- SW 354 - Global: Cross-Cultural Community Based Learning (3 to 4 credits)
- SW 355 - Addressing Ageism and Health (3 credits)
- SW 380 - Special Topics in Social Work (1 to 4 credits)
- SW 430 - Social Work Research (4 credits)
- SW 439 - The Family and Social Work Practice (3 credits)
- SW 490 - Social Work Field Education I (3 credits)
- SW 491 - Social Work Field Education II (3 credits)
- SW 492 - Social Work Field Seminar I (1 credit)
- SW 493 - Social Work Field Seminar II (1 credit)
- SW 495 - Social Work Capstone (3 credits)
- SW 499 - Independent Study in Social Work (1 to 4 credits)
- SW 600 - Cultural Competency for Social Work (3 credits)
- SW 601 - Foundations of Social Work Practice (3 credits)
- SW 603 - Integrated Methods (3 credits)
- SW 610 - Social Welfare Policy and Services I (3 credits)
- SW 612 - Social Policy: Families and Children (3 credits)
- SW 613 - Human Rights and Social Work (3 credits)
- SW 614 - Social Policy and Mental Health (3 credits)
- SW 620 - Human Behavior and the Social Environment (3 credits)
- SW 622 - Clinical Diagnosis and Treatment Planning (3 credits)
- SW 629 - Communities and Organizations: Engagement, Assessment, Intervention, and Evaluation (3 credits)
- SW 630 - Social Work: Global Service-Learning (3 credits)
- SW 631 - Social Work: U.S. Community-Based Service Learning (3 credits)
- SW 640 - Seminar in Advanced Generalist Practice (Capstone) (3 credits)
- SW 650 - Field Education I (3 credits)
- SW 651 - Field Education Seminar I (1 credit)
- SW 652 - Field Education II (3 credits)
- SW 653 - Field Education Seminar II (1 credit)
- SW 654 - Field Education III (3 credits)
- SW 655 - Field Education Seminar III (1 credit)
- SW 660 - Grant Writing and Resource Development (3 credits)
- SW 661 - Social Work in the School/ Educational Setting (3 credits)
- SW 662 - Substance Abuse and Social Work Practice (3 credits)
- SW 663 - Child and Adolescent Development/Practice (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- SW 664 - Social Work Practice in Schools (3 credits)
- SW 665 - Opportunities in Aging Societies (3 credits)
- SW 668 - Child and Adolescent Trauma (3 credits)
- SW 669 - Responses to Loss and Death (3 credits)
- SW 670 - Social Work Practice with Individuals (3 credits)
- SW 671 - Social Work Practice in Health Care (3 credits)
- SW 672 - Social Work Practice with Groups (3 credits)
- SW 673 - Social Work Practice with Children and Adolescents (3 credits)
- SW 674 - Social Work Practice: Families and Children (3 credits)
- SW 675 - Child Welfare and Family Services (3 credits)
- SW 676 - Community and Social Planning (3 credits)
- SW 677 - Principles of Supervision (3 credits)
- SW 678 - Human Services Administration (3 credits)
- SW 679 - Program Monitoring and Evaluation (3 credits)
- SW 680 - Special Topics in Social Work (1 to 4 credits)
- SW 690 - Social Research I (3 credits)
- SW 691 - Social Research II (3 credits)
- SW 695 - Master's Thesis (1 to 6 credits)
- SW 696 - Continuation of Master's Project or Thesis Research (1 credit)
- SW 697 - Professional Learning (1 to 3 credits)
- SW 699 - Independent Study (1 to 3 credits)

## Theatre (THE)

### Courses

- THE 101 - Introduction to Theatre (3 credits)
- THE 151 - Acting Process (3 credits)
- THE 152 - Voice for the Actor (3 credits)
- THE 161 - Theatre Production (3 credits)
- THE 162 - Play Analysis (3 credits)
- THE 198 - Rehearsal and Performance (1 to 3 credits)
- THE 250 - Theatre Management (3 credits)
- THE 252 - Acting Characterization (3 credits)
- THE 261 - Stagecraft I (3 credits)
- THE 262 - Costume Construction (3 credits)
- THE 263 - Makeup (2 credits)
- THE 298 - Applied Theatre Practice (1 to 3 credits)
- THE 300 - Storytelling (3 credits)
- THE 325 - Theatre for Social Change (3 credits)
- THE 356 - Acting for the Camera (3 credits)
- THE 362 - Production Dramaturgy (3 credits)
- THE 365 - Directing I (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- THE 366 - Drama in Education (3 credits)
- THE 367 - Scenography (3 credits)
- THE 368 - Lighting Design (3 credits)
- THE 369 - Costume Design (3 credits)
- THE 371 - Theatre History I (3 credits)
- THE 372 - Theatre History II (3 credits)
- THE 380 - Special Topics in Theatre (1 to 3 credits)
- THE 399 - Independent Reading (1 to 3 credits)
- THE 400 - Touring Theatre Production (3 credits)
- THE 454 - Acting Advanced Scene Study (3 credits)
- THE 455 - Shakespeare Performance (3 credits)
- THE 465 - Directing II (3 credits)
- THE 490 - Internship (1 to 6 credits)
- THE 495 - Theatre Capstone (3 credits)
- THE 499 - Independent Research (1 to 3 credits)

## **University Studies (US)**

### **Courses**

- US 102 - Career Education Class (1 credit)
- US 280 - Special Topics in University Studies (3 credits)
- US 301 - Internship and Job Search Strategies (1 credit)
- US 380 - Special Topics in University Studies (3 credits)
- US 480 - Environmental Sustainability (1 to 9 credits)

## **Water (WAT)**

### **Courses**

- WAT 532 - Advanced Aquatic Ecology (3 credits)
- WAT 545 - Theoretical Perspectives in Aquatic Science (3 credits)
- WAT 565 - Water Policy and Science (3 credits)
- WAT 576 - Aquatic Ecosystem Management (3 credits)
- WAT 651 - Emerging Issues in Water Resources (2 credits)
- WAT 691 - Internship (6 to 9 credits)
- WAT 697 - Professional Learning (1 to 3 credits)

## **Women/Gender/ Sexuality Studies (WGS)**

### **Courses**

- WGS 180 - Special Topics in Women, Gender, and Sexuality Studies (1 to 3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- WGS 200 - Introduction to Gender Studies (3 credits)
- WGS 224 - Introduction to LGBTQ Studies (3 credits)
- WGS 255 - Gender and Popular Culture (3 credits)
- WGS 280 - Special Topics in Women Gender, and Sexuality Studies (3 credits)
- WGS 302 - Women, Politics, and Public Policy (3 credits)
- WGS 310 - LGBTQ Rights and the Law (3 credits)
- WGS 315 - Psychology of Sex Differences (3 credits)
- WGS 316 - The Psychology of Human Intimacy and Sexuality (3 credits)
- WGS 317 - Sociology of Gender (3 credits)
- WGS 318 - Sociology of Sexuality (3 credits)
- WGS 320 - Crimes Against Women (3 credits)
- WGS 325 - Body, Gender, Sexuality in Antiquity (3 credits)
- WGS 326 - Sexuality, Justice, and Advocacy (3 credits)
- WGS 334 - Sex, Power, and Politics (3 credits)
- WGS 335 - Women, Health and Environment (3 credits)
- WGS 336 - Lesbian, Gay and Queer Literature (3 credits)
- WGS 343 - Black Feminist Thought (3 credits)
- WGS 350 - Family and Gender in the Developing World (3 credits)
- WGS 352 - Black Women's Culture and Communities (3 credits)
- WGS 358 - Women and Gender in South Africa (3 credits)
- WGS 360 - Foundations of Feminism (3 credits)
- WGS 365 - Queer Theory (3 credits)
- WGS 370 - Women and the Law (3 credits)
- WGS 371 - Historical Perspectives on Gender and Sexualities (3 credits)
- WGS 380 - Special Topics in Women Gender, and Sexuality Studies (1 to 4 credits)
- WGS 395 - Women and Gender Studies Research Methods (3 credits)
- WGS 399 - Independent Readings (1 to 3 credits)
- WGS 402 - Feminist Visionary Thinkers (3 credits)
- WGS 450 - Global Feminisms (3 credits)
- WGS 460 - Spanish Women Authors (3 credits)
- WGS 461 - Language and Gender (3 credits)
- WGS 490 - WGS Internship (variable credits)
- WGS 491 - Contemporary Theory and Practicum (3 credits)
- WGS 492 - Community Collaborative (3 credits)
- WGS 493 - Community Collaborative in South Africa (3 credits)
- WGS 495 - Capstone (3 credits)
- WGS 499 - Independent Study and Research (1 to 4 credits)

## Writing (WRT)

### Courses

- WRT 120 - Strategies in Writing - Stretch I (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- WRT 130 - Strategies in Writing - Stretch II (3 credits)
- WRT 150 - Strategies in Writing (4 credits)
- WRT 180 - Special Topics in Writing (3 credits)
- WRT 200 - Introduction to Professional Writing (3 credits)
- WRT 210 - Introduction to Style (3 credits)
- WRT 219 - Introduction to Creative Writing (3 credits)
- WRT 253 - Document Production and Design (3 credits)
- WRT 305 - Writing in the Disciplines (3 credits)
- WRT 306 - Seminar for Writing Tutors (1 credit)
- WRT 307 - Consulting with Writers (3 credits)
- WRT 308 - Editing and Publishing (3 credits)
- WRT 316 - Style and Technique (3 credits)
- WRT 320 - Intermediate Poetry Workshop (3 credits)
- WRT 330 - Intermediate Fiction Workshop (3 credits)
- WRT 350 - Business Communication (3 credits)
- WRT 351 - Writing for the Web (3 credits)
- WRT 353 - Visual Rhetoric and Document Design (3 credits)
- WRT 354 - Writing in the Global Context: Culture, Technology, and Language Practices (3 credits)
- WRT 357 - Professional Writing in International Contexts (3 credits)
- WRT 360 - Intermediate Creative Nonfiction (3 credits)
- WRT 365 - Intermediate Magazine Writing (3 credits)
- WRT 380 - Special Topics in Writing (3 credits)
- WRT 381 - Writing and Sports (3 credits)
- WRT 399 - Independent Studies (1 to 4 credits)
- WRT 411 - Style and the Book (3 credits)
- WRT 420 - Advanced Poetry Workshop (3 credits)
- WRT 430 - Advanced Fiction Workshop (3 credits)
- WRT 451 - Advanced Writing for the Web (3 credits)
- WRT 455 - Multimodal Composing (3 credits)
- WRT 460 - Advanced Creative Nonfiction (3 credits)
- WRT 465 - Advanced Magazine Writing (3 credits)
- WRT 490 - Writing Internship (1 to 3 credits)
- WRT 495 - Genre and Writing (Capstone) (3 credits)

## Accounting

For additional information about opportunities your college offers, please refer to the Seidman College of Business section in this catalog.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

**Website:** [gvsu.edu/seidman](http://gvsu.edu/seidman)

Students who elect to major in accounting may prepare themselves for a variety of accounting careers and fulfill the education requirements for taking the Certified Public Accountant (CPA) and/or the Certified Management Accountant (CMA) examination. Accountancy also provides an excellent undergraduate background for a degree in law.

## **Accounting Minor**

### **Requirements for a Minor in Accounting**

Eligible business majors who elect to complete one of the business minors may be required to extend their degree programs beyond the minimum 120-semester hour university requirement.

The undergraduate accounting minor program is open to all students except accounting majors. The minor complements major fields of study in other departments or schools and enables students to choose a concentration of courses in a particular area of accounting, such as financial, managerial, and tax.

The accounting minor consists of 18 credit hours. The six courses are made up of two required courses (ACC 212 and ACC 213) and four upper-division accounting courses. Transfer students must complete at least three upper-division accounting courses at the Seidman College of Business. Independent research and internship credits do not count toward requirements for the minor. Only upper-division accounting courses in which the student has earned a C- or better may be used to satisfy requirements for the accounting minor. Students must achieve a cumulative 2.5 GPA in these courses to receive the accounting minor designation. Courses cannot be taken on a credit/no-credit basis.

## **Bachelor of Business Administration in Accounting**

### **Requirements for the B.B.A.**

#### **Core Courses**

All business core courses acquaint you with various fields in business and help you learn to communicate, to interact, and to assume responsible positions in your chosen field.

For the B.B.A., you must complete the following courses.

ACC 212 - Principles of Financial Accounting (3 credits)

ACC 213 - Principles of Managerial Accounting (3 credits)

BUS 201 - Legal Environment for Business (3 credits)

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**BOTH** ECO 210 - Introductory Macroeconomics (3 credits) **AND** ECO 211 - Introductory Microeconomics (3 credits)  
**OR ONLY** ECO 200 - Business Economics (3 credits)

Upper-division economics course (not ECO 490) Credits: 3

FIN 320 - Managerial Finance (3 credits)

MGT 268 - Business Processes and Management Information Systems (3 credits)

MGT 331 - Managing People and Organizations (3 credits)

MGT 366 - Operations Management (3 credits)

MGT 495 - Administrative Policy (3 credits)

MKT 350 - Marketing Management (3 credits)

Students are required to select one class from the following list. This course may count toward the major or minor if applicable. Note: While B.B.A. requires one from the following list, accounting majors are required to take ACC 333 (see Requirements for a Major in Accounting).

ACC 333 - Corporate Governance and Accounting Ethics (3 credits)

ECO 440 - Public Economics and Ethics (3 credits)

FIN 330 - Ethics in Finance (3 credits)

MGT 340 - Ethics and Business, Social Justice and Sustainability (3 credits)

MGT 438 - Business Ethics (3 credits)

MKT 375 - Marketing Ethics (3 credits)

### **Required Business Electives**

Three upper-division Seidman courses are not applied to the major or minor (nine credits total). However, these courses can be applied toward a second business major if one is declared.

With permission, qualifying accounting majors who will otherwise exceed the minimum 120-credit requirement for the B.B.A. can fulfill this requirement by enrolling in 500-/600- level graduate accounting courses. Such qualifying students will have: 1) completed ACC 310, ACC 311, and ACC 340 with a grade of B or better; 2) no more than 35 credits left to complete their undergraduate degree requirements; 3) a cumulative GPA of at least 3.0; and 4) a GMAT score of at least 500 (or qualify for a GMAT waiver).

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Electives**

Students may elect nonbusiness or business courses to fulfill their elective course requirements. Students may apply up to six hours of internship and independent research credit, in any combination, toward their degree requirements. Business majors may not take any of the major courses, except the internship and study abroad courses, on a credit/no credit basis.

## **Requirements for a Major in Accounting**

Accounting majors must complete all requirements for the B.B.A. degree (the business core, three business electives, and one ethics requirement course) and take additional credit hours, as follows:

STA 215 - Introductory Applied Statistics (3 credits)

ACC 240 - Financial Accounting Applications (1 credit)

ACC 310 - Intermediate Accounting I (3 credits)

ACC 311 - Intermediate Accounting II (3 credits)

ACC 321 - Cost Strategy and Decision Making (3 credits)

ACC 333 - Corporate Governance and Accounting Ethics (3 credits)

ACC 340 - Accounting Systems (3 credits)

Quantitative group - choose one:

MTH 122 - College Algebra (3 credits)

MTH 125 - Survey of Calculus (3 credits)

MTH 201 - Calculus I (4 credits)

PHI 103 - Logic (3 credits)

MGT 361 - Management Science (3 credits)

One of the following two courses:

ACC 317 - Individual Income Taxation (3 credits)

ACC 318 - Entity Taxation (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

And one of the following two courses:

ACC 413 - Internal Auditing (3 credits)

ACC 414 - External Auditing (3 credits)

The required course from the auditing group (ACC 413 or ACC 414) will be waived for students who have completed ACC 513 or ACC 514 with a grade of 3.0 or higher.

### **Additional Requirements**

To graduate, these requirements must be met:

Accounting students must achieve a 2.5 minimum GPA for upper-division accounting courses.

Students must receive at least a B- in ACC 240 to enroll in ACC 310 and at least a C in ACC 310 to enroll in ACC 311.

If the GPA for upper-division accounting courses falls below 2.5 (after nine hours are completed) the student will not be permitted to take additional upper-division accounting courses. However, such students may repeat upper-division accounting courses for which they received a low grade.

Only upper-division accounting courses in which the student has earned a C- or better may be used to satisfy requirements for an accounting degree.

Accounting students must also meet other requirements of the undergraduate business program.

Students entering the accounting program are expected to have a basic knowledge of spreadsheets before enrollment in upper-division accounting courses. Taking the intermediate sequence courses ACC 310 and ACC 311 in contiguous semesters is highly recommended. Internships are strongly encouraged.

## **Combined Bachelor of Business Administration in Accounting and Master of Science in Accounting**

Qualified undergraduate accounting students may be conditionally admitted to a combined bachelor's/master's program and obtain both a B.B.A. and an M.S. in accounting within an accelerated time frame. Students admitted to this program may take graduate courses after completing 85 undergraduate credits, and up to 12 credits of graduate work may be used in partial satisfaction of the requirements for the undergraduate degree (in alignment with university policy, a maximum of 12 credit hours of graduate work will count toward both the

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

graduate and undergraduate degrees). During their fourth-year students can select up to four courses from the following graduate accounting courses:

ACC 508 - Governmental and Not-for-Profit Accounting (3 credits)

ACC 513 - Internal Auditing (3 credits)

ACC 514 - External Auditing (3 credits)

ACC 516 - Information Systems Auditing (3 credits)

ACC 612 - The Accountant's Legal Environment (3 credits)

ACC 615 - Entity Taxation-Theory and Practice (3 credits)

ACC 618 - Advanced Accounting (3 credits)

ACC 513 - Internal Auditing (3 credits) or ACC 514 - External Auditing (3 credits)

ACC 513 or ACC 514 fulfill the B.B.A.'s undergraduate auditing requirement, while the other courses fulfill the B.B.A.'s undergraduate Seidman College of Business electives requirement. No more than three 500-level courses can be counted toward the minimum 33 hours of the M.S.A. degree. Note: NASBA (National Association of State Boards of Accountancy) requires candidates to have taken External Auditing to be eligible to sit for the CPA exam, so students who plan to take the CPA exam should certainly take ACC 514 and may additionally take ACC 513.

If students earn at least a grade of B in each of these classes, they are granted full admission to the master's program and must then complete an additional 21 credits to receive the master's degree. All other master's degree requirements must be met. After completing 120 credits and all requirements for the bachelor's degree, students are awarded a bachelor's degree. A minimum of 21 graduate credits must be completed after the 120 credits for the bachelor's degree are completed (the M.S.A. program requires 33 hours).

Undergraduate accounting majors with an overall GPA of at least 3.25 may apply to the combined bachelor's/master's program after completion of the following:

Business core requirements with a grade of B or higher in each: ECO 210 and ECO 211, BUS 201, and MGT 268

Undergraduate accounting requirements with a grade of B or higher in each: ACC 212, ACC 213, ACC 240, ACC 310, and any other 300- or 400-level accounting course(s)

70 hours of academic credit, with at least 15 credits at GVSU that have been completed or are in progress

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

## **Admission**

Students will normally apply for the combined B.B.A./M.S. in accounting degree program during their third academic year (for a complete list of application requirements and to apply, see [gvsu.edu/msa](http://gvsu.edu/msa)). Acceptance recommendations will be made by the School of Accounting's Admissions Committee after evaluation of the application and the completion of all application requirements.

## **Requirements**

### **Requirements During Undergraduate Studies**

An undergraduate student enrolled in the combined degree program is required to successfully complete, as defined as follows, a minimum of 12 credits each regular semester until all undergraduate courses required for the degree have been completed (except when completing an internship or other extenuating circumstances).

Students will maintain a cumulative undergraduate GPA of at least 3.25, earning a C or higher in each undergraduate course attempted; and

Students will earn a B or higher in each graduate course attempted.

All university requirements, including general education courses, must be completed before the final (graduate) year of the combined B.B.A./M.S. in accounting program. In the final undergraduate year, students will take 12 credits of graduate-level courses.

Students will be considered undergraduates for tuition, academic requirements, and financial aid purposes until all requirements for the undergraduate degree are completed. Following this, they will be considered graduate students, will pay graduate tuition, and will be eligible for graduate financial aid.

### **Graduation Without Completion of the Combined Program**

If a student decides at some point to pursue only the undergraduate portion of the combined degree, the School of Accounting will still recognize the graduate courses taken in lieu of undergraduate courses. Credit from the undergraduate degree cannot be used toward a graduate degree at a later date.

## **Master of Science in Accounting**

**Website:** [gvsu.edu/msa](http://gvsu.edu/msa)

The Master of Science in accounting degree is intended for students pursuing careers in public, corporate, and not-for-profit accounting, including those with limited undergraduate accounting education. The M.S.A. degree meets current educational requirements for public accounting

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

certification (CPA) in Michigan as of this catalog publication date. Students should verify current educational requirements at [Michigan.gov/lara](http://Michigan.gov/lara).

## **Admission**

Admission to the M.S.A. program is based on an evaluation of the candidate's application and other submitted documentation. An undergraduate degree in accounting is not required, but those with limited undergraduate business education are required to complete business and accounting courses that provide a foundation for advanced study in accounting.

Applicants must submit official documentation of all previous college coursework, including a baccalaureate degree (or equivalent international credential). Additionally, applicants must submit:

GMAT score (unless waived)

Personal statement

TOEFL score (if English is not the applicant's first language)

The Graduate Accounting Committee bases admission decisions on previous undergraduate and graduate academic performance and evidence of other competencies related to program and workplace success. Applicants with a cumulative GPA of at least 3.0 for the last 60 semester hours of undergraduate coursework and with grades of B or better in all intermediate accounting courses at an AACSB-accredited school are considered academically qualified for full admission and the GMAT requirement is waived. A TOEFL score of at least 80 (IBT) is required of applicants whose first language is not English. Work experience is not required but may be used in the admission decision.

For applicants with a cumulative GPA below 3.0 for the last 60 semester hours of undergraduate coursework, the Graduate Admissions Committee considers a scholastic index (SI) for M.S.A. applicants computed as follows:

$$SI = (\text{GPA for last 60 semester hours of undergraduate coursework} \times 200) + \text{GMAT score.}$$

Applicants with a scholastic index of at least 1100, and satisfactory evidence in their other credentials are considered academically qualified for full admission.

## **Conditional Admission**

Students admitted under this status must meet specific requirements detailed in their letter of admission to be fully admitted to the program.

If an otherwise qualified applicant has not completed prerequisite or foundational courses including intermediate accounting (or received a grade below a B in any intermediate accounting course), it is likely that the applicant will be offered conditional admission. Full admission to the

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

M.S.A. program will be granted upon meeting specified conditions. The conditional admission status is described in detail in the Graduate Admissions section of the catalog.

Individuals not yet admitted to the M.S.A. program may enroll in Foundation courses. Candidates who have not completed Intermediate Accounting I (ACC 310 or equivalent) with a grade of B or higher may only enroll in foundation or undergraduate accounting exposure courses until ACC 310 is completed with a grade of B or higher. Accordingly, the student is advised to take ACC 310 as soon as its prerequisites are met. Foundation courses do not count toward the 33 graduate-credit minimum for the M.S.A. degree. Candidates who have not completed Intermediate Accounting II (ACC 311 or equivalent) with a grade of B or better should take this course in the first semester of attendance after the ACC 310 prerequisite has been met.

### **Dual Enrollment**

Enrollment in dual-listed 500-level courses or 600-level courses is generally restricted to students admitted to the respective program who have also completed the appropriate prerequisite courses. The exception to this policy is Seidman College of Business accounting students with senior standing who meet all other admissions criteria. Such students will have: 1) completed ACC 310, ACC 311, and ACC 340 with a grade of B or better; 2) no more than 35 credits left to complete their undergraduate degree requirements; and 3) a cumulative GPA of at least 3.0. With permission of the Seidman Graduate Programs Office, such students may enroll for as many as four graduate-level accounting courses that may be applied toward the M.S.A. degree once they are admitted.

### **GMAT Waiver**

The following categories of applicants may request a waiver of the GMAT examination requirement:

Applicants who have earned a master's degree from an AACSB-accredited business school.

Applicants who have completed a U.S. Juris Doctor (J.D.) degree with a cumulative GPA of 3.0 or higher.

A certified public accountant registered or licensed in any U.S. jurisdiction.

Applicants seeking a GMAT waiver should contact the Seidman Graduate Programs Office for details. A GMAT waiver does not result in guaranteed admission; the admissions decision will be based on the applicant's application materials.

### **Transfer Credit**

A maximum of nine semester-hours of transfer credit will be given for appropriate graduate courses completed with a grade of B or better from an AACSB-accredited college. These credits

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

may be substituted for required or elective courses as determined by the Seidman Graduate Programs Office. University policy on transfer of credit also governs such courses.

### **Academic Review**

A cumulative GPA of 3.0 or higher is required in all graduate-level courses. Additionally, a cumulative GPA of 3.0 is required in all 600-level courses that fulfill graduation requirements for the M.S.A. A grade of C or better must be earned in all graduate courses that fulfill graduation requirements for the M.S.A.

### **Graduate Outcomes/Time to Program Completion**

The School of Accounting faculty has identified the following learning objectives for M.S.A. students, and objectives are assessed regularly to ensure that they are being achieved.

M.S.A. graduates will be

technically competent;

effective accounting researchers;

effective communicators;

internationally literate; and

prepared to recognize and respond to ethical questions encountered in the practice of accounting.

Students with an undergraduate degree in accounting or business can generally complete the program in one calendar year. Students with no or limited accounting coursework can complete the program in two calendar years.

### **Program Location**

The M.S.A. program is offered at the Pew Grand Rapids Campus in downtown Grand Rapids, Michigan. Most courses are located in the L. William Seidman Center, home of the Seidman College of Business.

### **Requirements**

All M.S.A. students must complete a minimum of 33 graduate credits that include at least:

24 credits of 600-level courses

18 credits of graduate accounting courses

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## Foundation Requirements

Foundation requirements may be met by completion of the following GVSU undergraduate courses or their equivalents.

Area	Course
Accounting	ACC 212 - Principles of Financial Accounting (3 credits)
	ACC 213 - Principles of Managerial Accounting (3 credits)
	ACC 310 - Intermediate Accounting I (3 credits)
	ACC 311 - Intermediate Accounting II (3 credits)
	ACC 321 - Cost Strategy and Decision Making (3 credits)
	ACC 340 - Accounting Systems (3 credits)
Legal Environment for Business	BUS 201 - Legal Environment for Business (3 credits)
Statistics	STA 215 - Introductory Applied Statistics (3 credits)
Finance	FIN 320 - Managerial Finance (3 credits)
Economics	ECO 210 - Introductory Macroeconomics (3 credits)
	ECO 211 - Introductory Microeconomics (3 credits)

ACC 310 and ACC 340 have a prerequisite of ACC 240 - Financial Accounting Applications. This prerequisite may be waived for a graduate student based on employment experience or a satisfactory demonstration of competency in the application of financial accounting concepts. Please contact the Seidman Graduate Programs Office for information on specific requirements for a waiver. ACC 340 also has a prerequisite of MGT 268 that is waived for admitted M.S.A. students.

Students who have completed the preceding GVSU undergraduate courses listed or the equivalent courses at another university may not enroll in the content-equivalent graduate-level course unless required as a condition of admission, or are granted permission by the Seidman Graduate Programs Office.

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

## **Core Courses**

All M.S.A. students must complete a minimum of 18 credits in graduate accounting courses including the following courses:

ACC 607 - Ethics for Accountants (3 credits)

ACC 613 - Financial Statement Analysis (3 credits)

ACC 616 - Structured Accounting Analytics and Emerging Technologies (3 credits)

ACC 617 - International Accounting (3 credits)

ACC 620 - Accounting Theory (3 credits)

ACC 620 is the Capstone course and may not be taken until other core courses have been completed; however, concurrent enrollments may be granted with permission from the Seidman Graduate Programs Office.

## **Elective Courses**

Courses to fulfill the elective credits are selected with guidance from the Seidman Graduate Programs Office and the faculty advisor. Graduate courses both within and outside of accounting can be selected if deemed appropriate and aligned with the student's career goals.

## **Accounting Exposure Courses**

Accounting exposure courses may be taken at either the undergraduate level prior to or while enrolled in the M.S.A. program. Their purpose is to ensure that all M.S.A. graduates have basic competencies in each major area of accounting. For the exposure requirement, all students are required to complete, with a grade of C or better, at least one three credit course in cost or managerial accounting, corporate taxation, external auditing, advanced accounting, and accountant's legal environment. All non-GVSU courses used to meet this requirement must be evaluated by GVSU accounting faculty as equivalent to the appropriate GVSU course.

At the discretion of the faculty advisor, a combination of courses may be used to satisfy the requirement for a course in advanced accounting. Students who have completed accounting exposure courses at the undergraduate level or equivalent courses at another university may not enroll in content equivalent graduate level courses unless required as a condition of admission, or are granted permission by the Seidman Graduate Programs Office. An accounting exposure course taken at the undergraduate level is not counted toward the 33 graduate credit requirement.

## **Individualized Plan of Study/Time to Program Completion**

All admitted students must meet with a faculty advisor prior to or during their first semester of graduate coursework to obtain an individualized plan of study (IPS) specifying the coursework

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

required for the M.S.A. degree and any emphases elected by the student. The IPS will be developed by the student's advisor based upon review of the student's previous coursework, program requirements, and the student's interests. Any subsequent changes to the IPS must be approved by the faculty advisor.

Students generally fall into one of the following categories:

#### Undergraduate Degree in Accounting

Students entering the M.S.A. program with an undergraduate degree in accounting may generally expect to complete a 33-credit program. These students must take the accounting core and 18 credits of approved 500- and 600-level electives selected from among Seidman graduate offerings or, with permission of the student's faculty advisor, from graduate program offerings outside the Seidman College of Business courses.

#### Nonaccounting Business Degree

Students entering the program with an undergraduate degree in business, but with six or fewer hours in accounting, may expect an IPS listing all accounting core and exposure courses with a program length of 33 to 42 credits.

#### Nonbusiness Degree

Students entering the program with a nonbusiness undergraduate degree and no prior coursework in business or accounting will receive a standard IPS totaling approximately 62 semester hours.

### **Emphases**

A student may elect to complete the M.S.A. degree with an emphasis in auditing or taxation. These emphases are intended for students who desire advanced knowledge and skills in auditing or taxation. The emphasis will be listed on the student's transcript.

#### **Auditing Emphasis**

The student electing the auditing emphasis must complete the following courses:

ACC 513 - Internal Auditing (3 credits)

ACC 516 - Information Systems Auditing (3 credits)

ACC 603 - Accounting and Auditing Research (3 credits)

ACC 608 - Forensic Accounting (3 credits)

#### **Taxation Emphasis**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

The student electing the taxation emphasis must complete the following courses:

ACC 622 - Tax Research and Writing (3 credits)

ACC 624 - Corporate Tax I (3 credits)

ACC 627 - Estate, Gift, and Trust I (3 credits)

ACC 629 - Partnership Taxation (3 credits)

At least three of the courses in an emphasis must be completed at GVSU. These courses may be used to either fulfill required electives in the program or extend the number of hours required for the degree, depending on the student's individual circumstances. For students with undergraduate accounting degrees, it may be possible to complete the degree with an emphasis in 36 credits. Other students desiring an emphasis should expect to complete additional credits beyond what is required for the degree. With the approval of the student's faculty advisor, a different 600-level course in auditing or taxation may be substituted for one of the preceding courses. **To elect the emphasis, the student must request that their faculty advisor add the emphasis to the student's individualized plan of study.**

## **Combined B.B.A./M.S. in Accounting**

Qualified undergraduate accounting students may be conditionally admitted to a combined bachelor's/master's program and obtain both a B.B.A. and an M.S. in accounting within an accelerated time frame. Students admitted to this program may take graduate courses after completing 85 undergraduate credits, and up to 12 credits of graduate work may be used in partial satisfaction of the requirements for the undergraduate degree (in alignment with university policy, a maximum of 12 credit hours of graduate work will count toward both the graduate and undergraduate degrees). During their fourth year, students can select up to four courses from the following graduate accounting courses:

ACC 508 - Governmental and Not-for-Profit Accounting (3 credits)

ACC 513 - Internal Auditing (3 credits)

ACC 514 - External Auditing (3 credits)

ACC 516 - Information Systems Auditing (3 credits)

ACC 612 - The Accountant's Legal Environment (3 credits)

ACC 615 - Entity Taxation-Theory and Practice (3 credits)

ACC 618 - Advanced Accounting (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

ACC 513 or ACC 514 fulfills the BBA's undergraduate auditing requirement, while the other courses fulfill the BBA's undergraduate Seidman College of Business electives requirement. No more than three 500-level courses can be counted toward the minimum 33 hours of the M.S.A. degree.

If students earn at least a grade of B in each of these classes, they are granted full admission to the master's program and must then complete an additional 21 credits to receive the master's degree. All other master's degree requirements must be met. After completing 120 credits and all requirements for the bachelor's degree, students are awarded a bachelor's degree. A minimum of 21 graduate credits must be completed after the 120 credits for the bachelor's degree are completed (the M.S.A. program requires 33 hours).

Undergraduate accounting majors with an overall GPA of at least 3.25 may apply to the combined bachelor's/master's program after completion of the following:

Business core requirements with a grade of B or higher in each: ECO 210 and ECO 211, BUS 201, and MGT 268

Undergraduate accounting requirements with a grade of B or higher in each: ACC 212, ACC 213, ACC 240, ACC 310, and any other 300- or 400-level accounting course(s)

70 hours of academic credit, with at least 15 credits at GVSU that have been completed or are in progress

## **Admission**

Students will normally apply for the combined B.B.A./M.S. in accounting degree program during their third academic year (for a complete list of application requirements and to apply, see [gvsu.edu/msa](http://gvsu.edu/msa)). Acceptance recommendations will be made by the School of Accounting's Admissions Committee after evaluation of the application and the completion of all application requirements.

## **Requirements**

### **During Undergraduate Studies**

An undergraduate student enrolled in the combined degree program is required to successfully complete, as defined as follows, a minimum of 12 credits each regular semester until all undergraduate courses required for the degree have been completed (except when completing an internship or other extenuating circumstances).

Students will maintain a cumulative undergraduate GPA of at least 3.25, earning a C or higher in each undergraduate course attempted; and

Students will earn a B or higher in each graduate course attempted.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

All university requirements, including general education courses, must be completed before the final (graduate) year of the combined B.B.A./M.S. in accounting program. In the final undergraduate year, students will take 12 credits of graduate-level courses.

Students will be considered undergraduates for tuition, academic requirements, and financial aid purposes until all requirements for the undergraduate degree are completed. Following this they will be considered graduate students, will pay graduate tuition, and will be eligible for graduate financial aid.

### **Graduation Without Completion of the Combined Program**

If a student decides at some point to pursue only the undergraduate portion of the combined degree, the School of Accounting will still recognize the graduate courses taken in lieu of undergraduate courses. Credit from the undergraduate degree cannot be used toward a graduate degree at a later date.

## **Advertising and Public Relations**

For additional information about opportunities your college offers, please refer to the School of Communications or the College of Liberal Arts and Sciences section in this catalog.

**Website:** [gvsu.edu/soc/apr](http://gvsu.edu/soc/apr)

The advertising and public relations major values integrating theory with practice. Our curriculum follows the recommendations of industry organizations such as the American Advertising Federation (AAF) and the Commission on Education in Public Relations (CEPR). Also, students work with actual clients from the community on a regular basis in four different courses. The program also requires at least one three-credit internship to gain experience.

### **Advertising and Public Relations Minor**

#### **Requirements**

Requirements for a minor in advertising and public relations is 21 credits, including the following courses:

CAP 105 - Technology in Public Relations and Advertising (3 credits)

CAP 115 - Research Basics for Advertising and Public Relations (3 credits)

CAP 210 - Fundamentals of Advertising (3 credits)

CAP 220 - Fundamentals of Public Relations (3 credits)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

CAP 310 - Advertising Management and Cases (3 credits) **OR** CAP 320 - Public Relations Management and Cases (3 credits)

In addition, the minor requires six credits (two courses) of electives, which must be approved by a faculty advisor. Often, courses in the APR major not required for the minor are a good choice (e.g. CAP 315, CAP 321, CAP 413, CAP 423). Additional suggested electives are listed under the advertising and public relations link on the School of Communications website at [gvsu.edu/soc](http://gvsu.edu/soc).

## **Bachelor of Arts or Bachelor of Science in Advertising and Public Relations**

The School of Communications core, B.A./B.S. degree requirements, and emphasis requirements total 57 credits.

### **Requirements for a Major in Advertising and Public Relations**

#### **B.A./B.S. Degree Requirements**

There are nine credits required. All undergraduate programs in the School of Communications offer both the B.A. degree and the B.S. degree. All students selecting majors in the School of Communications must choose either the B.A. or B.S. degree requirement that is intended for a particular undergraduate program.

#### **B.A. Degree**

The B.A. degree requires a third semester proficiency in a foreign language of the student's choice.

#### **B.S. Degree**

STA 215 - Introductory Applied Statistics (3 credits)

COM 275 - Foundations of Communication Research (3 credits)

COM 375 - Communication Research (3 credits)

#### **School of Communications Core**

All students majoring in the School of Communications must complete the following core courses, for a total of nine credits:

COM 101 - Concepts of Communication (3 credits)

COM 201 - Speech (3 credits)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

COM 295 - Communication Theory (3 credits)

## **Advertising Emphasis**

Advertising core, electives, and Capstone require 39 credits.

### **Core Courses**

There are 30 credits required.

ART 209 - Graphic Design Basics (3 credits)

CAP 105 - Technology in Public Relations and Advertising (3 credits)

CAP 115 - Research Basics for Advertising and Public Relations (3 credits)

CAP 210 - Fundamentals of Advertising (3 credits)

CAP 220 - Fundamentals of Public Relations (3 credits)

CAP 310 - Advertising Management and Cases (3 credits)

CAP 315 - Advertising Copywriting (3 credits)

CAP 413 - Media Planning (3 credits)

CAP 490 - Internship in Advertising/Public Relations (1 to 6 credits) Minimum of three credits are required for the major.

WRT 219 - Introduction to Creative Writing (3 credits)

PHI 325 - Ethics in Professional Life (3 credits) **OR** CAP 325 - Advertising and Public Relations Ethics and Law (3 credits)

### **Elective Courses**

There are a minimum of six credits required.

With advisor approval, select a minimum of two courses at the 200-level or above that complement your studies in advertising and public relations. Courses may be from other departments. See list of suggested electives at [gvsu.edu/soc/advertising-public-relations-major-47.htm](http://gvsu.edu/soc/advertising-public-relations-major-47.htm).

### **Capstone**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

There are three credits required.

CAP 495 - Advertising and Public Relations Campaign (3 credits)

## **Public Relations Emphasis**

Public relations core, electives, and Capstone require 39 credits.

### **Core Courses**

There are 30 credits required.

ART 209 - Graphic Design Basics (3 credits)

CAP 105 - Technology in Public Relations and Advertising (3 credits)

CAP 115 - Research Basics for Advertising and Public Relations (3 credits)

CAP 210 - Fundamentals of Advertising (3 credits)

CAP 220 - Fundamentals of Public Relations (3 credits)

CAP 320 - Public Relations Management and Cases (3 credits)

CAP 321 - Media Relations Writing (3 credits)

CAP 423 - Writing Corporate Communications (3 credits)

CAP 490 - Internship in Advertising/Public Relations (1 to 6 credits) Minimum of 3 credits required for the major.

CMJ 256 - News Reporting (3 credits)

PHI 325 - Ethics in Professional Life (3 credits) **OR** CAP 325 - Advertising and Public Relations Ethics and Law (3 credits)

### **Elective Courses**

There are a minimum of six credits required.

With advisor approval, select a minimum of two courses at the 200-level or above that complement your studies in advertising and public relations. Courses may be from other departments. See list of suggested electives at [gvsu.edu/soc/advertising-public-relations-major-47.htm](http://gvsu.edu/soc/advertising-public-relations-major-47.htm).

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## Capstone

There are three credits required.

CAP 495 - Advertising and Public Relations Campaign (3 credits)

# African/African American Studies

For additional information about opportunities your college offers, please refer to the Brooks College of Interdisciplinary Studies section in this catalog.

**Website:** [gvsu.edu/aaas](http://gvsu.edu/aaas)

In keeping with Grand Valley's liberal education commitment, the African and African American studies program administers an interdisciplinary minor whose goal is to academically prepare students for a better understanding of the variety and complexity of Africa, a deep appreciation of the African American experience and, more generally, an enriching knowledge of the various historical trajectories and contributions of the global African diaspora.

A minor in African and African American studies is an ideal complement to many disciplinary majors. Two tracks or areas of emphasis are possible, allowing students to tailor the minor to their own interests and needs. Students can choose to minor either in Track One: Africa or in Track Two: African American.

Students minoring in African and African American studies are encouraged to take full advantage of excellent study abroad opportunities available through GVSU partner institutions or COUNCIL programs. For more information, please consult the Padnos International Center or the program director. As a socially engaged discipline, African and African American studies is committed to fostering social and civic engagement, particularly in Grand Rapids communities.

## African/African American Studies Minor

### Requirements

Students seeking a minor in African and African American studies are required to complete 21 to 22 credit hours. Students will be required to choose between Track One (Africa) and Track Two (African American).

### Core Courses

All minors will be required to complete two core courses for a total of six credits:

AAA 200 - Understanding Africa (3 credits) **OR** AAA 201 - Introduction to African American Studies (3 credits)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

AAA 302 - African Diaspora (3 credits)

**Track One: Africa**

Students choosing the Africa track will be required to successfully complete the following:

FRE 202 - Intermediate French II: Language and Culture (4 credits) **OR** ARA 202 - Intermediate Arabic II: Language and Culture (4 credits) or higher.

Note: Students who enter the university competent in French or Arabic at the 202-level or higher will take one extra elective course for a total of 21 credits.

**PLUS** four elective courses (12 credits) from the following:

AAA 319 - African Politics (3 credits)

AAA 300 - U.S. - Africa Relations (3 credits)

AAA 333 - Study Abroad - African/African American Studies (1 to 6 credits)

AAA 337 - Contemporary Black Literature (3 credits)

AAA 343 - Black Feminist Thought (3 credits)

AAA 380 - Special Topics in African/African American Studies (1 to 3 credits)

AAA 399 - Independent Readings (1 to 3 credits)

AAA 499 - Independent Study and Research (1 to 4 credits)

GPY 351 - Geography of Africa (3 credits)

HST 335 - Africa Before 1870 (3 credits)

HST 336 - Africa After 1870 (3 credits)

**Track Two: African American**

Students choosing the African American track will be required to successfully complete the following:

AAA 490 - Practicum: Career-Service in Community Building (1 to 6 credits)

**PLUS** four elective courses (12 credits) from the following:

AAA 231 - Early African American Literature (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

AAA 232 - Modern African American Literature (3 credits)

AAA 315 - Field to Factory: African American Migration (3 credits)

AAA 333 - Study Abroad - African/African American Studies (1 to 6 credits)

AAA 340 - African American Culture and Social Thought (3 credits)

AAA 351 - Perspectives on African American Males (3 credits)

AAA 352 - Black Women's Culture and Communities (3 credits)

AAA 355 - History of Underground Railroad (3 credits)

AAA 357/HST 357 - The Black Diaspora and the Meaning of Sports, 1800 to the Present (3 credits)

AAA 380 - Special Topics in African/African American Studies (1 to 3 credits)

AAA 399 - Independent Readings (1 to 3 credits)

AAA 499 - Independent Study and Research (1 to 4 credits)

INT 320 - Voices of the Civil Rights Movement in the United States (3 credits)

HST 314 - African American History (3 credits)

HST 372 - From Slavery to Freedom (3 credits)

HST 316 - U.S. Civil Rights Movement History (3 credits)

SOC 333 - Sociology of the Civil Rights Movement (3 credits)

SOC 313 - Race and Ethnicity (3 credits)

Note: No more than two courses from any department other than African and African American studies can be counted toward the minor for the students who choose the African American track.

### **Additional Information**

No more than three credit hours of AAA 399 - Independent Readings (1 to 3 credits) **OR** AAA 499 - Independent Study and Research (1 to 4 credits) may count toward the minor.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

New African or African American-related courses in each of the two tracks may count toward the minor as they become available. Please consult the program director concerning the eligibility of any particular course. Students should be particularly alert to the presence of courses offered through the vehicle of special topics courses (AAA 380 and AAA 390).

Transfer credits from approved study abroad programs and from other U.S. colleges and universities may be counted toward the minor upon verification by the program director. However, of the 21 to 22 credits required, a minimum of six credits must be taken in residence at GVSU.

## **Aging and Adult Life**

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

Knowledge of aging can improve your interactions with older people; it also can prepare you to make sound plans for your own later life. It can help you understand what public policy development is needed for the elderly and prepare you for employment in the field of aging. The courses in the sequence described below are designed to be taken by undergraduates as well as interested persons from the community at large.

This minor is designed to appeal to students whose major academic preparation is in sociology, psychology, social work, business, education, nursing, public administration, biology, economics, political science, health sciences, or recreation.

## **Aging and Adult Life Minor**

Knowledge of aging can improve interactions with those at various and different stages in the adult life course. In the process, it can help individuals understand and anticipate their own adult lives. The available courses in the minor open the world of public policy development in preparation for employment in fields related to aging or that work with aging populations. They also include the biological and cultural aspects of aging and the end of life that teaches students about the complex interaction of individual perspective, sociocultural contexts, and the physical realities of the human body through the latter part of the life course.

This minor is designed to appeal to students whose major academic preparation is in any field that may work with older populations. Examples include sociology, psychology, social work, business, education, nursing, public administration, biology, economics, political science, health sciences, or recreation.

For more information, please contact the Sociology Department at 2172 AuSable Hall, (616) 331-3730.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Requirements**

Students who wish to minor in aging and adult life are required to complete 21 hours in the minor. At least three credit hours (one course) must be completed in each category.

### **Category One: Aging**

BMS 375 - The Biology of Aging (3 credits)

NUR 344 - Healthy Aging: A Lifelong Journey (3 credits)

PSY 366 - Perspectives on Aging (3 credits)

RTX 316 - Therapeutic Recreation with the Elderly (3 credits)

SOC 388 - Middle Age and Aging (3 credits)

### **Category Two: End of Life**

BMS 374 - Physiological Aspects of Death and Dying (3 credits)

ENG 386 - Literary Responses to Death and Dying (3 credits)

PHI 341 - Philosophy of Death and Dying (3 credits)

SOC 386 - Death and Dying (3 credits)

SPA 307 - Death and Dying in Hispanic Literature (3 credits)

### **Category Three: Health Care Institutions and Policy**

AHS 321 - Ethical and Legal Responsibilities in Health Care (3 credits)

AHS 340 - Health Care Management (3 credits)

COM 209 - Health Communication Systems (3 credits)

ECO 343 - Health Economics (3 credits)

HST 370 - History of Medicine and Health (3 credits)

PNH 310/PLS 310 - Politics and Health Policy (3 credits)

PNH 330 - Health Care Financing (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

SOC 286 - Sociology of Health Care (3 credits)

# Allied Health Sciences

**Degree Offered:** Bachelor of Science in Allied Health Sciences

**Website:** [gvsu.edu/ahs](http://gvsu.edu/ahs)

The B.S. in allied health sciences (AHS) degree serves two functions:

Prepares students for entry into graduate programs in health professions with preparatory emphases (e.g., prehealth professional emphases preparing students to apply for graduate programs in physician assistant studies and physical therapy).

Prepares students for a career in the health care field, should students decide not to pursue a graduate level program. Additional emphases are offered to prepare students to advance into a health care career. These include health information and reimbursement and histotechnology. These aforementioned emphases each have a competitive secondary admission requirement for students to meet. Declaration of allied health sciences as a major does not assure acceptance into these emphases. There is also a "general" allied health sciences emphasis, which is not preparatory for any particular graduate or specific undergraduate career route. It is for those who are truly undecided about their health career path. It is strongly recommended that all students discuss their options with their assigned advisor to determine what emphasis to select.

## Allied Health Sciences Goals

Prepare students with an educational foundation to succeed in the allied health sciences professions.

Instill in students the general abilities required for professional conduct.

Instill in students the critical thinking and problem-solving skills necessary to be effective in providing interventions and services.

Instill in students the understanding of the role of research and scientific inquiry as applied to the practice, education, and leadership of their chosen profession.

Grand Valley State University is ideally suited to educate a wide variety of health care professionals. The university's geographic location, access to high quality clinical environments, strong relationships with the regional medical education community, excellent faculty, supportive administration, experience in the education of health care professionals, and a growing student population all combine to form an ideal environment for allied health care professional education programs.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Badge in Advanced American Sign Language**

This badge represents advanced capability in conversational ASL and understanding of deaf culture. Successful learners will be able to have extended low-stakes exchanges with deaf consumers in workplaces, e.g., ongoing rehab and therapy activities, check-in/-out procedures, and daily interactions with hospital in-patients; they will also be able to explain key features of deaf culture. This badge is not an ASL interpreting credential. MI-LARA administers interpreting credentials in Michigan.

Learning Objectives or Competencies: Learning objectives and competencies should be measurable and use action verbs. Students who complete the requirements for this badge will be able to:

Sign approximately 2000 signs

Engage in extended conversations using correct ASL grammar and language features

Express cohesive narratives in ASL that incorporate suitable vocabulary choices and grammatical structures

Analyze unique features of Deaf culture

Identify examples of autism

Explain connections between cultural influences and identity formation

### **Requirements**

ASL 203 - American Sign Language 3 (3 credits)

ASL 421 - Deaf History and Culture (3 credits)

## **Badge in Foundational American Sign Language**

This badge signifies competency in the foundational expressive/receptive language skills required to communicate in American Sign Language. A basic knowledge of ASL is a helpful communication tool in many employment settings that include interaction with the public, like retail locations, restaurants, and reception/check-in areas. GVSU is not authorized to issue interpreting credentials. The Michigan Department of Licensing and Regulatory Affairs administers credentials for interpreting in Michigan.

Learning objectives and competencies should be measurable and use action verbs. Students who complete the requirements for this badge will be able to:

Sign approximately 1,500 signs

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Express complex sentences in correct ASL grammatical structure

Translate complex sentences from ASL into written English

### **Requirements**

ASL 201 - American Sign Language 1 (3 credits)

ASL 202 - American Sign Language 2 (3 credits)

## **Bachelor of Science in Allied Health Science**

### **Requirements for a Major in Allied Health Sciences**

The allied health sciences degree requires a minimum of 120 credits and includes general education requirements, Bachelor of Science course requirements, AHS core courses, and required courses for the completion of an emphasis. Once students declare the allied health sciences major, typically during their sophomore year, they will be assigned a major academic advisor who will assist in selecting the AHS emphasis that best meets their career goals. An approved internship/practicum/clinical experience may be required in a specific emphasis or will be strongly recommended for students not planning to attend graduate school. A minor may be required as a part of the emphasis the student elects or is secondarily admitted into (see table). If the student is in an emphasis that does not require a minor, the student may, under advisement, declare a minor if he or she has sufficient elective credit available or chooses to earn credits beyond the number required for graduation.

<b>Emphasis Within AHS Major</b>	<b>Minor Required</b>	<b>Secondary Admission Required</b>	<b>Capstone Course</b>
General Allied Health Science Emphasis	Yes	No	
Prehealth Professional Emphasis in Physical Therapy	No	No	
Prehealth Professional Emphasis in Physician Assistant Studies	No	No	
Health Professional Degree Completion	No	Yes	
Histotechnology Emphasis	No	Yes	(Winter Semester, Year Four)
Respiratory Care Emphasis	No	Yes	

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **B.S. in Allied Health Sciences**

### **Core Courses**

Major core courses include 22 credits:

BIO 120 - General Biology I (4 credits)

STA 215 - Introductory Applied Statistics (3 credits)

AHS 100 - Medical Terminology (3 credits)

AHS 110 - Introduction to Health Care (3 credits)

AHS 301 - Introduction to Health Care Research (3 credits)

AHS 321 - Ethical and Legal Responsibilities in Health Care (3 credits)

AHS 340 - Health Care Management (3 credits)

Individual emphases require a Capstone course:

AHS 495 - Issues in Health Professions (3 credits) for the prehealth professional emphasis in physical therapy, the prehealth professional emphasis in physician assistant studies, general allied health sciences emphasis, and health information and reimbursement emphasis.

AHS 490 - Health Care Internship (3, 6, or 12 credits) for the histotechnology emphasis.

### **B.S. Courses**

Required courses include:

BIO 120 - General Biology I (4 credits)

STA 215 - Introductory Applied Statistics (3 credits)

AHS 301 - Introduction to Health Care Research (3 credits) **OR** PSY 300 - Research Methods in Psychology (3 credits)

### **Selection of an Emphasis in the AHS Program**

In order to graduate with a B.S. in allied health sciences, each student is required to select or apply to an emphasis in the AHS program. Each emphasis is designed to be either preparatory to

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

apply to a graduate level professional health care program or to prepare students for career entry upon bachelor's degree completion.

## **Emphasis in General Allied Health Sciences**

### **Minor Required, Secondary Admission not Required**

The general emphasis is for students who are undecided as to their career/education/employment goals. A minor, selected and approved by the student's academic advisor, is required.

### **Emphasis Courses**

AHS 495 - Issues in Health Professions (3 credits)

BIO 355 - Human Genetics (3 credits)

BMS 212 - Introductory Microbiology (3 credits)

BMS 213 - Laboratory in Microbiology (1 credit)

CHM 109 - Introductory Chemistry (4 credits)

CHM 231 - Introductory Organic Chemistry (4 credits)

CHM 232 - Biological Chemistry (4 credits)

PHY 200 - Physics for the Life Sciences (4 credits)

### **Students should choose one of the following anatomy and physiology sequences:**

#### Sequence A

BMS 208 - Human Anatomy (3 credits)

BMS 391 - Laboratory in Human Physiology (2 credits)

#### Sequence B

BMS 250 - Anatomy and Physiology I (4 credits)

BMS 251 - Anatomy and Physiology II (4 credits)

**Minor:** There are 18 or more credits (a minor is required for this emphasis); 21 credits are used in calculation.

**Electives:** 12 to 15 credits (This is based on a 21-credit minor -- if MTH 110 is taken or not --

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

and includes a six credit AHS 490 elective internship; 15 credits used in calculation.)

**Emphasis total:** 70 credits

**AHS core:** 22 credits

**General education (unduplicated):** 28 credits

**Total:** 120 credits (121 credits if MTH 110 is taken)

### **Suggested Order of Coursework**

The suggested order of coursework assumes a 21-credit minor.

#### **Year One**

Fall Semester:

AHS 110 - Introduction to Health Care (3 credits)

CHM 109 - Introductory Chemistry (4 credits)

MTH 110 - Algebra (4 credits) **OR** a four-credit elective

General education Social and Behavioral Sciences

Winter Semester:

BIO 120 - General Biology I (4 credits)

WRT 150 - Strategies in Writing (4 credits)

General education Arts

General education Philosophy

AHS 100 - Medical Terminology (3 credits)

#### **Year Two**

Fall Semester:

BMS 208 - Human Anatomy (3 credits) **OR** BMS 250 - Anatomy and Physiology I (4 credits)

CHM 231 - Introductory Organic Chemistry (4 credits)

Minor course

General education Global Perspectives

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Winter Semester:

BIO 355 - Human Genetics (3 credits)

**BOTH** BMS 290 - Human Physiology (3 credits) **AND** BMS 391 - Laboratory in Human Physiology (2 credits) **OR ONLY** BMS 251 - Anatomy and Physiology II (4 credits)

Minor course

Minor course

General education U.S. Diversity

### **Year Three**

Fall Semester:

AHS 321 - Ethical and Legal Responsibilities in Health Care (3 credits)

CHM 232 - Biological Chemistry (4 credits)

PHY 200 - Physics for the Life Sciences (4 credits)

General education Social and Behavioral Sciences

Winter Semester:

AHS 340 - Health Care Management (3 credits)

BMS 212 - Introductory Microbiology (3 credits)

BMS 213 - Laboratory in Microbiology (1 credit)

STA 215 - Introductory Applied Statistics (3 credits)

General education Issues

Minor course

### **Year Four**

Fall Semester:

AHS 301 - Introduction to Health Care Research (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

General education Historical Perspectives

Elective

Minor course

Minor course

Winter Semester:

AHS 495 - Issues in Health Professions (3 credits)

Elective: AHS 490 - Health Care Internship (3, 6, or 12 credits) advised.

Elective

Minor course

## **Prehealth Professional Physical Therapy Emphasis**

### **Minor not Required, Secondary Admission not Required**

Physical therapists (PTs) are health care professionals who diagnose and treat individuals with health-related conditions, illnesses, or injuries that limit their ability to move and perform normal daily activities. Employment projections are far greater than normal growth (30-percent growth between 2008 and 2018) based on changes in health care laws and the aging American population. The American Physical Therapy Association's (APTA) accrediting body, The Commission on Accreditation of Physical Therapy Education (CAPTE), only accredits graduate programs; however, a baccalaureate degree and the necessary undergraduate preparation is highly recommended for admission into a Doctor of Physical Therapy program. The courses in this emphasis were developed in cooperation with GVSU's graduate Doctor of Physical Therapy (D.P.T.) program. This emphasis also provides a curriculum that generally aligns with entrance recommendations for graduate physical therapy programs across the country. Students need to consult the prerequisites of D.P.T. programs outside of GVSU for specific requirements. Students will be advised that the GVSU D.P.T. program requires a minimum GPA of 3.2 and that GVSU, as do most D.P.T. programs in other institutions, admits students with an overall and science GPA far in excess of 3.2. Students are strongly encouraged to meet periodically with their academic advisor to determine their eligibility for continuing the prehealth professional PT emphasis.

The student should be advised that progression through the prehealth professional physical therapy emphasis does not represent the only route of preparation for application to this graduate program. Other majors are also suitable, so long as the student closely follows the prerequisite science curriculum set forth by the GVSU D.P.T. graduate program.

### **Prehealth Professional Physical Therapy Emphasis Curriculum**

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

AHS 495 - Issues in Health Professions (3 credits)

BMS 212 - Introductory Microbiology (3 credits)

BMS 213 - Laboratory in Microbiology (1 credit)

CHM 109 - Introductory Chemistry (4 credits)

CHM 231 - Introductory Organic Chemistry (4 credits)

CHM 232 - Biological Chemistry (4 credits)

MOV 304 - Introduction to Exercise Physiology (3 credits)

MTH 122 - College Algebra (3 credits)

MTH 123 - Trigonometry (3 credits) **OR** MTH 125 **OR** MTH 201

PHY 220 - General Physics I (5 credits)

PHY 221 - General Physics II (5 credits)

PSY 101 - Introductory Psychology (3 credits)

PSY 364 - Life Span Developmental Psychology (3 credits)

SOC 101 - Introduction to Sociology (3 credits) (ANT 204 or SOC 105 acceptable here to fulfill general education Social and Behavioral Sciences.)

**Students should choose one of the following anatomy and physiology sequences:**

Sequence A

BMS 290 - Human Physiology (3 credits) BMS 391 - Laboratory in Human Physiology (2 credits) Students may consider BMS 309 - Laboratory in Human Anatomy (1 credit) as a recommended elective in this sequence.

Sequence B

BMS 250 - Anatomy and Physiology I (4 credits)/BMS 251 - Anatomy and Physiology II (4 credits) (8 credits)

**Electives:** 21 credits (a minor can be elected with advisement, if desired)

**Emphasis total:** 76 credits

**AHS core:** 22 credits

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

**General education (unduplicated):** 22 credits

**Total:** 120 credits

## **Suggested Order of Coursework**

### **Year One**

Fall Semester:

General education Arts

AHS 110 - Introduction to Health Care (3 credits)

CHM 109 - Introductory Chemistry (4 credits)

MTH 110 - Algebra (4 credits)

Winter Semester:

BIO 120 - General Biology I (4 credits)

PSY 101 - Introductory Psychology (3 credits) Fulfills general education Social and Behavioral Sciences course

### **Year Two**

Fall Semester:

AHS 100 - Medical Terminology (3 credits)

BMS 208 - Human Anatomy (3 credits) **OR** BMS 250 - Anatomy and Physiology I (4 credits)

CHM 231 - Introductory Organic Chemistry (4 credits)

MTH 122 - College Algebra (3 credits)

Elective

Winter Semester:

**BOTH** BMS 290 - Human Physiology (3 credits) **AND** BMS 391 - Laboratory in Human Physiology (2 credits) **OR** BMS 251 - Anatomy and Physiology II (4 credits)

MTH 123 - Trigonometry (3 credits) Prerequisite for PHY 220.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

SOC 101 - Introduction to Sociology (3 credits) **OR** SOC 105 - Social Problems (3 credits) **OR**  
ANT 204 - Peoples and Cultures of the World (3 credits) PT required. Fulfills general  
education Social and Behavioral Sciences course.

General education Historical Perspectives

General education U.S. Diversity

### **Year Three**

Fall Semester:

AHS 340 - Health Care Management (3 credits)

BMS 309 - Laboratory in Human Anatomy (1 credit) recommended

CHM 232 - Biological Chemistry (4 credits)

PHY 200 - Physics for the Life Sciences (4 credits)

PSY 364 - Life Span Developmental Psychology (3 credits)

Winter Semester:

BMS 212 - Introductory Microbiology (3 credits)

BMS 213 - Laboratory in Microbiology (1 credit)

MOV 304 - Introduction to Exercise Physiology (3 credits)

PHY 221 - General Physics II (5 credits)

STA 215 - Introductory Applied Statistics (3 credits)

### **Year Four**

Fall Semester:

AHS 321 - Ethical and Legal Responsibilities in Health Care (3 credits)

AHS 301 - Introduction to Health Care Research (3 credits)

Electives (SWS)

Issues

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Winter Semester:

AHS 495 - Issues in Health Professions (3 credits)

General education Global Perspectives

Elective

## **Prehealth Professional Physician Assistant Studies Emphasis**

### **Minor not Required, Secondary Admission not Required**

Physician assistants (PAs) are health care professionals who practice under the supervision of physicians. PAs are formally trained to provide diagnostic, therapeutic, and preventative health care services as well as treating minor injuries. The Bureau of Labor Statistics predicts that the PA profession will grow much faster than average between 2008 and 2018. Physician assistant programs provide this graduate-level education. The prehealth professional emphasis in physician assistant studies provides those courses necessary to enhance a student's science background needed for applicant consideration. The courses in this emphasis were developed in cooperation with GVSU's graduate physician assistant studies (PAS) program. This emphasis also provides a curriculum that generally aligns with entrance recommendations for graduate physician assistant programs across the country. Students need to consult the course entry requirements of PAS programs outside of GVSU for specific requirements. Students will be advised that while most PAS graduate programs require an overall and science GPA of 3.0 for application, a GPA far in excess of 3.0 is usually needed for admission. Students are strongly encouraged to periodically meet with their academic advisors to determine their eligibility for continuing the pre-PAS emphasis.

The student should be advised that progression through the prehealth professional physician assistant studies emphasis does not represent the only route of preparation for application to this graduate program. Other majors are also suitable, so long as the student closely follows the prerequisite science curriculum set forth by the GVSU PAS graduate program.

### **Prehealth Professional Physician Assistant Studies Emphasis Courses**

AHS 495 - Issues in Health Professions (3 credits)

BIO 328 - Biomedical Ethics (3 credits)

BIO 355 - Human Genetics (3 credits)

BMS 212 - Introductory Microbiology (3 credits)

BMS 213 - Laboratory in Microbiology (1 credit)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

BMS 305 - Clinical Nutrition (3 credits)

BMS 310 - Basic Pathophysiology (3 credits)

BMS 311 - Pharmacological Aspects of Biomedical Sciences (3 credits)

CHM 109 - Introductory Chemistry (4 credits)

CHM 231 - Introductory Organic Chemistry (4 credits)

CHM 232 - Biological Chemistry (4 credits)

PHY 200 - Physics for the Life Sciences (4 credits)

PSY 101 - Introductory Psychology (3 credits)

**Students should choose one of the following anatomy and physiology sequences:**

Sequence A

Note: Many non-GVSU PAS programs prefer/require this sequence.

Sequence B

BMS 208 - Human Anatomy (3 credits)

BMS 290 - Human Physiology (3 credits)

BMS 391 - Laboratory in Human Physiology (2 credits)

BMS 309 - Laboratory in Human Anatomy (1 credit)

BMS 250 - Anatomy and Physiology I (4 credits)

BMS 251 - Anatomy and Physiology II (4 credits)

**Electives:** 25 credits (A minor can be elected with advisement, if desired.)

**Emphasis total:** 73 credits (Calculated using BMS 208/BMS 290/BMS 391 sequence.)

**AHS core:** 22 credits

**General education (unduplicated):** 25 credits

**Total:** 120 (121) credits

**Suggested Order of Coursework**

**Year One**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Fall Semester:

AHS 110 - Introduction to Health Care (3 credits)

CHM 109 - Introductory Chemistry (4 credits)

MTH 110 - Algebra (4 credits)

General education U.S. Diversity

Winter Semester:

BIO 120 - General Biology I (4 credits)

PSY 101 - Introductory Psychology (3 credits)

WRT 150 - Strategies in Writing (4 credits)

General education Arts

## **Year Two**

Fall Semester:

AHS 100 - Medical Terminology (3 credits)

BMS 208 - Human Anatomy (3 credits) **OR** BMS 250 - Anatomy and Physiology I (4 credits)

CHM 231 - Introductory Organic Chemistry (4 credits)

Elective

General education Global Perspectives

BIO 355 - Human Genetics (3 credits)

**BOTH** BMS 290 - Human Physiology (3 credits) **AND** BMS 391 - Laboratory in Human Physiology (2 credits) **OR** BMS 251 - Anatomy and Physiology II (4 credits)

Elective

General education Social and Behavioral Sciences

General education Philosophy

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Year Three**

### Fall Semester:

AHS 340 - Health Care Management (3 credits)

BIO 328 - Biomedical Ethics (3 credits)

CHM 232 - Biological Chemistry (4 credits)

PHY 200 - Physics for the Life Sciences (4 credits)

Elective

### Winter Semester:

BMS 212 - Introductory Microbiology (3 credits)

BMS 213 - Laboratory in Microbiology (1 credit)

BMS 305 - Clinical Nutrition (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

Elective

General education Historical Perspectives

## **Year Four**

### Fall Semester:

AHS 301 - Introduction to Health Care Research (3 credits)

AHS 321 - Ethical and Legal Responsibilities in Health Care (3 credits)

BMS 310 - Basic Pathophysiology (3 credits)

Electives

### Winter Semester:

AHS 495 - Issues in Health Professions (3 credits)

BMS 311 - Pharmacological Aspects of Biomedical Sciences (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Electives

Issues

## **Health Professional Degree Completion Emphasis**

### **Minor not Required, Secondary Admission Required**

Health professionals whose disciplines have an entry-level education preparation at the Associate or Associate of Applied Science degree level constitute an important population of health care workers today. These professions include medical assisting, occupational therapy assistant, surgical technology, dental hygiene, and dozens more. The health professional degree completion emphasis is designed to complement associate degree professionals' education with a path to earn a Bachelor's of Science in allied health sciences (AHS), using both students' professional education and the essential components of upper division baccalaureate education to maximum effectiveness and efficiency. Not only is there career enhancement for the health care professional with a Bachelor's of Science, but also earning a baccalaureate provides the prerequisite knowledge for the expansion of skills to graduate programs.

Eligibility Criteria: A transfer student wishing to enter the AHS health professional degree completion emphasis must meet three criteria for admissions consideration to the emphasis:

Possess an earned Associate of Science or Associate of Applied Science from a school accredited by the Higher Learning Commission.

The Associate of Science or Associate of Applied Science must be in a health profession program requiring external accreditation by the professional body regulating that particular profession.

The health profession offers national voluntary credentialing or requires state licensing and the student either possesses or is eligible for earning that credential or license.

**All students in the AHS health professional degree completion emphasis are required to complete the following core courses:**

BIO 120 - General Biology I (4 credits) (fulfilled by the associate degree)

STA 215 - Introductory Applied Statistics (3 credits)

AHS 301 - Introduction to Health Care Research (3 credits)

AHS 321 - Ethical and Legal Responsibilities in Health Care (3 credits)

AHS 340 - Health Care Management (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

A Capstone course is also required for the health professional degree completion emphasis:  
AHS 495 - Issues in Health Professions (3 credits)

A minor is not required in the AHS health professional degree completion emphasis.

Students in the AHS health professional degree completion emphasis must also complete all general education foundation categories, with the upper division general education Issues requirements being taken at GVSU.

The AHS bachelor's degree requires that 40 of the 120 credits are taken at a senior institution with 30 credits being taken at GVSU. During the GVSU application process students will submit official transcripts from all colleges and universities attended. Upon acceptance to GVSU, the admissions offer will provide a formal evaluation of credits for transfer. The student may then submit the AHS-HPD application. Upon acceptance to the AHS-HPD emphasis, the academic advisor and student will use evaluation of credits for transfer to build an academic plan outlining courses required for completion of the allied health sciences emphasis and general education components of the degree. The remaining credits applied toward the Bachelor of Science degree in allied health sciences (up to 80 total) will come from the professional coursework successfully completed in the respective associate or Associate of Applied Science health profession. Since each student's transcript will be different, depending on the school attended and the health profession pursued, the planning of what courses are required to earn the baccalaureate degree will be individually determined.

The AHS department recognizes that many students earning a bachelor's degree through this emphasis are concurrently working in their respective health profession. Every effort will be made to advise students to enroll in online/hybrid and evening course sections to lessen commuting and/or daytime presence.

The course of studies as follows is intended only as an example. It is formatted as a full-time student schedule. A part-time schedule would be different. Each individual student's plan of progress will vary as to the exact courses being taken each semester.

### **Suggested Order of Coursework**

Semester One (GVSU):

STA 215 - Introductory Applied Statistics (3 credits)

General education (3 credits)

General education (3 credits)

General education (3 credits)

Semester Two (GVSU):

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

AHS 301 - Introduction to Health Care Research (3 credits)

AHS 321 - Ethical and Legal Responsibilities in Health Care (3 credits)

AHS 340 - Health Care Management (3 credits) (Issues)

General education (3 credits)

General education (3 credits)

Semester Three (GVSU):

AHS 495 - Issues in Health Professions (3 credits) Capstone

Issues (3 credits)

General education (3 credits)

Elective (4 credits)

Total Credits: 40

## **Histotechnology Emphasis**

### **Minor not Required, Secondary Admission Required**

Histology is a laboratory science concerned with the demonstration of cellular morphology, chemical composition, and function of normal and abnormal tissue. The histotechnologist cuts tissues removed through surgical procedures, mounts the tissue sections on glass slides, and stains them with special dyes to make the cell details visible under the microscope. With the information learned from the section of tissue biopsy, the pathologist and the patient's physician can make appropriate diagnoses and determine the best course of treatment for the patient.

The histotechnologist emphasis requires students to complete a minimum of 96 credits at GVSU and 24 credits of clinical practicum (AHS 490) at an affiliated hospital that has a nationally accredited histotechnology program, e.g., William Beaumont Hospital in Royal Oak, MI.

National certification in histotechnology requires the completion of a baccalaureate degree and completion of clinical training in a nationally accredited program. The accredited program at William Beaumont Hospital is a 10-month, 40-hour-per-week educational experience. Students spend their senior year at the hospital (known as the 3+1 model). This 3+1 educational model is used by a number of universities for their laboratory-based programs; e.g., medical laboratory science, histotechnology, cytotechnology, and cytogenetics technology. The 24 credits of AHS 490 serves as the student's Capstone course in the major.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

To become a certified histotechnologist (HTL), students must complete a baccalaureate degree that includes a clinical practicum in a NAACLS-accredited histotechnology program (National Accrediting Agency for Clinical Laboratory Sciences; 5600 N. River Rd. Suite 720; Rosemont, IL 60018-5119.) Upon completion of the baccalaureate degree requirements and the clinical requirements, students are eligible to take the American Society for Clinical Pathology (ASCP) certification exam for histotechnology (HTL).

Acceptance into an accredited histotechnology program for the required clinical education experience (AHS 490) is a competitive process that includes applying to the clinical site at William Beaumont Hospital. Availabilities are limited and the Beaumont program officials will determine those admitted to the clinical phase. A cumulative grade point average and a science/math grade point average of 3.0 are required for admission into the clinical program. Applicants are also required by NAACLS to complete the following courses prior to the start of their clinical experience: anatomy, physiology, microbiology, immunology, organic chemistry, biochemistry, and intermediate algebra. The application process occurs during the sophomore year. Students must work closely with their academic advisor regarding the application process.

### **Required Courses for the AHS B.S. with Histotechnology Emphasis**

BIO 355 - Human Genetics (3 credits)

BMS 212 - Introductory Microbiology (3 credits)

BMS 213 - Laboratory in Microbiology (1 credit)

BMS 208 - Human Anatomy (3 credits)

BMS 290 - Human Physiology (3 credits)

BMS 391 - Laboratory in Human Physiology (2 credits) (BMS 250 /BMS 251 Anatomy and Physiology I and II can substitute for BMS 208/BMS 290/BMS 391.)

BMS 310 - Basic Pathophysiology (3 credits)

BMS 410 - Immunology (3 credits)

CHM 109 - Introductory Chemistry (4 credits)

CHM 231 - Introductory Organic Chemistry (4 credits)

CHM 232 - Biological Chemistry (4 credits)

MLS 102 - Introduction to Medical Laboratory Sciences (1 credit)

MLS 416 - Hematology (3 credits) **AND** MLS 417 - Clinical Hematology Laboratory (1 credit)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

PHY 200 - Physics for the Life Sciences (4 credits)

AHS 490 - Health Care Internship (3, 6, or 12 credits)

Electives	5 credits
Emphasis Total (a minor is not required)	70 credits
AHS Core	22 credits
General Education	28 credits
Total	120 credits

### **Suggested Order of Coursework**

#### **Year One**

Fall Semester:

General education Arts

AHS 110 - Introduction to Health Care (3 credits)

CHM 109 - Introductory Chemistry (4 credits)

MTH 110 - Algebra (4 credits)

Winter Semester:

BIO 120 - General Biology I (4 credits)

CHM 231 - Introductory Organic Chemistry (4 credits)

MLS 102 - Introduction to Medical Laboratory Sciences (1 credit)

WRT 150 - Strategies in Writing (4 credits)

General education Historical Perspectives

#### **Year Two**

Fall Semester:

AHS 100 - Medical Terminology (3 credits)

BIO 355 - Human Genetics (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

BMS 208 - Human Anatomy (3 credits) **OR** BMS 250 - Anatomy and Physiology I (4 credits)

CHM 232 - Biological Chemistry (4 credits)

General education Social and Behavioral Sciences

Winter Semester:

BMS 212 - Introductory Microbiology (3 credits)

BMS 213 - Laboratory in Microbiology (1 credit)

**BOTH** BMS 290 - Human Physiology (3 credits) **AND** BMS 391 - Laboratory in Human Physiology (2 credits)

PHY 200 - Physics for the Life Sciences (4 credits)

Elective

General education - Philosophy

### **Year Three**

Fall Semester:

AHS 321 - Ethical and Legal Responsibilities in Health Care (3 credits)

BMS 410 - Immunology (3 credits)

MLS 416 - Hematology (3 credits)

MLS 417 - Clinical Hematology Laboratory (1 credit)

STA 215 - Introductory Applied Statistics (3 credits)

General education U.S. Diversity

Winter Semester:

AHS 301 - Introduction to Health Care Research (3 credits)

AHS 340 - Health Care Management (3 credits)

General education Social and Behavioral Sciences (SWS)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

General education Global Perspectives

Issues

Spring/Summer Semester:

BMS 310 - Basic Pathophysiology (3 credits)

## **Year Four**

Fall Semester:

AHS 490 - Health Care Internship (3, 6, or 12 credits) Beaumont Hospital (Capstone)

Winter Semester:

AHS 490 - Health Care Internship (3, 6, or 12 credits) Beaumont Hospital (Capstone)

## **Allied Health Sciences with Respiratory Care Emphasis**

### **Minor not Required, Secondary Admission Required**

Respiratory therapists provide direct patient care for those who have trouble breathing across a broad scope of reasons. The patients of respiratory therapists range from premature infants with undeveloped lungs, children and adolescents with asthma, to elderly patients with emphysema. Respiratory therapists work in hospitals, clinics, rehabilitation facilities, and in-home care, where they provide emergency care to patients suffering from pulmonary failure, heart attacks, drowning, trauma, or shock.

The allied health sciences (AHS) respiratory care emphasis is conducted in collaboration with Muskegon Community College's (MCC) fully accredited program in respiratory therapy. There are two ways to be admitted to this emphasis:

Up to 18 qualified GVSU students will be admitted to the respiratory care emphasis each year (fall) after completing GVSU's first year science prerequisite and general education courses. The curriculum sequence is listed as follows. Admitted students will complete the professional respiratory therapy curriculum at MCC during their second and third year. Following the completion of the MCC professional respiratory therapy curriculum, students return to GVSU to complete their fourth year, simultaneously earning an Associate of Science degree from MCC and a Bachelor's of Science degree from GVSU in allied health sciences - emphasis in respiratory care. The program sequence would include: one year GVSU + two years MCC + one year GVSU.

Graduates of an accredited Committee on Accreditation for Respiratory Care (CoARC) associates or Associate of Applied Science degree respiratory therapy program may apply to the respiratory care emphasis. Up to 80 undergraduate transfer credits can apply to the

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

AHS bachelor's degree. Transferability of credit will be done on an individual basis through transcript evaluation.

## **Secondary Admission Requirements**

### **Admission to the GVSU-MCC Respiratory Care Program**

Overall GPA of 2.5

Completion of BIO 120 - General Biology I (4 credits) with a passing grade

Completion of the following with at least a C (not C-) grade

CHM 109 - Introductory Chemistry (4 credits)

MTH 110 - Algebra (4 credits)

(A three-credit general education course can be taken in place of MTH 110 if advanced math placement is achieved.)

General education - Social and Behavioral Sciences course (recommend PSY 101)

By the fall after admission, students must have completed the following with no course grade less than a C (not C-) and an overall GPA of 2.5 in order to begin the MCC professional respiratory therapy courses.

BMS 250 - Anatomy and Physiology I (4 credits)

WRT 150 - Strategies in Writing (4 credits)

General education Foundations requirement Credits: 3

General education Foundations requirement Credits: 3

**Application process:** Students must complete and submit the following materials by March 15 for fall admission of the year of application.

Application for admission to the respiratory care emphasis (online at [gvsu.edu/ahs](http://gvsu.edu/ahs))

Demonstrated completion of and enrollment in the courses listed previously

Demonstrated fulfillment of minimum grade requirements for courses completed

Submission of two letters of professional reference

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Students who are accepted into the emphasis must successfully complete the first-year sciences and general education courses prior to starting the professional respiratory therapy courses in fall of year two.

**Financial aid plans:** Students in the GVSU cohort receiving financial aid will need to meet with a designated GVSU financial aid advisor to coordinate aid between GVSU and Muskegon Community College. This is necessary because there are two consecutive semesters where students take courses only at Muskegon Community College.

### **Students with an Earned Associate or Associate of Applied Science Degree in Respiratory Therapy (Care)**

Students who are graduates of an accredited respiratory therapy (care) program and have an Associate of Science or Associate of Applied Science may apply for admission to the AHS respiratory care emphasis. A total of 80 credits in science and general education courses that have an equivalency with GVSU courses in addition to the professional respiratory therapy courses can transfer to GVSU in fulfilling the AHS bachelor's degree requirements. The maximum transferable credits to GVSU is 80 credits; an additional 40 credits must be taken at GVSU to meet the minimum graduation requirement of 120 credits. Transcript evaluation of applicants for transfer credit will be done on an individual basis and are subject to GVSU credit transfer policies. Students are responsible for consulting with their advisor to ensure all GVSU general education Foundation, Issues, and Supplemental Writing Skills requirements are met.

### **Allied Health Science Core Course Requirements**

All students in the AHS respiratory care emphasis, whether in the GVSU cohort or transferring with an earned associate or associate in applied science degree in respiratory therapy (care), are required to complete or transfer the following AHS core courses:

AHS 100 - Medical Terminology (3 credits)

AHS 301 - Introduction to Health Care Research (3 credits)

AHS 321 - Ethical and Legal Responsibilities in Health Care (3 credits)

AHS 340 - Health Care Management (3 credits)

AHS 495 - Issues in Health Professions (3 credits)

BIO 120 - General Biology I (4 credits)

STA 215 - Introductory Applied Statistics (3 credits)

### **Suggested Order of Coursework**

**GVSU Student Cohort (1 + 2 + 1)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Year One (GVSU)**

Fall Semester (14 to 15 credits):

BIO 120 - General Biology I (4 credits)

CHM 109 - Introductory Chemistry (4 credits)

MTH 110 - Algebra (4 credits) **OR** three-credit general education course

PSY 101 - Introductory Psychology (3 credits)

Winter Semester (14 credits):

BMS 250 - Anatomy and Physiology I (4 credits)

WRT 150 - Strategies in Writing (4 credits)

General education (3 credits)

General education (3 credits)

Spring/Summer Semester (6 credits):

AHS 100 - Medical Terminology (3 credits)

General education (3 credits)

## **Year Two (GVSU and MCC)**

Fall Semester (14 GVSU credits):

BMS 251 - Anatomy and Physiology II (4 credits)

STA 215 - Introductory Applied Statistics (3 credits)

General education (3 credits)

RT 101 - Respiratory Therapy Physics (1 credit)

RT 102 - Basic Patient Care Skills (3 credits)

General education (3 credits)

RT 110 - Equipment and Procedures I (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

RT 111 - Introduction to Respiratory Therapy (3 credits)

RT 120 - Equipment and Procedures II (3 credits)

RT 121 - Pharmacology (2 credits)

RT 122 - Clinical I (2 credits)

RT 130 - Equipment and Procedures III (3 credits)

RT 131 - Physiology (3 credits)

RT 132 - Clinical II (3 credits)

RT 134 - Introduction to Mechanical Ventilation (1 credit)

RT 141 - Pulmonary Pathophysiology (2 credits)

RT 144 - Adult Mechanical Ventilation (3 credits)

RT 154 - Clinical III (5 credits)

RT 162 - Clinical IV (7 credits)

### **Year Three (GVSU and MCC)**

Fall Semester (14 credits):

AHS 321 - Ethical and Legal Responsibilities in Health Care (3 credits)

General education (3 credits)

RT 210 - Cardiovascular and Renal Physiology (4 credits)

RT 220C Peds and Neonatal Care (4 credits)

AHS 301 - Introduction to Health Care Research (3 credits)

### **Year Three (GVSU and MCC)**

Spring/Summer Semester (10 credits):

AHS 340 - Health Care Management (3 credits) Issues course

AHS 495 - Issues in Health Professions (3 credits) Capstone/SWS

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Issues - non-AHS course

RT 222A - Advanced Clinical Rotation II (3 credits)

RT 230A - Pulmonary Diagnostics and Rehabilitation (2 credits)

RT 240 - The Health Care Environment (1 credit)

### **Muskegon Community College Transfer Students**

Students who have earned an associate degree in respiratory therapy or a care program can transfer 80 credits in science and general education courses that have an equivalency with GVSU courses in addition to the professional respiratory therapy courses in fulfilling the AHS bachelor's degree requirements. An additional 40 credits must be completed at GVSU to meet the minimum graduation requirements of 120 credits.

### **Suggested Order of Coursework**

#### **MCC Respiratory Care Emphasis**

##### **Year One to Year Three**

Fall Semester to Fall Semester:

Eighty credits transfer to GVSU.

#### **Muskegon Community College Associate in Respiratory Therapy**

The following coursework can be completed on a full-time or part-time basis at GVSU.

##### **Year Three**

Winter Semester (13 to 14 credits):

General education (3 credits)

BIO 120 - General Biology I (4 credits) Option: Take three-credit course if student has equivalent of BMS 250 and BMS 251.

STA 215 - Introductory Applied Statistics (3 credits)

WRT 150 - Strategies in Writing (4 credits) unless student completed the equivalent of ENG I and ENG II in the associate degree.

AHS 301 - Introduction to Health Care Research (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Year Four**

Fall Semester (15 credits):

AHS 321 - Ethical and Legal Responsibilities in Health Care (3 credits)

AHS 340 - Health Care Management (3 credits) Issues course

General education (3 credits)

Issues - non-AHS course (3 credits)

Winter Semester (12 credits):

AHS 495 - Issues in Health Professions (3 credits) Capstone/SWS

General education (3 credits)

General education (3 credits)

Electives (3 credits)

## **Minors Recommended for the AHS Major**

If the emphasis admitted to or selected allows the election of a minor, the following are popular choices among allied health sciences students:

Aging and adult life, biology

Business

Philosophy

Psychology

Sociology

Spanish

Women, gender, and sexuality studies

Other minors may be applicable to the student's need. Please coordinate this choice with your major advisor. Be sure to contact the minor department and meet with an advisor to create a plan for the minor.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

# **Bachelor of Science in Applied Food and Nutrition**

## **General Education Requirements:**

Students in the applied food and nutrition program at Grand Valley State University must follow all general education requirements as defined in the Grand Valley State University Undergraduate and Graduate Catalog.

## **Applied Food and Nutrition Major Course Requirements (78 credits):**

AHS 301 - Introduction to Health Care Research (3 credits)

AHS 340 - Health Care Management (3 credits) (also fulfills an Issues course)

BIO 120 - General Biology I (4 credits) (also fulfills a Life Science course)

BMS 105 - Basic Nutrition (3 credits)

BMS 212 - Introductory Microbiology (3 credits)

BMS 213 - Laboratory in Microbiology (1 credit)

BMS 250 - Anatomy and Physiology I (4 credits)

BMS 251 - Anatomy and Physiology II (4 credits)

BMS 304 - Community Nutrition (3 credits)

BMS 407 - Nutrition in the Life Cycle (3 credits)

CHM 231 - Introductory Organic Chemistry (4 credits)

CHM 232 - Biological Chemistry (4 credits)

AFN 281 - Advocacy in Food and Nutrition (1 credit)

AFN 300 - Food Protection Management (3 credits)

AFN 381 - Design Thinking in Applied Food and Nutrition (3 credits)

AFN 400 - Applied Medical Nutrition Therapy (3 credits)

AFN 401 - Emerging Issues in Food and Nutrition (2 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

AFN 410 - Nutrition Care Delivery: Assessment, Implementation, and Evaluation (4 credits)

AFN 416 - Applied Food and Culinary Science (3 credits)

AFN 417 - Food Service Practicum (1 to 2 credits)

AFN 418 - Community Nutrition Practicum (1 to 3 credits)

AFN 419 - Clinical Nutrition Practicum (1 to 3 credits)

AFN 495 - Applied Food and Nutrition Capstone (3 credits)

COM 209 - Health Communication Systems (3 credits)

STA 215 - Introductory Applied Statistics (3 credits) (also fulfills a Math course)

## **Suggested Order of Coursework**

### **Year One**

Fall (14 credits)

AHS 110 - Introduction to Health Care (3 credits)

MTH 110 - Algebra (4 credits)

General education - Art

General education - Physical Science

Winter (15 credits)

BIO 120 - General Biology I (4 credits) (General Education - Life Science)

CHM 231 - Introductory Organic Chemistry (4 credits)

General education - Writing

General education - Philosophy and Literature

### **Year Two**

Fall (16 credits)

AHS 100 - Medical Terminology (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

BMS 105 - Basic Nutrition (3 credits)

BMS 250 - Anatomy and Physiology I (4 credits)

General education - Social and Behavioral Sciences

General education - Historical Perspectives

Winter (15 credits) Apply to the AFN program

BMS 251 - Anatomy and Physiology II (4 credits)

AFN 281 - Advocacy in Food and Nutrition (1 credit)

CHM 232 - Biological Chemistry (4 credits)

General education - Social and Behavioral Sciences

General education - Global Perspectives

### **Year Three**

Fall (16 credits)

AHS 340 - Health Care Management (3 credits)

BMS 212 - Introductory Microbiology (3 credits)

BMS 213 - Laboratory in Microbiology (1 credit)

AFN 381 - Design Thinking in Applied Food and Nutrition (3 credits)

COM 209 - Health Communication Systems (3 credits)

General education - U.S. Diversity

Winter (14 credits)

BMS 304 - Community Nutrition (3 credits)

AFN 300 - Food Protection Management (3 credits)

AFN 400 - Applied Medical Nutrition Therapy (3 credits)

AFN 417 - Food Service Practicum (1 to 2 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

STA 215 - Introductory Applied Statistics (3 credits) (General education - Math)

## **Year Four**

Fall (15 credits)

AHS 301 - Introduction to Health Care Research (3 credits) (SWS)

AFN 416 - Applied Food and Culinary Science (3 credits)

AFN 418 - Community Nutrition Practicum (1 to 3 credits)

AFN 460 - Nutrition Education with Vulnerable Populations (3 credits)

General education - Issues

Winter (15 credits)

BMS 407 - Nutrition in the Life Cycle (3 credits)

AFN 401 - Emerging Issues in Food and Nutrition (2 credits)

AFN 410 - Nutrition Care Delivery: Assessment, Implementation, and Evaluation (4 credits)

AFN 419 - Clinical Nutrition Practicum (1 to 3 credits)

AFN 495 - Applied Food and Nutrition Capstone (3 credits) (SWS)

# **Annis Water Resources Institute**

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

The Robert B. Annis Water Resources Institute (AWRI) is an academic unit within the College of Liberal Arts and Sciences (CLAS) committed to the study of freshwater resources. The mission of the institute is to integrate research, education, and outreach to enhance and preserve water resources.

**Website:** [gvsu.edu/wri](http://gvsu.edu/wri)

AWRI seeks to accomplish this mission through:

Research into major questions about our water resources, including ecosystem structure and function; contaminants and toxicology; fisheries; hydrology; invasive species;

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

genomics; climatology; land use; geospatial analysis; watershed, stream, and wetland ecology; water quality; water policy; and basic and applied limnology.

Public education for a variety of groups, including K-12, university students, and the community.

Outreach to ensure that decision makers are equipped with the best available knowledge on environmental and water resource-related issues, to reduce the uncertainty associated with their resource management decisions.

Students interested in pursuing an aquatic sciences emphasis within the Master of Science in biology degree program at Grand Valley State University may do so at the AWRI. These students can select a faculty member at AWRI as their major advisor or as committee members for their thesis research in the aquatic sciences. Broad areas of research at AWRI include aquatic biogeochemistry, algal ecology, benthic ecology, climatology and global warming, ecological modeling, ecosystem restoration, environmental chemistry, environmental toxicology, fisheries ecology and management, invasive species, limnology and stream ecology, marine ecology, microbial ecology, geospatial ecology, molecular ecology, and watershed management. Students are encouraged to contact individual faculty members to learn more about specific areas of research.

### **Fieldwork and Research Opportunities**

AWRI is housed in three buildings at its Muskegon, MI, campus on the Muskegon Lake waterfront. The Lake Michigan Center features a full analytical chemistry laboratory, research laboratories, offices, a geospatial technologies information center, and classrooms and conference space. The R.B. Annis Field Station houses experimental mesocosm tanks, research laboratories, offices, and conference space. A storage building houses our vehicles and trailered boat fleet. Vessels at AWRI include two research vessels, as well as a variety of smaller boats including an electrofishing boat. Students working at AWRI are encouraged to work in a collaborative environment, taking advantage of the physical resources and our nine principal investigators (seven faculty members and one associate research scientist), who have a passion for research and education and represent a broad spectrum of focus areas within aquatic science. This collaborative spirit at AWRI stimulates student learning, promotes an interdisciplinary research environment, and promises a rewarding experience.

### **Participating Programs**

AWRI works closely with faculty from other departments on campus, including biology, chemistry, geology, geography, statistics, and economics. We encourage multidisciplinary approaches, and graduate committees often include faculty from other universities or scientists from state agencies.

## **Anthropology**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

**Website:** [gvsu.edu/anthropology](http://gvsu.edu/anthropology)

### **Fieldwork and Research Opportunities**

The anthropology program regularly sponsors field schools in archaeology and cultural anthropology. These programs are locally based and are accessible to commuters as well as on-campus students. Occasional opportunities for fieldwork abroad are also available. Postfield independent research opportunities are available through individual faculty and the anthropology lab, which houses a collection of more than 200,000 artifacts from more than 200 archaeological and historic sites. Students interested in fieldwork should contact the department.

### **Participating Programs**

Interdepartmental minor in archaeology (Director Elizabeth Arnold): Students with an anthropology major might want to pursue a minor in this interdisciplinary program. For additional information, view the archaeology minor.

## **Anthropology Minor**

A student who minors in anthropology is required to complete 21 to 22 hours in the department, including:

ANT 204 - Peoples and Cultures of the World (3 credits)

ANT 206 - Human Origins (3 credits)

ANT 215 - Origins of Civilization (3 credits)

ANT 207 - Language and Culture (3 credits) **OR** ANT 220 - Introduction to Archaeology (4 credits)

### **Additional Courses**

The remaining nine credit hours must come from 300- or 400-level courses.

ANT 305 - Methods in Biological Anthropology (3 credits)

ANT 307 - Field Techniques and Laboratory Methods in Anthropology (1 to 9 credits)

ANT 311 - Native Peoples of North America (3 credits)

ANT 312 - Human Osteology (4 credits)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

ANT 314 - Bioarchaeology (3 credits)

ANT 315 - Comparative Religions (3 credits)

ANT 317 - Advanced Cross-cultural Linguistics (3 credits)

ANT 320 - Culture and Disease (3 credits)

ANT 325 - Archaeology of North America (3 credits)

ANT 330 - Anthropology of Selected World Areas (3 credits)

ANT 340 - Culture and Environment (3 credits)

ANT 345 - Perspectives on Globalization (3 credits)

ANT 350 - Archaeology of Mid-East (3 credits)

ANT 370 - Cross-cultural Perspectives on Gender (3 credits)

ANT 380 - Special Topics in Anthropology (3 credits)

ANT 399 - Independent Readings (1 to 3 credits)

ANT 400 - Ethnographic Methods (3 credits)

ANT 405 - Contemporary Anthropological Theory (3 credits)

ANT 420 - Applied Anthropology (3 credits)

ANT 421 - Anthropology of Social Movements (3 credits)

ANT 430 - Issues in Contemporary Anthropology (3 credits)

ANT 431 - Historical Perspectives in Anthropology (3 credits)

ANT 490 - Practicum: Career-Service (1 to 9 credits)

ANT 495 - Practicing Anthropology (Capstone) (3 credits)

ANT 498 - Honors Research in Anthropology (3 credits)

ANT 499 - Independent Study and Research (1 to 4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

# Applied Anthropology, Undergraduate Certificate

## Requirements

A certificate in applied anthropology is a strong curricular addition to the degrees offered at GVSU. This 15-credit-hour certificate in applied anthropology provides students at Grand Valley with a foundational knowledge of applied anthropology, its principles, and actual experience through an internship. This certificate can be completed in three semesters (winter, summer, fall), if all prerequisites were completed previously.

A certificate in applied anthropology is neither a major nor a minor; it is a focused investigation into an area of cultural resource management, medical anthropology, development, or conservation. Anthropology accepts applications for the certificate in applied anthropology on October 15 and March 15 of each year.

## Core Courses

- ANT 400 - Ethnographic Methods (3 credits)
- ANT 420 - Applied Anthropology (3 credits)
- ANT 490 - Practicum: Career-Service (1 to 9 credits)

## Additional Course

Select one of the following courses:

- ACC 408 - Governmental and Not-for-Profit Accounting (3 credits)
- ANT 421 - Anthropology of Social Movements (3 credits)
- ANT 430 - Issues in Contemporary Anthropology (3 credits)
- ANT 431 - Historical Perspectives in Anthropology (3 credits)
- BUS 301 - International Business and Culture (3 credits)
- ECO 343 - Health Economics (3 credits)
- ECO 345 - Environmental and Resource Economics (3 credits)
- ECO 349 - Emerging Markets Issues (3 credits)
- ECO 365 - Comparative Economic Systems (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

ECO 369 - International Economic Issues (3 credits)

ENS 401 - Environmental Problem Solving (3 credits)

GPY 335 - Globalization and Development (3 credits)

GPY 362 - Farmers, Crops, and Our Challenging Agricultural World (3 credits)

GPY 363 - World Forests and Their Use (3 credits)

AHS 330 - Health Care: A Global Perspective (3 credits)

AHS 352 - Introduction to Holistic Health Care (3 credits)

MGT 303 - International Business and Culture (3 credits)

NRM 320 - Introduction to Resource Systems (3 credits)

PLS 301 - Poverty, Inequality, and U.S. Public Policy (3 credits)

PLS 302 - Women, Politics, and Public Policy (3 credits)

PLS 304 - Political Parties and Interest Groups (3 credits)

PLS 310/PNH 310 - Politics and Health Policy (3 credits)

PLS 313 - International Organization (3 credits)

PLS 316 - Human Rights in International Politics (3 credits)

PLS 327 - Politics of Developing Countries (3 credits)

PSY 362 - Environmental Psychology (3 credits)

PSY 367 - Health Psychology (3 credits)

PNH 335 - Grant Writing (3 credits)

PNH 360 - Voluntarism and the Nonprofit Sector (3 credits)

PNH 372 - International and Comparative Administration (3 credits)

WGS 335 - Women, Health and Environment (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

# **Bachelor of Arts or Bachelor of Science in Anthropology**

## **Requirements**

The wide scope and holistic nature of anthropology mean that students should have opportunities to experience three kinds of coursework: (1) courses concerned with the discipline; (2) courses specializing in a subdiscipline of anthropology; and (3) courses in disciplines related to anthropology. Students majoring in anthropology may earn either a B.A. or a B.S. degree.

Majors must complete at least 39 to 41 hours in the following:

### **Core Courses**

ANT 204 - Peoples and Cultures of the World (3 credits)

ANT 206 - Human Origins (3 credits)

ANT 210 - History of Anthropological Theory (3 credits)

ANT 215 - Origins of Civilization (3 credits)

ANT 405 - Contemporary Anthropological Theory (3 credits)

ANT 495 - Practicing Anthropology (Capstone) (3 credits)

**AND** one of the following research methods courses:

ANT 305 - Methods in Biological Anthropology (3 credits)

ANT 317 - Advanced Cross-cultural Linguistics (3 credits)

ANT 400 - Ethnographic Methods (3 credits)

ARC 400 - Archaeological Methods and Research Design (3 credits)

### **B.A. and B.S. Degree Requirements**

#### **Bachelor of Arts (B.A.) Degree**

Third-semester proficiency in a foreign language.

Select one course from the following (may not be used as an elective):

ANT 315 - Comparative Religions (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

ANT 345 - Perspectives on Globalization (3 credits)

ANT 370 - Cross-cultural Perspectives on Gender (3 credits)

### **Bachelor of Science (B.S.) Degree**

STA 215 - Introductory Applied Statistics (3 credits)

**AND** one year of science courses from the following pairs:

BIO 120 - General Biology I (4 credits) **AND** BIO 121 - General Biology II (4 credits)

CHM 115 - Principles of Chemistry I (4 credits) **AND** CHM 116 - Principles of Chemistry II (5 credits)

GEO 111 - Exploring the Earth (4 credits) **AND** GEO 112 - Earth History (4 credits)

GPY 200 - Computer Cartography (3 credits) **AND** GPY 307 - Introduction to Geographic Information Systems (3 credits)

NRM 140 - The Climatic Factor (4 credits) **AND** NRM 150 - Introduction to Natural Resources (3 credits)

PHY 220 - General Physics I (5 credits) **AND** PHY 221 - General Physics II (5 credits)

Select one course from the following (may not be used as an elective):

ANT 312 - Human Osteology (4 credits)

ANT 313 - Primate Behavior and Ecology (3 credits)

ANT 314 - Bioarchaeology (3 credits)

### **Required for Both the B.A. and B.S. Degrees**

Choose one of the following:

ANT 207 - Language and Culture (3 credits)

ANT 220 - Introduction to Archaeology (4 credits)

Choose one of the following practical and/or research experiences:

ANT 307 - Field Techniques and Laboratory Methods in Anthropology (1 to 9 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

ANT 308 - Field Experience Abroad (1 to 6 credits)

ANT 490 - Practicum: Career-Service (1 to 9 credits)

### **Practical and Research Experiences**

No more than six hours of ANT 307, ANT 308, and ANT 490 combined may count toward the major, though students are encouraged to acquire as many practical experience credits as possible. Field experiences can be obtained in any of the four subdisciplines, or students can arrange a practicum/internship in a specific field setting of their interest. Students are strongly encouraged to consult with their advisors at an early point to begin discussing their choice of field experience. Majors are strongly encouraged to complete courses in related cognate areas, to complete an internship, and to participate in career planning events.

A major in anthropology can acquire additional experience in applied, ecological, economic, medical, or urban anthropology, ethnohistory, or a regional emphasis (e.g., Latin America, Middle East, Africa, Great Lakes archaeology). This can be arranged through the advising process, independent study courses (ANT 399 and ANT 499), a practicum (ANT 490) or Honors Research (ANT 498). No more than six hours of ANT 399, ANT 498, and ANT 499 combined may count toward the major.

### **Electives**

ANT 305 - Methods in Biological Anthropology (3 credits)

ANT 311 - Native Peoples of North America (3 credits)

ANT 312 - Human Osteology (4 credits)

ANT 313 - Primate Behavior and Ecology (3 credits)

ANT 314 - Bioarchaeology (3 credits)

ANT 315 - Comparative Religions (3 credits)

ANT 317 - Advanced Cross-cultural Linguistics (3 credits)

ANT 320 - Culture and Disease (3 credits)

ANT 325 - Archaeology of North America (3 credits)

ANT 330 - Anthropology of Selected World Areas (3 credits)

ANT 340 - Culture and Environment (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

ANT 345 - Perspectives on Globalization (3 credits)

ANT 350 - Archaeology of Mid-East (3 credits)

ANT 370 - Cross-cultural Perspectives on Gender (3 credits)

ANT 400 - Ethnographic Methods (3 credits)

ANT 420 - Applied Anthropology (3 credits)

ANT 421 - Anthropology of Social Movements (3 credits)

ANT 430 - Issues in Contemporary Anthropology (3 credits)

ANT 431 - Historical Perspectives in Anthropology (3 credits)

Note: Repeated ANT 380s, ANT 330, and ANT 430s may meet elective requirements. Consult an anthropology faculty advisor. ANT 420 and ANT 421 can be used to meet elective requirements for the major, but not both the major and certificate in applied anthropology. If ANT 305, ANT 317, or ANT 400 are taken to meet the research methods requirement, the course cannot also be used to meet an elective requirement, although a second research methods course can be taken to meet the elective requirement.

## **Suggested Order of Coursework for a Major in Anthropology (B.A.)**

### **Year One**

Electives/general education

ANT 204 - Peoples and Cultures of the World (3 credits)

ANT 215 - Origins of Civilization (3 credits)

Electives/general education

ANT 206 - Human Origins (3 credits)

ANT 207 - Language and Culture (3 credits) **OR** ANT 220 - Introduction to Archaeology (4 credits)

### **Year Two**

First semester language

Electives/general education

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

ANT 210 - History of Anthropological Theory (3 credits)

Second semester language

Electives/general education

ANT elective requirement

### **Year Three**

Third semester language

Electives/general education

ANT 305 - Methods in Biological Anthropology (3 credits) **OR** ANT 317 - Advanced Cross-cultural Linguistics (3 credits) **OR** ANT 400 - Ethnographic Methods (3 credits) **OR** ARC 400 - Archaeological Methods and Research Design (3 credits)

Electives/general education

ANT elective requirement

ANT 315 - Comparative Religions (3 credits) **OR** ANT 345 - Perspectives on Globalization (3 credits) **OR** ANT 370 - Cross-cultural Perspectives on Gender (3 credits)

### **Year Four**

Spring/Summer Semester:

ANT 307 - Field Techniques and Laboratory Methods in Anthropology (1 to 9 credits) **OR** ANT 308 - Field Experience Abroad (1 to 6 credits) **OR** ANT 490 - Practicum: Career-Service (1 to 9 credits)

Fall Semester:

ANT 405 - Contemporary Anthropological Theory (3 credits)

Winter Semester:

ANT 495 - Practicing Anthropology (Capstone) (3 credits)

## **Suggested Order of Coursework for a Major in Anthropology (B.S.)**

### **Year One**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Electives/general education

ANT 206 - Human Origins (3 credits)

ANT 204 - Peoples and Cultures of the World (3 credits)

ANT 215 - Origins of Civilization (3 credits)

Electives/general education

STA 215 - Introductory Applied Statistics (3 credits)

ANT 207 - Language and Culture (3 credits) **OR** ANT 220 - Introduction to Archaeology (4 credits)

## **Year Two**

First semester science

Electives/general education

ANT 210 - History of Anthropological Theory (3 credits)

ANT elective requirement

Second semester science

Electives/general education

ANT 305 - Methods in Biological Anthropology (3 credits) **OR** ANT 317 - Advanced Cross-cultural Linguistics (3 credits) **OR** ANT 400 - Ethnographic Methods (3 credits) **OR** ARC 400 - Archaeological Methods and Research Design (3 credits)

## **Year Three**

Upper level science

ANT elective requirement

Electives/general education

ANT elective requirement

Electives/general education

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

ANT 312 - Human Osteology (4 credits) **OR** ANT 313 - Primate Behavior and Ecology (3 credits) **OR** ANT 314 - Bioarchaeology (3 credits)

## **Year Four**

Spring/Summer Semester:

ANT 307 - Field Techniques and Laboratory Methods in Anthropology (1 to 9 credits) **OR**  
ANT 308 - Field Experience Abroad (1 to 6 credits) **OR** ANT 490 - Practicum: Career-Service (1 to 9 credits)

Fall Semester:

ANT 405 - Contemporary Anthropological Theory (3 credits)

Winter Semester:

ANT 495 - Practicing Anthropology (Capstone) (3 credits)

# **Applied Computer Science**

For additional information about opportunities your college offers, please refer to the Seymour and Esther Padnos College of Engineering and Computing section of this catalog.

## **Degrees Offered**

The Master of Science degree in applied computer science is offered in the School of Computing. It provides a solid foundation in computer information systems for working professionals and those with prior experience in computer science and information systems.

The primary purpose of the program is to make educational opportunities available to the professional computing community in West Michigan. It is intended for computer professionals who are already working in industry. Because the Master of Science degree in computer information systems is offered for the working professional, the courses are scheduled in a one night per week (6 to 9 p.m.) format and located downtown at the Pew Grand Rapids Campus in Kennedy Hall.

The program is comprised of 11 three-credit courses (33 credit hours), consisting of two content areas (nine credits each), electives, and either a Capstone course, a project course, or a thesis option. The content areas available are biomedical informatics, database management, distributed computing, information systems management, software design and development, and software engineering. The last two courses in the content area must be completed at Grand Valley State University.

## **Mission**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

The mission of the School of Computing is to provide the GVSU student community with the intellectual foundations and experiences necessary to use information technology effectively in their chosen careers.

To enable students to attain this goal, computing faculty members have two primary responsibilities. First, a solid conceptual foundation is required for a career in information technology. Second, direct, experiential knowledge of technology is necessary to be a productive user/producer of information technology.

To achieve these goals, we

work continuously to keep our curriculum relevant to our mission;

ensure that work-relevant experience is part of every class;

establish and nurture industrial contacts;

establish an integrated, supported co-op experience for computing majors; and

provide all students, regardless of their major interests, fundamental knowledge of computers and information processing.

## **Admission**

In addition to the requirements listed in the Graduate Admission section, candidates must satisfy all of the following:

U.S. students with a GPA below 3.0 from all of their undergraduate coursework must contact the School of Computing for advising.

Submit acceptable recommendations from at least two individuals attesting to the likelihood of the candidate's successful completion of the program.

Submit a resume detailing work experiences and accomplishments.

Submit a link to a video (no more than three minutes) where you briefly describe your career goals, background experiences, and previous projects, including an explanation of how this program will help you achieve educational and professional objectives. Please be sure the video is available to people without needing to log in, and for at least a 30 day period after submission of your application.

After admission, students will take a placement test to determine prior computing knowledge. The results of the placement test will help in the creation of a plan of study.

## **Minimum Number of Hours for Graduation**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Eleven three-credit courses (33 credit hours) comprise the Master of Science in applied computer science degree.

### **Program Location**

Courses are normally scheduled in the evenings from 6 to 9 p.m. downtown at the Pew Grand Rapids Campus in Eberhard Center.

## **Badge in Biomedical Informatics**

The School of Computing's biomedical informatics badge (not a degree or certificate) is designed to prepare students to accomplish the following tasks:

Evaluate the requirements for biomedical information systems.

Engage in project management practices for biomedical decision-making.

Describe the legal and ethical considerations for biomedical informatics.

Utilize computational methods for knowledge discovery in bioinformatics and medicine.

Create visualizations for complex data sets.

Design parallel and high-performance computing algorithms.

Develop machine learning algorithms.

### **Program Format**

The biomedical informatics badge is comprised of three courses (nine credits).

### **Admission**

Completion of a bachelor's degree and evidence of object-oriented programming skill are required for admission.

### **Program Location**

The biomedical informatics badge is offered on the Pew Grand Rapids Campus in downtown Grand Rapids, MI.

## **Requirements for the Biomedical Informatics Badge**

CIS 661 - Introduction to Health and Bioinformatics (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

CIS 665 - Clinical Information Systems (3 credits)

**AND** one of the following:

CIS 635 - Knowledge Discovery and Data Mining (3 credits)

CIS 660 - Information Management and Science (3 credits)

CIS 671 - Information Visualization (3 credits)

## **Badge in Database Management**

The School of Computing's database management badge (not a degree or certificate) is designed to prepare students to accomplish tasks such as:

Creating relational and nonrelational databases.

Utilizing computational methods for knowledge discovery in bioinformatics and medicine.

Describing challenges posed by clinical information systems.

Creating visualizations for complex data sets.

Tuning the performance of relational database management systems.

Utilizing emerging nonrelational databases such as object-oriented and XML databases.

### **Admission**

Completion of a bachelor's degree and evidence of object-oriented programming skill are required for admission.

### **Program Location**

The database management badge is offered on the Pew Grand Rapids Campus in downtown Grand Rapids, MI.

### **Requirements**

The database management badge is comprised of three courses (nine credits).

Students must take:

CIS 673 - Principles of Database Design (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

**AND** two of the following:

CIS 635 - Knowledge Discovery and Data Mining (3 credits)

CIS 660 - Information Management and Science (3 credits)

CIS 665 - Clinical Information Systems (3 credits)

CIS 671 - Information Visualization (3 credits)

CIS 676 - Database Management Systems (3 credits)

CIS 679 - Special Topics in Database Management (3 credits)

## **Badge in Distributed Computing**

The School of Computing's distributed computing badge (not a degree or certificate) is designed to prepare students to accomplish the following:

Describe how TCP/IP enable the Internet to function.

Set up network firewalls.

Evaluate different virtualization architectures.

Understand issues posed by distributed systems such as clock synchronization, naming, and consistency.

Write a Web-based application.

### **Admission**

Completion of a bachelor's degree and evidence of object-oriented programming skill are required for admission.

### **Requirements**

The distributed computing badge is comprised of three courses (nine credits), including:

CIS 654 - Computer Networking (3 credits)

CIS 656 - Distributed Systems (3 credits)

CIS 658 - Web Architectures (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Program Location**

The distributed computing badge is offered on the Pew Grand Rapids Campus in downtown Grand Rapids, MI.

## **Badge in Information Systems Management**

The School of Computing's information systems management badge (not a degree or certificate) is designed to prepare students to accomplish tasks such as:

- Analyze the business needs that drive the need for IS solutions
- Compare and contrast stakeholder roles in IS development
- Explain a typical IS project life cycle
- Evaluate and choose appropriate system development life cycles and methodologies
- Explain the interaction between the process groups, knowledge areas, and processes
- Adapt basic tools, templates, and techniques to the planning, organization, and management of an information systems project
- Apply the principles defined in the Agile Manifesto to IS project management
- Discriminate between Agile and traditional approaches to IS project management

## **Program Format**

The information systems management badge is comprised of three courses (9 credits).

## **Admission**

Completion of a bachelor's degree, and evidence of object-oriented programming skill are required for admission.

## **Program Location**

The information systems management badge is offered on the Pew Grand Rapids Campus, located in downtown Grand Rapids, MI.

## **Requirements**

The information systems management badge consists of three courses (9 credits), including:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CIS 641 - Systems Analysis and Design (3 credits)

CIS 642 - IS Project Management (3 credits)

CIS 643 - Information Systems Policy and Strategy (3 credits)

## **Badge in Software Design and Development**

The School of Computing's software design and development badge (not a degree or certificate) is designed to prepare students to accomplish tasks such as:

Engage in modern software engineering processes.

Analyze the requirements for a software project.

Design a solution for a software project.

Develop a mobile application.

Create a relational database and learn how applications use databases for persistent storage.

The software design and development badge is comprised of three courses (nine credits).

### **Admission**

Completion of a bachelor's degree and evidence of object-oriented programming skills are required for admission.

### **Program Location**

The software design and development badge is offered at Pew Grand Rapids Campus, located in downtown Grand Rapids, MI.

### **Requirements for the Software Design and Development Badge**

CIS 611 - Introduction to Software Engineering (3 credits)

CIS 641 - Systems Analysis and Design (3 credits)

**AND** choose one of the following:

CIS 657 - Mobile Application Development (3 credits)

CIS 673 - Principles of Database Design (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

## **Badge in Software Engineering**

The School of Computing's software engineering badge (not a degree or certificate) is designed to prepare students to accomplish tasks such as:

Engaging in modern software engineering processes.

Analyzing the requirements for a software project.

Designing a test plan for a software project.

Applying software security principles to reduce cybersecurity threats.

### **Program Location**

The software engineering badge is offered on Pew Grand Rapids Campus in downtown Grand Rapids, MI.

### **Admission**

Completion of a bachelor's degree, and evidence of object-oriented programming skill is required for admission.

### **Requirements**

The software engineering badge is comprised of three courses (nine credits).

Students must choose three of the following:

CIS 611 - Introduction to Software Engineering (3 credits)

CIS 612 - Requirements Specification (3 credits)

CIS 613 - Software Testing (3 credits)

CIS 618 - Secure Software Engineering (3 credits)

## **Badge in Web and Mobile Computing**

The School of Computing's Web and mobile computing badge (not a degree or certificate) is designed to prepare students in the following areas:

Design a stand-alone native mobile application on a modern mobile platform.

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

Develop a Web-based application using a modern Web stack.

Explain the primary challenges and tradeoffs in designing distributed systems.

Specify the requirements for a database application and then implement it using EER modeling, schema design and normalization, SQL/DDDL, SQL/DML, stored procedures, and database triggers.

Describe details of data communications and computer networks including TCP/IP protocol stack.

Analyze security threats to computer networks and know how to protect against threats.

## **Admission**

Completion of a bachelor's degree, and evidence of object-oriented programming skills are required for admission.

## **Program Location**

The Web and mobile computing badge is offered on the Pew Grand Rapids Campus, located in downtown Grand Rapids, MI.

## **Requirements**

The Web and mobile computing badge consists of three courses (9 credits), including:

CIS 657 - Mobile Application Development (3 credits)

CIS 658 - Web Architectures (3 credits)

# **Master of Science in Applied Computer Science**

## **Requirements for the M.S. in Applied Computer Science**

All candidates for the degree must complete a total of 33 credits, including the following:

Core courses (9 credits)

Concentration course (9 credits)

Electives (6 or 12 credits)

Capstone (3 or 6 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## Core Courses

Students are required to complete one course in three of the following areas for a total of nine credits:

### 1. Data Engineering

CIS 660 - Information Management and Science (3 credits)

CIS 673 - Principles of Database Design (3 credits)

### 2. Management of Systems Development

CIS 641 - Systems Analysis and Design (3 credits)

CIS 642 - IS Project Management (3 credits)

### 3. Software Engineering

CIS 518 - Secure Software Engineering (3 credits)

CIS 612 - Requirements Specification (3 credits)

CIS 613 - Software Testing (3 credits)

CIS 622 - Software Design Methodologies (3 credits)

### 4. Networking

CIS 654 - Computer Networking (3 credits)

CIS 656 - Distributed Systems (3 credits)

## Concentrations

All candidates are required to complete one of the following concentrations:

### 1. Biomedical Informatics

CIS 661 - Introduction to Health and Bioinformatics (3 credits)

**AND** two of the following:

CIS 635 - Knowledge Discovery and Data Mining (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CIS 660 - Information Management and Science (3 credits)

CIS 665 - Clinical Information Systems (3 credits)

CIS 671 - Information Visualization (3 credits)

CIS 677 - High-performance Computing (3 credits)

CIS 678 - Machine Learning (3 credits)

## 2. Cybersecurity

CIS 615 - Information Security Principles (3 credits)

**AND** two of the following:

CIS 518 - Secure Software Engineering (3 credits)

CIS 555 - Applied Cryptography (3 credits)

CIS 616 - Data Security and Privacy (3 credits)

CIS 617 - Digital Forensics and Investigations (3 credits)

CIS 619 - Data Analytics for Cybersecurity (3 credits)

## 3. Database Management

CIS 673 - Principles of Database Design (3 credits)

**AND** two of the following:

CIS 635 - Knowledge Discovery and Data Mining (3 credits)

CIS 660 - Information Management and Science (3 credits)

CIS 665 - Clinical Information Systems (3 credits)

CIS 671 - Information Visualization (3 credits)

CIS 676 - Database Management Systems (3 credits)

CIS 679 - Special Topics in Database Management (3 credits)

## 4. Distributed Computing

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CIS 654 - Computer Networking (3 credits)

CIS 656 - Distributed Systems (3 credits)

CIS 658 - Web Architectures (3 credits)

#### 5. Information Systems Management

CIS 641 - Systems Analysis and Design (3 credits)

CIS 642 - IS Project Management (3 credits)

CIS 643 - Information Systems Policy and Strategy (3 credits)

#### 6. Software Design and Development

CIS 611 - Introduction to Software Engineering (3 credits)

CIS 641 - Systems Analysis and Design (3 credits)

**AND** elective (choose one):

CIS 657 - Mobile Application Development (3 credits)

CIS 673 - Principles of Database Design (3 credits)

#### 7. Software Engineering

Choose three of the following:

CIS 611 - Introduction to Software Engineering (3 credits)

CIS 612 - Requirements Specification (3 credits)

CIS 613 - Software Testing (3 credits)

CIS 518 - Secure Software Engineering (3 credits)

#### 8. Web and Mobile Computing

CIS 657 - Mobile Application Development (3 credits)

CIS 658 - Web Architectures (3 credits)

**AND** one of the following:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CIS 654 - Computer Networking (3 credits)

CIS 656 - Distributed Systems (3 credits)

CIS 673 - Principles of Database Design (3 credits)

### **Additional Elective Courses**

Any 500- or 600-level CIS course can be used as an elective toward the M.S./ACS degree. Current electives include:

CIS 623 - Graphical User Interface Design (3 credits)

CIS 672 - Computer Systems Architecture (3 credits)

CIS 675 - Compiler Construction (3 credits)

### **Capstone**

Each candidate must complete either the Capstone course, the project course, or the thesis sequence. Please contact the graduate program director one semester prior to starting any of these.

CIS 690 - Thesis Research Preparation (3 credits)

CIS 692 - Master's Capstone (3 credits)

CIS 693 - Master's Project (3 credits)

CIS 695 - Master's Thesis (3 credits)

# **Applied Food and Nutrition**

**Website:** [gvsu.edu/ahs](http://gvsu.edu/ahs)

### **Faculty**

Libby MacQuillan, PhD, RDN, CHSE, Program Director

Jody Vogelzang, PhD, RDN, FAND, CHES

Kris Baird, MS, RDN, FAND, CNSC

Jennifer Ford, MS, RDN, CSO

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

This undergraduate program in applied food and nutrition (AFN) has been developed to meet the accreditation requirements in preparing students to qualify as nutrition dietetic technicians, registered (NDTR). The program provides classes geared toward employment in community, food service, or clinical food and nutrition areas, and includes supervised practice rotations in food service, community and clinical nutrition. The use of simulation with standard patients and manikins is an integral part of preparing graduates for employment in many diverse organizations.

NDTRs are employed in a variety of health care and nutrition settings, with most working in acute care hospitals, long term care sites, and in community and public health organizations. NDTRs are equipped to educate, monitor and advise clients and groups participating in federally funded nutrition programs to promote well-being and improved quality of life through eating habits and lifestyle behaviors. They are valued for their scientific understanding of nutrition and dietetics and for their empathetic approach when interacting with clients. NDTRs work in a complementary role to the registered dietitian nutritionist (RDN) and treat less acute, less complex nutrition-related diseases and disorders compared to the scope of practice of the RDN.

The B.S. in applied food and nutrition will use problem-based learning, meaningful and sustainable group projects, and multiple opportunities to demonstrate critical thinking as the students emerge as highly trained and sought after nutrition and dietetic professionals.

**Accreditation:** The AFN program is pursuing accreditation with the Accreditation Council for Education in Nutrition and Dietetics (ACEND) as a future model bachelor's degree program. Designed to meet the newest standards for accredited bachelor's degree programs, GVSU's AFN program has applied to be designated as a demonstration program with ACEND.

**Academic Advising:** Students are strongly encouraged to meet periodically with their academic advisor to determine progress toward and eligibility for admission into the Applied Food and Nutrition program. Students are assigned to a College of Health Professions Student Services academic advisor prior to program admission: [gvsu.edu/chpss](http://gvsu.edu/chpss). Upon admission into the program students are assigned to an AFN faculty advisor.

## **Application Process for Applied Food and Nutrition**

### **Phase I - Prerequisites**

Phase I consists of having the following prerequisites complete or currently enrolled at the time of application. The prerequisites are:

Overall and science GPA of 2.7 or above

BIO 120

BMS 105

BMS 250 and BMS 251

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

CHM 231

Completion of 45 hours

CHM 232 must be completed with a C+ or better prior to the start of the 400-level AFN courses.

## **Phase II - Application Requirements**

Applicants must submit all materials to the director of the applied food and nutrition program. The application consists of the following components, all of which must be completed and submitted by February 1, prior to the intended fall (August) entry. Late applications will be considered assuming requirements are met and space is available in the program. All forms are available on the program website:

GVSU Undergraduate Application - students must be admitted and eligible to start classes in the year of application

Completed AFN application

Resume

Unofficial transcripts from all colleges/universities attended

One to two page statement of professional philosophy: Why have you chosen AFN as a profession?

Three completed recommendations using GVSU's online reference forms.

Completed applications will be evaluated on a continuous basis beginning February 1 each year until the program's space is filled. After evaluation of the above application documents, offers of interviews with program faculty will be made. Completion of an interview is required for program admission.

## **Phase III - Official Admission Notification**

Upon successful completion of Phase I and II, applicants will be notified of admission into the program and will be asked to set up an advising appointment with a faculty member.

# **Applied Statistics**

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

The Master of Science in applied statistics is one of five professional science master (PSM) degree programs at Grand Valley State University. All five programs emphasize teamwork, problem-solving, communication, scientific knowledge, and technical skills. Each program is designed to integrate university coursework with business/industrial internships to better prepare students for a variety of career pathways in their chosen field. The overall objectives and interactions of these programs are described in the PSM section of the Grand Valley State University Undergraduate and Graduate Catalog.

The Master of Science in applied statistics is a practical hands-on program that provides graduates with a comprehensive set of applied statistical techniques. Upon graduation, graduates are career ready and immediately contribute as applied statisticians. The diverse comprehensive statistics curriculum is data oriented with an emphasis on the application of statistical software. The required internship with community partners provides valuable professional industry experience to complement the curriculum. Potential students should discuss their statistical career interests with the graduate director for specific advising regarding the choice of the applied statistics or biostatistics PSM program.

### **Admission to Master of Science in Applied Statistics Program**

Admission to the PSM in applied statistics will be based on a set of application materials. An undergraduate major or minor is not required but strong performance in several undergraduate courses will strengthen the possibility of a successful application. Prerequisite material may be suggested prior to program acceptance. Relevant work experience is also considered in the evaluation of an application. In conjunction with satisfying general graduate GVSU admission policies, the following requirements must be satisfied or included as part of the application:

Grade point average of 3.0 on a 4.0 scale from all undergraduate coursework or a satisfactory score on the GRE

Resume detailing work experiences and accomplishments

Personal statement of career goals and background experiences, including an explanation of how this program will help achieve educational and professional objectives

Letters of recommendations from at least two individuals who are in positions to attest to the applicant's successful completion of the program

## **Master of Science in Applied Statistics**

Overall requirements for the M.S. in applied statistics (PSM) will consist of 36 credits, with a minimum cumulative GPA of 3.0. Consistent with Grand Valley policy, all courses must be completed within eight consecutive years from entry into the first graduate course. Please consult the graduate school catalog for other general GVSU policies regarding graduate program requirements. The specific course requirements are as follows:

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

Seven directed courses in statistics (22 credits)

STA 610 - Applied Statistics for Health Professions (3 credits)

STA 616 - Statistical Programming (3 credits)

STA 621 - Design of Experiments and Regression (4 credits)

STA 623 - Categorical Data Analysis (3 credits)

STA 630 - Topics in Advanced Statistical Applications (3 credits)

Two courses from the following list of three courses:

STA 518 - Statistical Computing and Graphics with R (3 credits)

STA 526 - Multivariate Data Analysis (3 credits)

STA 628 - Survival Analysis (3 credits)

Two courses in professional science (5 credits)

PSM 650 - Ethics and Professionalism in Applied Science (3 credits)

PSM 662 - Seminar in Professional Science Practice (2 credits)

PSM 691 - Internship (1 to 9 credits) (minimum of 4 credits)

Electives (5 credits minimum) are selected, with advisor approval, from graduate courses that are appropriate to each students interests and goals. Examples include:

BMS 523 - Epidemiology (3 credits)

CIS 665 - Clinical Information Systems (3 credits)

CIS 677 - High-performance Computing (3 credits)

STA 625 - Clinical Trials (2 credits)

## Arabic

Arabic is spoken in the area stretching from Morocco in the west to Oman in the east, from Syria in the north to Sudan and Yemen in the south. The Arab world is a region inhabited by more than 300 million people. However, Arabic speakers are also found outside this region with large

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

populations in the United States, across Europe, West Africa, and Latin America. Because of its religious significance to Islam, Arabic is widely used among Muslims all over the world. In fact, Michigan is home to the nation's largest Arab American community with a diverse mix of Christians and Muslims.

In the tradition of education in modern languages and literatures at Grand Valley, courses in this minor teach different ways to reach linguistic proficiency and cultural competence in Arabic. The ability to listen, speak, write, and read in Arabic expands the range of students' communication skills and extends the breadth of students' world views.

The minor in Arabic concentrates on the two main vernaculars of Arabic, the standard language (Modern Standard Arabic) and some regional spoken varieties. However, proficiency can only be reached when students are competent in the culture as well. In response to this call, the Arabic minor offers coursework that specifically targets cultural aspects and encourages students to immerse themselves in Arabic culture. GVSU currently offers a faculty-led study abroad program in Oman and Dubai, where students can study Arabic language and culture for five weeks.

Arabic minor students are encouraged to participate in the Model Arab League simulation held annually in February and in field trips to points of cultural interest locally and in the Detroit area.

## **Arabic Minor**

### **Requirements**

Students minoring in Arabic must complete a minimum of 20 credit hours of coursework. This includes eight credits of core courses and 12 credits of electives. Students have the option to fulfill three credits of electives through the Oman/United Arab Emirates study abroad program (which includes taking either ARA 285 or ARA 386).

### **Core Courses**

ARA 201 - Intermediate Arabic I: Language and Culture (4 credits)

ARA 202 - Intermediate Arabic II: Language and Culture (4 credits)

### **Electives**

Choose four:

ARA 285 - Colloquial and Media Arabic (3 credits)

ARA 301 - Arabic Conversation (3 credits)

ARA 302 - Arabic Composition (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

ARA 310 - Media Arabic (3 credits)

ARA 312 - Contemporary Arabic Culture (3 credits)

ARA 380 - Special Topics in Arabic (1 to 4 credits)

ARA 386 - Arabic through Culture and Customs (3 credits)

ARA 480 - Special Topics in Arabic (1 to 4 credits)

## Archaeology

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

Archaeology is the study of the scope and diversity of human cultural experience through analysis of material culture, from the earliest appearance of humankind to the recent past. Students gain insights into their own society and cultural heritage through comparisons with ancient cultures. The archaeology minor at Grand Valley is a collaborative interdepartmental program and is open to students from any academic major.

The archaeology program encourages student participation with local and national groups such as the Michigan Archaeological Society and Archaeological Institute of America, both of which have local chapters that welcome student members. Students are also encouraged to take part in faculty and student-directed research projects.

Opportunities for participation in archaeological field projects, both local and international, are numerous. Scholarships and other forms of financial aid may be available for some programs. Students interested in archaeological fieldwork should consult program advisors for a list of approved field programs that fulfill field research requirements for the minor.

Anthropology Department ([gvsu.edu/anthropology](http://gvsu.edu/anthropology))

Classics Department ([gvsu.edu/classics](http://gvsu.edu/classics))

History Department ([gvsu.edu/history](http://gvsu.edu/history))

## Archaeology Minor

### Requirements

Students pursuing the minor in archaeology will complete seven courses (minimum 22 credits) distributed as follows:

Three core courses (10 hours total)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Two regional issues courses (six hours total)

One cross-disciplinary elective (three, four, or five hours depending on chosen course)

One field research practicum (three hours minimum)

### **Core Courses**

The following three courses are required:

ANT 220 - Introduction to Archaeology (4 credits)

ARC 400 - Archaeological Methods and Research Design (3 credits)

ARC 401 - Archaeological Theory (3 credits)

### **Regional Issues Courses**

Select two:

ANT 325 - Archaeology of North America (3 credits)

ANT 350 - Archaeology of Mid-East (3 credits)

CLA 350 - Issues in Classical Archaeology (3 credits)

### **Cross-disciplinary Electives**

Select one:

ARA 202 - Intermediate Arabic II: Language and Culture (4 credits) or other modern language at intermediate level.

ART 420 - Asian Art (3 credits)

BIO 311 - Who's Running Your Life: Genes, Evolution and Behavior (3 credits) **OR** BIO 452 - Human Evolution (3 credits)

CHM 115 - Principles of Chemistry I (4 credits) for non-CHM, BIO, or GEO majors.

GPY 307 - Introduction to Geographic Information Systems (3 credits)

GEO 112 - Earth History (4 credits) **OR** GEO 312 - Sedimentation-Stratigraphy (4 credits) **OR** GEO 320 - Geomorphology (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

LAT 350 - Latin Prose (3 credits) **OR** other ancient language at 300-level.

### **Field Practicum**

All students must complete a minimum of three credits of field research, under the direction of the archaeologists on the CLAS faculty or in another preapproved program.

ANT 307 - Field Techniques and Laboratory Methods in Anthropology (1 to 9 credits) **OR** CLA 499 - Independent Study and Research (1 to 3 credits)  
**OR** HST 490 - History Internship (1 to 3 credits) **OR** GEO 315 - Geological Field Methods (3 credits) **OR** equivalent course

## **Athletic Training**

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

**Website:** [gvsu.edu/athletictraining](http://gvsu.edu/athletictraining)

### **Accreditation**

The athletic training program holds full accreditation status from the Commission on Accreditation of Athletic Training Education (CAATE).

## **Master of Athletic Training**

Athletic trainers (ATs) are highly qualified, multiskilled health care professionals who collaborate with physicians to provide preventative services, emergency care, clinical diagnosis, therapeutic intervention, and rehabilitation of injuries and medical conditions.

Professional training education in athletic training uses a competency-based approach in both the classroom and clinical settings. Using a medical-based education model, athletic training students are educated to provide comprehensive patient care in five domains of clinical practice: prevention; clinical evaluation and diagnosis; immediate and emergency care; treatment and rehabilitation; and organization and professional health and well-being. The educational requirements for CAATE-accredited athletic training education programs include acquisition of knowledge, skills, and clinical abilities along with a broad scope of foundational behaviors of professional practice. Students complete an extensive clinical learning requirement that is embodied in the clinical integration proficiencies (professional, practice-oriented outcomes) as identified in the athletic training education competencies.

This program is a professional program in athletic training that will have two routes of entry:

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Students may earn the MAT through admission directly to the MAT program. This route would be for students who have earned a bachelor's degree and meet all the preadmissions/admissions requirements. These students would apply during the fall semester of the year before they plan on beginning the program. If accepted, they would start during the fall semester and have two full years to complete the master's degree.

A student may begin the program at GVSU as a first-year student. Students interested in this program would follow a program that will award a student a B.S. in exercise science with an emphasis in clinical exercise science (CES) after three and a half years and an MAT when completed after five years. These students will meet all the preadmissions/admissions requirements and apply to the MAT program during the fall semester of their third year. If accepted, the student will then start the MAT curriculum the following fall semester and complete the professional program during their fourth and fifth years. These students will have earned the B.S. in CES upon completion of the fall semester of the fourth year.

All students, regardless of their entry point will go through the program as a cohort and will take the same courses in the same sequence. All students will be required to be full-time students to meet the didactic and clinical demands of the program.

## **Requirements**

The degree is comprised of 59 credits.

ATH 506 - Intervention and Referral (2 credits)

ATH 514 - Assessment and Evaluation I (4 credits)

ATH 515 - Assessment and Evaluation II (4 credits)

ATH 521 - Athletic Training Clinical I (3 credits)

ATH 522 - Athletic Training Clinical II (3 credits)

ATH 523 - Methods of Evidence-Based Practice in Athletic Training (3 credits)

ATH 525 - Prehospital Care of the Injured Patient (4 credits)

ATH 530 - General Medical Conditions in Athletic Training (3 credits)

ATH 575 - Therapeutic Interventions I (4 credits)

ATH 607 - Pharmacology in Athletic Training (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

ATH 626 - Athletic Training Clinical III (4 credits)

ATH 628 - Athletic Training Clinical IV (4 credits)

ATH 675 - Therapeutic Interventions II (4 credits)

ATH 685 - Advanced Techniques in Athletic Training (2 credits)

ATH 689 - Professional Topics in Athletic Training (3 credits)

ATH 693 - Project in Athletic Training (1 to 3 credits) Requires four credits for degree.

IPE 507 - Integrated Team Health Care (2 credits)

STA 610 - Applied Statistics for Health Professions (3 credits)

## **Suggested Order of Coursework**

### **Year One**

ATH 506 - Intervention and Referral (2 credits)

ATH 514 - Assessment and Evaluation I (4 credits)

ATH 515 - Assessment and Evaluation II (4 credits)

ATH 521 - Athletic Training Clinical I (3 credits)

ATH 522 - Athletic Training Clinical II (3 credits)

ATH 523 - Methods of Evidence-Based Practice in Athletic Training (3 credits)

ATH 525 - Prehospital Care of the Injured Patient (4 credits)

ATH 530 - General Medical Conditions in Athletic Training (3 credits)

ATH 575 - Therapeutic Interventions I (4 credits)

IPE 507 - Integrated Team Health Care (2 credits)

STA 610 - Applied Statistics for Health Professions (3 credits)

### **Year Two**

ATH 607 - Pharmacology in Athletic Training (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

ATH 626 - Athletic Training Clinical III (4 credits)

ATH 628 - Athletic Training Clinical IV (4 credits)

ATH 675 - Therapeutic Interventions II (4 credits)

ATH 685 - Advanced Techniques in Athletic Training (2 credits)

ATH 689 - Professional Topics in Athletic Training (3 credits)

ATH 693 - Project in Athletic Training (1 to 3 credits)

## Audiology

For additional information about opportunities your college offers, please refer to the College of Health Professions section in this catalog.

**Website:** [gvsu.edu/csd](http://gvsu.edu/csd)

An audiologist is a licensed allied health practitioner focused on the ear and hearing. The entry-level degree to practice as an audiologist is the doctorate. A Doctor of Audiology (Au.D.) is a professional who specializes in diagnosing, managing, and treating hearing- and balance-related disorders, treating patients from birth through adulthood.

### Accreditation

The accrediting body for programs in audiology is the Council for Academic Accreditation in Audiology and Speech-Language Pathology (CAA), which is affiliated with the American Speech-Language-Hearing Association (ASHA). The entry-level for practitioners of audiology is a doctoral degree, and only doctoral-level programs are accredited by CAA. Programs desiring accreditation must first apply for candidacy status, which must be granted prior to enrolling students. Candidacy is a preaccreditation status with the CAA, awarded to developing or emerging programs for a maximum period of five years. The rationale for the candidacy program is that CAA standards include a number of student outcome measures that would be impossible to demonstrate without any students. Applicant programs must be able to demonstrate sufficient resources and commitment on behalf of the institution, and a plan must be in place for complying with all of the standards. During the candidacy period, the program demonstrates that the plan has been implemented and that students are achieving the required outcomes. At that point, a program must apply for full accreditation status.

The profession of audiology is a licensed field of practice that requires completion of a doctoral degree from an accredited institution. It is not possible to become licensed as a new audiologist without the doctoral degree. The Doctor of Audiology degree program at Grand Valley will prepare students to qualify for licensure.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

**Minimum Number of Hours in Program: 84**

## **Admission**

**Completion of a bachelor's degree from an accredited institution of higher education.**

Generally, a 3.0 cumulative grade point average is the minimum required for admission. The Graduate School will allow programs to admit students who do not meet this requirement if they are exceptional in other ways (please see number six as follows).

**Prerequisites:** The program is designed as a self-contained program with very few prerequisites. Applicants with a background in communication sciences and disorders (speech and hearing) have an advantage in the program's coursework, but neither the major nor any speech and hearing coursework are required to apply. The program also encourages applicants from diverse majors to apply as they frequently bring perspectives and experiences that enrich the learning of all students. If applicants from other majors wish to take a few leveling courses prior to starting the program, they should contact the program director who can customize some suggestions. All applicants, regardless of major background, must have completed coursework in:

**Basic Sciences** (e.g., biology, chemistry, physics, statistics)

**Basic Science Skills** (e.g., scientific methods, critical thinking)

Students at most institutions will have completed similar courses as part of their bachelor degree programs.

**Professional vitae/resume.**

**Essential Functions:** Applicants must be able to perform all essential functions specified by the program.

**English Proficiency:** Test scores from the TOEFL (Test of English as a Foreign Language), or IELTS (International English Language Testing System), or MELAB (Michigan English Language Assessment Battery), or PTE (Pearson Test of English Academic) for applicants whose native language is not English. The following minimum scores are expected: TOEFL = 80; IELTS = 6.5; MELAB = 77; PTE Academic = 53. Exceptions can be requested but are not usually granted.

**Exceptional Qualifications:** The program is providing students with the opportunity to demonstrate to the faculty why the applicant should be admitted. The Graduate Records Examination (GRE) is not required, but is one of many ways in which an individual with high scores could demonstrate that they are an exceptional candidate. Letters of Reference are not required, but a candidate with particularly strong references could submit letters of recommendation. (Note: CSDCAS requires that all

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

applicants enter contact information for three references; those individuals can disregard the email request sent by CSDCAS if the applicant chooses not to use references as demonstration of exceptionalism.) Candidates who have participated in research, particularly if it resulted in a product (manuscript, paper, poster) could submit this as evidence of exceptionalism. Each applicant could use any one or more of those mentioned or anything of their choosing that would demonstrate to the faculty that they are an exceptional candidate for this degree program. In other words, it is the responsibility of the applicant to demonstrate to the program that they should be considered for admission.

**Personal Interview:** Interviews are scheduled for selected finalists upon invitation by the program, not the applicant, after the application deadline and review of applications by the faculty.

## **Doctor of Audiology (Au.D.)**

### **Requirements**

Students admitted into the Doctor of Audiology degree program must complete 84 semester credit hours of didactic and practical coursework spread over nine consecutive semesters (three years).

### **Suggested Order of Coursework**

#### **Semester One**

Fall:

HRG 501 - Anatomy and Physiology of Hearing and Balance (3 credits)

HRG 521 - Audiologic Assessment (3 credits)

HRG 525 - Neurophysiologic Measures I (3 credits)

HRG 541 - Amplification I (3 credits)

HRG 570 - Audiology Fieldwork (1 credit)

Winter:

HRG 504 - Instrumentation and Hearing Science (3 credits)

HRG 526 - Neurophysiologic Measures II (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

HRG 542 - Amplification II (3 credits)

HRG 562 - Professional Issues in Audiology (1 credit)

HRG 570 - Audiology Fieldwork (1 credit)

Spring/Summer:

HRG 508 - Psychoacoustics (2 credits)

HRG 527 - Vestibular Assessment and Rehabilitation (3 credits)

HRG 545 - Auditory Habilitation and Rehabilitation (3 credits)

HRG 566 - Evidence-Based Practice in Audiology (1 credit)

HRG 570 - Audiology Fieldwork (1 credit)

## **Semester Two**

Fall:

HRG 623 - Hearing Across the Lifespan (3 credits)

HRG 645 - Cochlear Implants and Tinnitus (3 credits)

HRG 661 - Hearing Conservation (2 credits)

HRG 670 - Audiology Practicum (2 credits)

Winter:

HRG 606 - Auditory Pathophysiology and Heredity (2 credits)

HRG 642 - Educational Audiology and Auditory Processing Disorders (2 credits)

HRG 648 - Mentoring and Counseling in Audiology (2 credits)

HRG 664 - Audiology Practice Management (2 credits)

HRG 670 - Audiology Practicum (2 credits)

Spring/Summer:

HRG 607 - Radiographic Imaging and Pharmacology for Audiology (2 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

HRG 629 - Clinical Decision Making in Audiology (2 credits)

HRG 670 - Audiology Practicum (2 credits)

HRG 690 - Research Preparation in Audiology (3 credits)

### **Semester Three**

Fall:

HRG 760 - Special Topics in Audiology (1 credit)

HRG 770 - Audiology Internship (6 credits)

Winter:

HRG 760 - Special Topics in Audiology (1 credit)

HRG 770 - Audiology Internship (6 credits)

Spring/Summer:

HRG 760 - Special Topics in Audiology (1 credit)

HRG 770 - Audiology Internship (6 credits)

## **Biochemistry**

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

The biochemistry program is administered by the Chemistry Department.

**Website:** [gvsu.edu/chem](http://gvsu.edu/chem)

Biochemistry is a fascinating and diverse field that affects almost every area of our lives. The medicines we take and the food we eat are all affected by discoveries made through the study of biochemistry. Increasingly, biochemistry is being applied to other technologies, such as the production of biofuels and material development.

A biochemistry major is excellent preparation for students interested in attending biochemistry graduate school or in obtaining employment in biochemical and biomedical laboratories. This major is also appropriate for students interested in attending professional schools in the health professions, such as medical, dental, pharmacy, or veterinary schools.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

The biochemistry program is housed within the Chemistry Department, which also offers a B.S. in chemistry as well as a B.S. in chemistry with an education emphasis for students interested in teaching high school chemistry.

For any degree program in chemistry or biochemistry, it is important to start the proper sequence of chemistry courses as soon as possible. Students who wish to major in biochemistry should meet with their Chemistry Department faculty advisors as soon as possible to plan programs that match their academic interests and career goals.

The Chemistry Department also offers a green chemistry certificate. This option can be added to any major or minor. It shows that students have taken a series of classes where they learn the principles of green chemistry and the production of chemicals and design of chemical processes in a manner that is environmentally sustainable.

The Chemistry Department also offers a chemistry minor. Students from other departments can add a chemistry minor to enhance their knowledge of chemistry and laboratory experience.

### **Accreditation**

The Chemistry Department is approved by the Committee on Professional Training of the American Chemical Society and offers ACS certified degrees in chemistry and biochemistry to qualified graduates.

### **Degrees Offered**

The College of Education and Community Innovation offers an M.Ed. in general education with a concentration in science. This program is called target inquiry. Contact the chemistry office for more information.

### **Participating Programs**

The College of Education offers a M.Ed. in general education with a concentration in science. This program is called Target Inquiry. Contact the chemistry office for more information.

The dual geology-chemistry major is offered by the Geology Department in cooperation with the Chemistry Department. For details, see the program description.

## **Bachelor of Science in Biochemistry**

The B.S. biochemistry major prepares students for entry-level employment in biotechnical or biomedical laboratories or for entry into professional health schools or biochemical graduate programs.

A summary of all degree requirements, as well as other departmental information is available in the Chemistry Department Handbook. All biochemistry majors should obtain a copy from the department office.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## Requirements for a B.S. Major in Biochemistry

### 1. Degree Requirements

General university degree requirements are as identified in the General Academic Policies section of the Grand Valley State University Undergraduate and Graduate Catalog.

### 2. Chemistry Courses

CHM 115 - Principles of Chemistry I (4 credits)

CHM 116 - Principles of Chemistry II (5 credits)

CHM 221 - Survey of Analytical Chemistry (4 credits)

CHM 245 - Principles of Organic Chemistry I (4 credits)

CHM 246 - Principles of Organic Chemistry I Lab (1 credit)

CHM 247 - Principles of Organic Chemistry II (3 credits)

CHM 248 - Principles of Organic Chemistry II Lab (1 credit)

CHM 351 - Introduction to Physical Chemistry (3 credits) **OR BOTH** CHM 356 - Physical Chemistry I (3 credits) **AND** CHM 358 - Physical Chemistry II (3 credits)

CHM 352 - Physical Chemistry Laboratory (1 credit)

CHM 391 - Chemistry Seminar I (1 credit)

CHM 461 - Biochemistry I (4 credits)

CHM 462 - Techniques in Biochemistry (3 credits)

CHM 463 - Biochemistry II (3 credits)

CHM 491 - Chemistry Seminar II (1 credit)

### 3. Required Cognate Courses

BIO 120 - General Biology I (4 credits) **OR BOTH** CMB 155 - Introduction to Cell and Molecular Biology (3 credits) **AND** CMB 156 - Discoveries in Cell and Molecular Biology: A Research-based Laboratory Course (1 credit)

BIO 375 - Genetics (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

BIO 376 - Genetics Laboratory (1 credit)

MTH 201 - Calculus I (4 credits)

PHY 220 - General Physics I (5 credits)

PHY 221 - General Physics II (5 credits)

#### **4. Electives**

Take eight additional credits from the following choices:

BIO 357 - Environmental Microbiology (4 credits)

BIO 416 - Advanced Genetics Laboratory (2 credits)

BIO 423 - Plant Biotechnology (3 credits)

BIO 432 - Comparative Animal Physiology (4 credits)

BMS 212 - Introductory Microbiology (3 credits)

BMS 213 - Laboratory in Microbiology (1 credit)

BMS 290 - Human Physiology (3 credits)

BMS 391 - Laboratory in Human Physiology (2 credits)

BMS 306 - Advanced Human Nutrition (3 credits)

BMS 312 - Bacterial Genetics (3 credits)

BMS 313 - Bacterial Genetics Laboratory (1 credit)

BMS 410 - Immunology (3 credits)

BMS 422 - Bacterial Physiology (3 credits)

BMS 423 - Bacterial Physiology Laboratory (2 credits)

BMS 431 - Medical Virology (3 credits)

CHM 421 - Green Chemistry for Sustainable Environment (3 credits)

CHM 427 - Green and Environmental Chemistry Laboratory (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CHM 441 - Advanced Topics in Organic Chemistry (3 credits)

CHM 442 - Synthetic Polymers: Life Cycle and Emerging Sustainable Technologies (3 credits)

CHM 447 - Organic Synthesis and Characterization (3 credits)

CHM 457 - Advanced Physical and Instrumental Chemistry Laboratory (3 credits)

CHM 471 - Advanced Inorganic Chemistry (3 credits)

CHM 475 - Electrochemistry (3 credits)

CHM 477 - Synthetic Inorganic Chemistry (3 credits)

CMB 451 - Bioinformatics: Tools and Techniques for Life Scientists (3 credits)

CMB 405 - Cell and Molecular Biology (4 credits)

CMB 406 - Cell and Molecular Biology Laboratory (2 credits)

CMB 411 - Genetics of Development and Cancer (3 credits)

CMB 414 - Molecular Biology of the Gene (3 credits)

CMB 426 - Research Applications in Nucleic Acids (4 credits)

CMB 452 - Computer Modeling and Drug Design (3 credits)

### **Additional Information**

Students in the biochemistry major interested in graduate school are advised to consult with their advisor about selecting these optional courses:

PHY 230/PHY 231 instead of PHY 220/PHY 221

CHM 356 and CHM 358 instead of CHM 351

MTH 202 in addition to MTH 201

Students in the biochemistry major who transfer or change majors may make these substitutions with advisor approval:

CHM 241 may replace CHM 245 and CHM 246

CHM 242 may replace CHM 247 and CHM 248

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

BIO 355 may replace BIO 375

Students in the biochemistry major seeking a degree certified by the American Chemical Society (ACS) must also complete

at least 106 lab hours in additional elective CHM courses above the 200-level (CHM 490 and CHM 499 lab hours may be used to satisfy this requirement); and

CHM 273, plus two credits of CHM courses above the 200-level in addition to the minimum requirements.

### **Suggested Order of Coursework**

This option assumes students will complete the required general education courses and select electives with the help of their advisor.

#### **Year One**

BIO 120 - General Biology I (4 credits)

CHM 115 - Principles of Chemistry I (4 credits)

CHM 116 - Principles of Chemistry II (5 credits)

MTH 201 - Calculus I (4 credits)

PHY 220 - General Physics I (5 credits) **OR** PHY 230 - Principles of Physics I (5 credits)

#### **Year Two**

CHM 221 - Survey of Analytical Chemistry (4 credits)

CHM 245 - Principles of Organic Chemistry I (4 credits)

CHM 246 - Principles of Organic Chemistry I Lab (1 credit)

CHM 247 - Principles of Organic Chemistry II (3 credits)

CHM 248 - Principles of Organic Chemistry II Lab (1 credit)

PHY 221 - General Physics II (5 credits) **OR** PHY 231 - Principles of Physics II (5 credits)

#### **Year Three**

BIO 375 - Genetics (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

BIO 376 - Genetics Laboratory (1 credit)

CHM 391 - Chemistry Seminar I (1 credit)

CHM 461 - Biochemistry I (4 credits)

CHM 462 - Techniques in Biochemistry (3 credits)

Cognate electives

## **Year Four**

CHM 351 - Introduction to Physical Chemistry (3 credits) **OR** CHM 356 - Physical Chemistry I (3 credits)

CHM 352 - Physical Chemistry Laboratory (1 credit)

CHM 463 - Biochemistry II (3 credits)

CHM 491 - Chemistry Seminar II (1 credit) Capstone course.

Cognate electives

# **Biology**

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

**Website:** [gvsu.edu/biology](http://gvsu.edu/biology)

The study of animals and plants has fascinated people for thousands of years. All of us have wondered at some time about how animals are put together and how they function, why plants flower, how organisms interact with each other and respond to the environment, or why some bacteria cause disease and others do not. Biology is an exciting and dynamic field filled with the satisfaction of answers to many questions and the challenge of others waiting to be explained.

As a science, biology offers the opportunity to study and experiment with animals, plants, fungi, and bacteria in the laboratory and outdoors. Biologists make contributions in widely varying areas, including medicine, aquatic ecology, biotechnology, botany, conservation biology, evolutionary biology, genetics, microbiology, molecular biology, terrestrial ecology, and zoology.

## **Degrees Offered**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Master of Science in biology, Bachelor of Science or Bachelor of Arts in biology, biology major and minor for secondary teaching certification, biology minor.

### **Preparation for Graduate School**

Students planning to do graduate work in biology should consult early with their advisors. There is no absolute list of courses required for admission to graduate school. Generally, in addition to mathematics, students will need a full year of physics and two full years of chemistry, including CHM 241 and CHM 242.

### **Related Program**

#### **Natural Resources Management Major**

[gvsu.edu/biology/nrm](http://gvsu.edu/biology/nrm)

The natural resources management program prepares students to care for the land- and water-based ecosystems of Michigan and beyond, as well as to service the people whose well-being depends on these resources.

### **Honors Organizations**

Beta Beta Beta (TriBeta) is an honor society for students, particularly undergraduates, dedicated to improving the understanding and appreciation of biological study and extending boundaries of human knowledge through scientific research.

Requirements: Undergraduates shall have completed at least one term of the second year of a four-year curriculum, completed at least three courses in biological science, of which at least one is not an introductory course, with an average grade of B or its equivalent in those biology courses, and shall be in good academic standing.

## **Bachelor of Arts or Bachelor of Science in Biology**

The biology major is designed to help students gain a comprehensive understanding of the biological sciences. The biology faculty believe it is vital for undergraduate students to understand the unifying concepts and fundamental principles within the breadth of biology. Thus, the core biology curriculum introduces the diverse areas of biology. All students are required to complete an emphasis. Each of the five emphases provides breadth and depth in biology, while allowing students flexibility to specialize in areas of particular interest. In consultation with their biology advisor, students can tailor programs to meet their unique interests, educational goals, and career needs. A biology degree can support students intending to pursue graduate or professional degrees in the life sciences, including veterinary and human medicine, as well as careers in highly diverse fields, such as conservation biology, genetic counseling, plant biology, population genetics, aquatic sciences, wildlife ecology, animal behavior, evolutionary biology, microbiology, and sustainable agriculture.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

The biology major requires fulfillment of general university degree requirements, biology core requirements (including chemistry, physics, cell and molecular biology, and math/statistics requirements), and biology elective requirements outlined as follows for each emphasis. All majors must complete at least 41 credits in biology.

## **Requirements for a Major in Biology**

### **Core Courses**

Requires 28 to 30 credits, including:

BIO 120 - General Biology I (4 credits)

BIO 121 - General Biology II (4 credits)

BIO 210 - Evolutionary Biology (3 credits)

BIO 215 - Ecology (4 credits)

BIO 375 - Genetics (3 credits)

BIO 376 - Genetics Laboratory (1 credit)

BIO 495 - Perspectives in Biology (Capstone) (3 credits)

Complete one course from each of the following biology elective categories:

Category I - Plant Organismal Biology (3 to 4 credits)

Category II - Animal Organismal Biology (3 to 4 credits)

Biology B.S. students must complete the courses listed previously. Biology B.A. students must complete the courses listed previously and demonstrate third-semester proficiency in a foreign language.

Students must complete a minimum of 41 credits of biology coursework. If students still do not have 41 credits of biology coursework after completing both the biology core requirements (listed previously) and the requirements for their chosen emphasis (as follows), they should select additional biology courses from the elective categories, BIO Issues courses, credits in research (BIO 499), or internship credit (BIO 490). Students should consult with a biology advisor prior to selecting elective courses.

### **Additional Requirements for the Biology Major (26 to 28 credits)**

#### **1. Chemistry**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CHM 115 - Principles of Chemistry I (4 credits)

CHM 116 - Principles of Chemistry II (5 credits)

**AND EITHER**

CHM 231 - Introductory Organic Chemistry (4 credits) **AND** CHM 232 - Biological Chemistry (4 credits)

**OR BOTH**

CHM 241 - Organic Chemistry for Life Sciences I (5 credits) **AND** CHM 242 - Organic Chemistry for Life Sciences II (4 credits)

Note: Some professional and graduate schools require a year of organic chemistry, others a semester; some require one to two semesters of biochemistry. Students should consult an advisor and check requirements of particular programs of interest prior to selecting chemistry courses.

**2. Statistics and Mathematics**

Choose one of the following:

MTH 125 - Survey of Calculus (3 credits)

MTH 201 - Calculus I (4 credits)

STA 215 - Introductory Applied Statistics (3 credits)

Professional and graduate schools generally require a semester of statistics and/or completion of math through trigonometry or calculus. Students should consult an advisor and check requirements of particular programs of interest prior to selecting math and statistics courses.

**3. Physics**

Students planning to seek secondary teaching certification or acceptance to graduate or professional programs (e.g., Ph.D. programs and medical or veterinary school) should complete PHY 220 and PHY 221 **OR** PHY 230 and PHY 231.

Choose one:

PHY 200 - Physics for the Life Sciences (4 credits)

PHY 220 - General Physics I (5 credits)

PHY 230 - Principles of Physics I (5 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Excluded and Restricted Courses**

The following courses are excluded from the biology major.

BIO 104 - Biology for the 21st Century (4 credits)

BIO 105 - Environmental Science (3 credits)

BIO 107 - Great Lakes and Other Water Resources (4 credits)

BIO 109 - Plants in the World (4 credits)

BIO 205 - Genetics for PK-6 Teachers (3 credits)

**AND** any other biology course whose description prevents it from being used in the major.

The following course may only count toward the biology major with advisor's permission.

BIO 355 - Human Genetics (3 credits)

Students may count BIO 357 or BMS 212/BMS 213 toward the biology degree, but not both.

## **Biology Issues Courses**

The following courses have been approved to satisfy part of the general education Issues requirement. These courses may count toward the biology major after elective-category requirements are satisfied for the student's selected emphasis.

BIO 309 - Plants and Human Health (3 credits)

BIO 311 - Who's Running Your Life: Genes, Evolution and Behavior (3 credits)

BIO 319 - Global Agricultural Sustainability (3 credits)

BIO 328 - Biomedical Ethics (3 credits)

BIO 329 - Evolution of Social Behavior (3 credits)

BIO 338 - Environmental Ethics (3 credits)

## **Emphases**

All biology majors must complete an emphasis within the major (general biology, biomolecular processes, ecology and evolutionary biology, preveterinary medicine, or teacher certification). Students pursuing certification to teach biology in grades 6 through 12 must complete the

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

emphasis in teacher certification. Students pursuing enrollment in veterinary school should select the emphasis in preveterinary medicine.

Students are encouraged to complete BIO courses of interest beyond the minimum required; these may include BIO courses not listed in the elective categories as follows. Unrestricted elective credits, i.e., those beyond the 41-credit minimum, will apply toward the GVSU 120 credit-hour baccalaureate degree requirement and additionally may help satisfy general education requirements (e.g., Issues courses). For students desiring more breadth or depth in their major, any additional BIO courses (except those specifically excluded elsewhere) are suggested and will contribute to credits completed in the BIO major.

Students may wish to pursue more specialized study within biology, such as aquatic biology, plant biology, microbiology, animal behavior, evolution, genetics, or conservation biology. The two specialized emphases -- ecology and evolutionary biology (EEB) and biomolecular processes -- can support many such interests when elective courses are selected carefully. Prior to selecting an emphasis, students should consult with one or more biology faculty members whose expertise supports their interests.

Students should also pursue hands-on professional development through research, internship, volunteer, and other opportunities in field and laboratory settings. Early consultation with an appropriate academic advisor in the biology department is strongly encouraged.

## **- General Biology**

The general biology emphasis is appropriate for preprofessional students, other than preveterinary, and students who are interested in exploring biology broadly. In addition to the requirements outlined previously, students in this emphasis must complete the following requirements. Elective courses may only count in one category.

Complete the following:

CMB 405 - Cell and Molecular Biology (4 credits)

CMB 406 - Cell and Molecular Biology Laboratory (2 credits)

Complete one course from one of the following categories:

Category III (Principles of Ecology and Evolutionary Biology; 3 to 4 credits) **OR** Category IV (Applied Ecology and Evolution; 3 to 4 credits)

Complete one course from the following category:

Category V (Biomolecular Processes; 2 to 4 credits)

## **- Biomolecular Processes**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

The emphasis in biomolecular processes is appropriate for students interested in microbiology, genetics, cellular biology and molecular biology. It supports students pursuing careers as laboratory technicians, seeking entry into medical or other health-related professional schools or graduate programs in genetics, microbiology, molecular and cellular biology or related fields, and those wishing to complete a broad biology degree with some specialization in genetics, microbiology, or cellular and molecular biology. In addition to the requirements outlined previously, students in this emphasis must complete the following requirements. Elective courses may only count in one category.

Complete the following:

CMB 405 - Cell and Molecular Biology (4 credits)

CMB 406 - Cell and Molecular Biology Laboratory (2 credits)

Complete two courses from the following category:

Category V (Biomolecular Processes: 2 to 4 credits each)

### **- Ecology and Evolutionary Biology**

The emphasis in ecology and evolutionary biology is appropriate for students pursuing careers in professions such as aquatic and fisheries biology, animal behavior, wildlife ecology, plant biology, zoology, marine biology, and conservation biology. It is especially appropriate for students intending to apply to graduate programs in ecology, evolutionary biology (including systematics), and related fields. In addition to the requirements outlined previously, students in this emphasis must complete the following requirements. Elective courses may only count in one category.

Complete one of the following:

BIO 485 - Molecular Ecology (3 credits) **OR** CMB 405 - Cell and Molecular Biology (4 credits)

Complete one course from the following category:

Category III (Principles of Ecology and Evolutionary Biology: 3 to 4 credits)

Complete one course from one of the following categories:

Category III (Principles of Ecology and Evolutionary Biology: 3 to 4 credits) **OR** Category IV (Applied Ecology and Evolution: 3 to 4 credits)

### **- Preveterinary Medicine**

Students planning careers in veterinary medicine or related fields may prepare for application to professional schools with a biology major by selecting the emphasis in preveterinary medicine

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

after completion of the introductory sequences in biology and chemistry (previously mentioned). Early consultation with an appropriate preprofessional advisor within the biology department is strongly encouraged.

Entrance requirements vary among veterinary schools at different universities. The emphasis in preveterinary medicine is tailored to satisfy application requirements at MSU; students should peruse the application requirements of the specific programs they are considering to ensure requirements are met prior to applying. Entry requirements for particular programs are available on university websites and through the Association of American Veterinary Medical Colleges. Because entry into professional programs is highly competitive, students should complete the entry requirements for programs in veterinary medicine offered at multiple universities and be prepared to apply for admission to several. In addition to the requirements outlined previously, students in this emphasis must complete the following requirements. Elective courses may only count in one category.

Complete the following:

CMB 405 - Cell and Molecular Biology (4 credits)

CMB 406 - Cell and Molecular Biology Laboratory (2 credits)

**AND**

BIO 357 - Environmental Microbiology (4 credits)

**OR BOTH**

BMS 212 - Introductory Microbiology (3 credits) **AND** BMS 213 - Laboratory in Microbiology (1 credit)

Complete the following:

CHM 241 - Organic Chemistry for Life Sciences I (5 credits)

CHM 242 - Organic Chemistry for Life Sciences II (4 credits)

CHM 461 - Biochemistry I (4 credits)

PHY 220 - General Physics I (5 credits)

PHY 221 - General Physics II (5 credits)

Beyond coursework, preveterinary students must gain experience in the profession through volunteer work, internships, or employment; most schools of veterinary medicine require completion of specific hours of small- and large-animal experience prior to application. Research experience, community service (especially involving animal handling or welfare), leadership,

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

and customer service are also strongly encouraged. Consultation with a biology advisor is highly recommended throughout your academic career.

## **- Teacher Certification**

Students majoring in biology may obtain Michigan certification to teach biology in grades 6 through 12. In addition to the requirements outlined previously, students pursuing certification to teach biology must complete all the requirements listed as follows. Elective courses may only count in one category. These are the same requirements as listed in the general biology emphasis, but declaring the teacher certification emphasis is important so that students are identified for advising purposes. Additionally, those seeking teacher certification must complete a teaching minor and a 39-credit professional education program from the College of Education and Community Innovation (see the GVSU College of Education and Community Innovation website for more information). Secondary admission to the College of Education and Community Innovation requires at least a 2.7 GPA in the major.

Complete the following:

CMB 405 - Cell and Molecular Biology (4 credits)

CMB 406 - Cell and Molecular Biology Laboratory (2 credits)

Complete one course from one of the following categories:

Category III (Principles of Ecology and Evolutionary Biology: 3 to 4 credits) **OR** Category IV (Applied Ecology and Evolution: 3 to 4 credits)

Complete one course from the following category:

Category V (Biomolecular Processes: 2 to 4 credits)

## **Premedical and other Preprofessional Students**

Students planning careers in clinical professions, such as physicians, dentists, and physical therapists may prepare for entry into professional school with a biology major. Students are encouraged to complete the general biology or biomolecular processes emphasis and to pursue opportunities in laboratory-based research and/or clinical experience to best support preparation for such professional studies. Early consultation with an appropriate preprofessional advisor within the biology department or CLAS Academic Advising Center is strongly encouraged. Entrance requirements vary among universities, but most require completion of the following:

CHM 115 - Principles of Chemistry I (4 credits)

CHM 116 - Principles of Chemistry II (5 credits)

CHM 241 - Organic Chemistry for Life Sciences I (5 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CHM 242 - Organic Chemistry for Life Sciences II (4 credits)

PHY 220 - General Physics I (5 credits)

PHY 221 - General Physics II (5 credits)

Additional coursework required for admission to professional programs may include biochemistry, microbiology, embryology, nutrition, anatomy, physiology, statistics, and/or mathematics beyond college algebra. Entry requirements for particular professional programs are available on university websites. Biology advisors and the CLAS preprofessional advisors can assist students in selecting appropriate courses. Because entry into professional programs is highly competitive, students should complete the entry requirements for programs offered at multiple universities and be prepared to apply for admission to several programs.

Beyond coursework, applicants are typically required to gain experience in the profession prior to seeking admission. For example, admission requirements for most medical schools require practical experience in a clinical or health care setting. Research experience and community service (especially in areas related to the profession) are also strongly encouraged. Consultation with a biology advisor is essential.

### **Elective Course Categories**

Elective courses must be selected to satisfy emphasis requirements, but also should be selected deliberately, carefully, and in consultation with a biology advisor to support a student's specific educational and career objectives. Students should meet with their advisor prior to completion of elective coursework.

Note: Some courses appear in more than one category, but a particular course may only satisfy one biology degree requirement.

#### **Category One: Plant Organismal Biology**

These courses include a field and/or laboratory component and address the structure, function, development, taxonomy, evolution, or ecology of plants. All students (regardless of emphasis) must complete at least one course from the following:

BIO 243 - Plant Identification and Natural History (3 credits)

BIO 303 - Plant Morphology (4 credits)

BIO 313 - Plants and Islands (4 credits)

BIO 323 - Aquatic and Wetland Plants (3 credits)

BIO 333 - Systematic Botany (4 credits)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

BIO 383 - Plant-Fungal Interactions (4 credits)

BIO 403 - Plant Structure and Function (4 credits)

BIO 413 - Freshwater Algae (3 credits)

BIO 423 - Plant Biotechnology (3 credits)

BIO 433 - Plant Ecology (4 credits)

### **Category Two: Animal Organismal Biology**

These courses include a laboratory or field component and significant content addressing the anatomy, physiology, development, and/or lifecycles of animals. All biology majors (regardless of emphasis) must complete at least one course from the following:

BIO 222 - Natural History of Vertebrates (3 credits)

BIO 232 - Natural History of Invertebrates (3 credits)

BIO 272 - Insect Biology and Diversity (3 credits)

BIO 302 - Comparative Vertebrate Anatomy (4 credits)

BIO 342 - Ornithology (3 credits)

BIO 362 - Biology and Diversity of Fishes (4 credits)

BIO 402 - Aquatic Insects (3 credits)

BIO 412 - Mammalogy (4 credits)

BIO 422 - Embryology (3 credits)

BIO 432 - Comparative Animal Physiology (4 credits)

BIO 444 - Herpetology (4 credits)

BMS 208 - Human Anatomy (3 credits) **AND** BMS 309 - Laboratory in Human Anatomy (1 credit)

BMS 290 - Human Physiology (3 credits) **AND** BMS 391 - Laboratory in Human Physiology (2 credits)

### **Category Three: Principles of Ecology and Evolutionary Biology (EEB)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

These courses include significant content addressing principles of ecology and/or evolutionary biology; these courses may or may not include a laboratory component. See requirements for specific emphases.

BIO 303 - Plant Morphology (4 credits)

BIO 313 - Plants and Islands (4 credits)

BIO 333 - Systematic Botany (4 credits)

BIO 352 - Animal Behavior (3 credits)

BIO 370 - Marine Biology (3 credits)

BIO 433 - Plant Ecology (4 credits)

BIO 440 - Limnology (4 credits)

BIO 451 - Stream Ecology (4 credits)

BIO 452 - Human Evolution (3 credits)

BIO 460 - Terrestrial Ecosystem Ecology (4 credits)

BIO 473 - Ecology and Evolution of Plant-Animal Interactions (3 credits)

BIO 475 - Population Genetics (3 credits)

#### **Category Four: Applied Ecology and Evolution**

These courses include significant content addressing the application of ecological and evolutionary principles to environmental concerns and human endeavors. See elective requirements for specific emphases.

BIO 308/NRM 308 - Wildlife Ecology (4 credits)

BIO 357 - Environmental Microbiology (4 credits) \*

BIO 362 - Biology and Diversity of Fishes (4 credits)

BIO 370 - Marine Biology (3 credits)

BIO 386/NRM 386 - Ecological Restoration and Management (4 credits)

BIO 402 - Aquatic Insects (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

BIO 407 - Biology and Society: Study Abroad (1 to 4 credits) with advisor's permission.

BIO 408/NRM 408 - Wildlife Management (4 credits)

BIO 415/NRM 415 - Fire Ecology and Management (3 credits)

BIO 417 - International Field Biology (1 to 4 credits) with advisor's permission.

BIO 440 - Limnology (4 credits)

BIO 451 - Stream Ecology (4 credits)

BIO 470 - Conservation Biology (3 credits)

BIO 473 - Ecology and Evolution of Plant-Animal Interactions (3 credits)

BIO 475 - Population Genetics (3 credits)

BIO 486/NRM 486 - Restoration Ecology (3 credits)

\*Note: Students may count BIO 357 or BMS 212/BMS 213 toward the biology degree, but not both.

### **Category Five: Biomolecular Processes**

These courses include significant content addressing gene function and regulation, microbiology, cellular biology, and/or molecular biology. See elective requirements for specific emphases.

BIO 317 - Principles of Animal Nutrition (3 credits)

BIO 357 - Environmental Microbiology (4 credits)\*

BIO 396 - Laboratory Assistant in Genetics (1 credit)

BIO 403 - Plant Structure and Function (4 credits)

BIO 416 - Advanced Genetics Laboratory (2 credits)

BIO 422 - Embryology (3 credits)

BIO 423 - Plant Biotechnology (3 credits)

BIO 485 - Molecular Ecology (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

BMS 212 - Introductory Microbiology (3 credits) **AND** BMS 213 - Laboratory in Microbiology (1 credit)\*

CMB 451 - Bioinformatics: Tools and Techniques for Life Scientists (3 credits)

CMB 406 - Cell and Molecular Biology Laboratory (2 credits) Elective for EEB emphasis only.

CMB 411 - Genetics of Development and Cancer (3 credits)

CMB 414 - Molecular Biology of the Gene (3 credits)

CMB 426 - Research Applications in Nucleic Acids (4 credits)

\*Note: Students may count BIO 357 or BMS 212/BMS 213 toward the biology degree, but not both.

### **Suggested Order of Coursework for a Major in Biology**

The following plan may need to be adjusted on a case-by-case basis. Students should work with an academic advisor to create an academic plan that best suits their circumstances.

#### **Year One**

BIO 120 - General Biology I (4 credits)

BIO 121 - General Biology II (4 credits)

CHM 115 - Principles of Chemistry I (4 credits)

CHM 116 - Principles of Chemistry II (5 credits)

MTH/STA requirements/prerequisite courses as needed

WRT 150 - Strategies in Writing (4 credits)

#### **Year Two**

BIO 210 - Evolutionary Biology (3 credits)

BIO 215 - Ecology (4 credits)

BIO elective course Credits: 3-4

MTH/STA requirements/prerequisite courses as needed

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

One of the following chemistry cognate options:

CHM 231 - Introductory Organic Chemistry (4 credits) **AND** CHM 232 - Biological Chemistry (4 credits)

**OR BOTH** CHM 241 - Organic Chemistry for Life Sciences I (5 credits) **AND** CHM 242 - Organic Chemistry for Life Sciences II (4 credits)

### **Year Three**

BIO 375 - Genetics (3 credits)

BIO 376 - Genetics Laboratory (1 credit)

BIO elective course

BIO elective course

PHY cognate course

### **Year Four**

BIO 495 - Perspectives in Biology (Capstone) (3 credits)

BIO elective course

BIO elective course as needed

One of the following options:

CMB 405 - Cell and Molecular Biology (4 credits) **AND** CMB 406 - Cell and Molecular Biology Laboratory (2 credits)

**OR** CMB 485 - Molecular Ecology (3 credits) Elective for EEB emphasis only.

## **Biology Minor**

### **Requirements**

The biology minor consists of a minimum of 24 credits in biology. CHM 109 or CHM 115 is a required cognate in addition to the 24 credits. Following standard university policy, students must ensure that they complete 30 unduplicated credits in their major and 20 unduplicated credits in the minor to fulfill the requirements for both. Requirements of the biology minor:

BIO 120 - General Biology I (4 credits)

BIO 121 - General Biology II (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

Cognate course: CHM 109 - Introductory Chemistry (4 credits) **OR** CHM 115 - Principles of Chemistry I (4 credits)

An additional 16 credits selected from BIO courses numbered BIO 210 and above, except noted as follows.

The following may not be used in minor: BIO 104, BIO 105, BIO 107, BIO 109, BIO 205, and any other biology course whose course description prevents it from being used in the minor.

Only one of the following courses may be counted in the biology minor: BIO 309, BIO 311, or BIO 329. CMB 405, CMB 406, CMB 411, CMB 414, or CMB 426 may be counted as electives in the biology minor with approval of the biology unit head.

Students may count up to eight credits from the following BMS-designated courses toward the required 24 credits in biology.

BMS 202 - Anatomy and Physiology (4 credits) **OR** the following two courses: BMS 208 - Human Anatomy (3 credits) **AND** BMS 309 - Laboratory in Human Anatomy (1 credit)

BMS 212 - Introductory Microbiology (3 credits) **AND** BMS 213 - Laboratory in Microbiology (1 credit)

BMS 250 - Anatomy and Physiology I (4 credits)

BMS 251 - Anatomy and Physiology II (4 credits)

BMS 290 - Human Physiology (3 credits) **AND** BMS 391 - Laboratory in Human Physiology (2 credits)

Since specific BMS course requirements vary among majors, students should seek the advice of their major advisors on which of these BMS courses to take and the appropriate sequence in which to take them. Students should contact the Biology Department if they have questions on how the specified BMS courses may be applied to the biology minor.

### **Teacher Certification Requirements**

Students selecting the biology minor for teacher certification are strongly advised to consult either the CLAS Academic Advising Center or the Biology Department for guidance on which BIO courses to complete to satisfy the State Standards for Teaching Biology and to prepare for the Michigan Test for Teacher Certification (MTTC) in biology. To assure both breadth and depth in the teaching minor, in addition to completing BIO 120 - General Biology I and BIO 121 - General Biology II, students should complete BIO 210 - Evolutionary Biology, BIO 215 - Ecology, either BIO 355 - Human Genetics or BIO 375 - Genetics, and BMS 202 - Anatomy and Physiology. Students considering the integrated science secondary endorsement should choose BIO 375 and the CHM 115 cognate.

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

# Bachelor of Science in Fisheries and Aquatic Sciences

**Website:** [gvsu.edu/biology](http://gvsu.edu/biology)

**Degree Offered:** Bachelor of Science in fisheries and aquatic sciences

Our global and local freshwater resources are essential to both ecosystem stability and viability, as well as the many goods and services upon which we all depend. These natural freshwater resources are under increasing threat. Our ability to successfully understand, protect, and manage these resources for future generations demands scientific insight and understanding that can be used to inform wise management decisions. This major is intended for students interested in shaping this future through the specific lens of hands-on scientific and taxonomic training, the ability to gain certification through the American Fisheries Society, developing expertise in molecular ecology and mapping/global information skills, and through understanding of relevant public policies. The major is designed to provide students with the opportunity to participate in research projects and to develop identification skills for freshwater plants and/or algae, aquatic insects, and fish. We also provide detailed field sampling experiences and the contemporary ecological theory that best guides wise management for both river and lake ecosystems. Students with this major will be competitive for employment with state and federal agencies, environmental consulting firms, Tribal and nongovernmental organizations, nonprofit conservation groups, and for graduate-level research.

## Major Requirements (73 credits)

### Fisheries and Aquatic Sciences Core (42 to 43 credits)

BIO 120 - General Biology I (4 credits)

BIO 121 - General Biology II (4 credits)

BIO 215 - Ecology (4 credits)

BIO 323 - Aquatic and Wetland Plants (3 credits)

BIO 362 - Biology and Diversity of Fishes (4 credits)

BIO 375 - Genetics (3 credits)

BIO 376 - Genetics Laboratory (1 credit)

BIO 402 - Aquatic Insects (3 credits)

BIO 451 - Stream Ecology (4 credits)

BIO 495/NRM 495 - Trends in Natural Resource Management (Capstone) (4 credits)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

NRM 150 - Introduction to Natural Resources (3 credits)

NRM 250 - Resource Measurement and Maps (3 credits)

**Fisheries and Aquatic Sciences Electives (Complete at least 12 credits from the following courses)**

Students pursuing American Fisheries Society certification should take NRM 395, NRM 451, and NRM 472. Students interested in aquatic sciences are recommended to select at least one genetics course (BIO 475 or BIO 485) and NRM 452. Students interested in marine biology are advised to take BIO 232, BIO 370, GEO 430, and a field course in marine studies.

BIO 210 - Evolutionary Biology (3 credits)

BIO 232 - Natural History of Invertebrates (3 credits)

BIO 323 - Aquatic and Wetland Plants (3 credits)

BIO 370 - Marine Biology (3 credits)

BIO 413 - Freshwater Algae (3 credits)

BIO 417 - International Field Biology (1 to 4 credits)

BIO 470 - Conservation Biology (3 credits)

BIO 475 - Population Genetics (3 credits)

BIO 485 - Molecular Ecology (3 credits)

CHM 221 - Survey of Analytical Chemistry (4 credits)

GEO 430 - Oceanography (3 credits)

NRM 395 - GIS Applications in Resource Management (3 credits)

NRM 451 - Natural Resource Policy (3 credits)

NRM 452 - Watershed and Wetland Management (4 credits)

NRM 462 - Forest Ecosystem Management (4 credits)

**Additional Requirements for the Wildlife Biology Major (15 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Physical Sciences**

Complete at least nine credits from the following courses

CHM 109 - Introductory Chemistry (4 credits) **AND** CHM 231 - Introductory Organic Chemistry (4 credits)

**OR**

CHM 115 - Principles of Chemistry I (4 credits) **AND** CHM 116 - Principles of Chemistry II (5 credits) **AND** CHM 231 - Introductory Organic Chemistry (4 credits)

Select at least one additional course from the following to reach 12 credits, if necessary:

CHM 232 - Biological Chemistry (4 credits)

GEO 111 - Exploring the Earth (4 credits)

PHY 200 - Physics for the Life Sciences (4 credits)

PHY 220 - General Physics I (5 credits)

## **Mathematics and Statistics** (6 credits)

STA 215 - Introductory Applied Statistics (3 credits)

Complete one of the following courses:

MTH 125 - Survey of Calculus (3 credits)

MTH 201 - Calculus I (4 credits)

## **Suggested Order of Coursework**

### **First Year**

BIO 120 - General Biology I (4 credits)

BIO 121 - General Biology II (4 credits)

NRM 150 - Introduction to Natural Resources (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

WRT 150 - Strategies in Writing (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

General education courses

## **Second Year**

BIO 215 - Ecology (4 credits)

CHM 109 - Introductory Chemistry (4 credits)

CHM 231 - Introductory Organic Chemistry (4 credits)

MTH 125 - Survey of Calculus (3 credits)

NRM 250 - Resource Measurement and Maps (3 credits)

General education courses

## **Third Year**

BIO 323 - Aquatic and Wetland Plants (3 credits) **OR** elective course

BIO 362 - Biology and Diversity of Fishes (4 credits)

BIO 375 - Genetics (3 credits)

BIO 376 - Genetics Laboratory (1 credit)

BIO 402 - Aquatic Insects (3 credits) **OR** BIO 413 - Freshwater Algae (3 credits)

BIO 440 - Limnology (4 credits) **OR** BIO 450 Stream Ecology (4 credits)

Physical science elective course

General education courses

## **Fourth Year**

BIO 402 - Aquatic Insects (3 credits) **OR** BIO 413 - Freshwater Algae (3 credits)

BIO 440 - Limnology (4 credits) **OR** BIO 450 Stream Ecology (4 credits)

BIO 495 - Perspectives in Biology (Capstone) (3 credits) **OR** NRM 495 - Trends in Natural Resource Management (Capstone) (4 credits)

General education courses

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Fisheries and aquatic sciences elective courses

## **Master of Science in Biology**

For additional information about opportunities your college offers, please refer to your college's section in this catalog.

**Website:** [gvsu.edu/biology](http://gvsu.edu/biology)

The Master of Science in biology is a versatile graduate program designed to produce outstanding graduates. Versatility in the program will allow students to achieve individual goals while serving a diversity of student interests. Students have the opportunity to pursue graduate programs in broad areas such as genetics and cell biology, organismal biology, aquatic and terrestrial ecology, and natural resources. As a focus for these M.S. programs, we offer internship, project, and thesis pathways. Students may choose an emphasis (but not required) in either aquatic sciences or natural resources. The Master of Science in biology degree program is designed to meet the needs of baccalaureate-trained professionals who will be more competitive with a master's degree as they seek job placement or advancement, secondary teachers who prefer a science master's, and baccalaureate graduates who wish to earn a master's degree before continuing their graduate education at the doctoral level.

The Master of Science in biology helps candidates extend their knowledge in their discipline, extend their professional skills, gain experience in the application of their knowledge and skills, and develop their abilities as leaders and team members. Graduates will be professionals who have progressed from learning about science to doing science, and graduates will be able to use their knowledge and abilities to solve problems and answer questions in the complex and interactive context of local, regional, and global issues and concerns. The optional emphasis in natural resources is offered to meet the more specific needs of natural resources management professionals, while the aquatic sciences emphasis highlights the importance of aquatic ecosystems of the region. Both aquatic sciences and natural resources emphases offer students opportunities to work with faculty from the Annis Water Resources Institute in Muskegon as well as with Biology Department faculty at the Allendale Campus.

### **Admission**

Admission to the M.S. in biology requires the following:

Satisfactory GRE score

A 500-word essay detailing educational and professional goals and your area of interest in biology

Three letters of reference

An overall undergraduate of at least 3.0 GPA on a 4.0 scale

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Prospective candidates to contact the biology graduate program coordinator to begin the process of identifying a prospective graduate committee chair. Candidates will only be admitted if a faculty member has consented to serve as the committee chair.

An interview with faculty either via telecommunication or by visiting campus to determine compatibility and interests.

The Biology Graduate Committee will begin reviewing applications in January for admission during the following fall semester.

### **Transfer Credits**

See the Transfer of Credit portion of the Graduate Admission section in the Grand Valley State University Undergraduate and Graduate Catalog for general provisions. If a candidate wishes any courses taken prior to admission to the Master of Science in biology program to be counted toward the required credits, the request must be made at the time of application. The decision to allow credits to transfer will be made by the departmental graduate program committee and the student's graduate committee chair.

### **Departmental Contact**

Biology Department graduate program coordinator, 3300a Kindschi Hall of Science, Biology Department, Grand Valley State University, Allendale, MI, 49401-9403. Telephone (616) 331-2470.

### **Program Location**

The program is offered on the Allendale Campus and at the Robert B. Annis Water Resources Institute.

## **Course Listing**

BIO 502 - Aquatic Insects (3 credits)

BIO 503 - Plant Structure and Function (4 credits)

BIO 508/NRM 508 - Wildlife Management (4 credits)

BIO 512 - Mammalogy (3 credits)

BIO 513 - Freshwater Algae (3 credits)

BIO 515/NRM 515 - Fire Ecology and Management (3 credits)

BIO 532/WAT 532 - Advanced Aquatic Ecology (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

BIO 540 - Limnology (4 credits)

BIO 544 - Herpetology (3 credits)

BIO 560 - Advanced Community Ecology (3 credits)

BIO 570 - Landscape Ecology Theory and Application (3 credits)

BIO 572 - Conservation Biology (3 credits)

BIO 573 - Ecology and Evolution of Plant-Animal Interactions (3 credits)

BIO 575 - Population Genetics (3 credits)

BIO 580 - Special Topics in Biology (1 to 4 credits)

BIO 585 - Molecular Ecology (3 credits)

BIO/NRM 586 - Restoration Ecology (3 credits)

BIO 593 - Advanced Univariate Methods (3 credits)

BIO 594 - Advanced Multivariate Methods (3 credits)

BIO 610 - Scientific Methodology (3 credits)

BIO 651 - Emerging Issues in Water Resources (2 credits)

BIO 680 - Special Topics in Biology (1 to 3 credits)

BIO/NRM 691 - Graduate Internship (3 to 9 credits)

BIO/NRM 693 - Graduate Project (3 to 9 credits)

BIO/NRM 695 - Graduate Thesis Research (3 to 9 credits)

BIO/NRM 696 - Continuation of Master's Project or Thesis Research (1 credit)

BIO/NRM 699 - Independent Study (1 to 3 credits)

NRM 552 - Fisheries Management (3 credits)

NRM 562 - Forest Ecosystem Management (4 credits)

NRM 576/WAT 576 - Aquatic Ecosystem Management (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

NRM 580 - Special Topics in Natural Resources Management (1 to 4 credits)

NRM 597 - Field Trip - Issues in Western U.S. Natural Resources Management (2 credits)

NRM 680 - Special Topics in Natural Resources Management (1 to 4 credits)

## **Requirements**

The Master of Science in biology is a highly individualized, planned program of study. Early advising is essential because the student's graduate committee chair must approve all coursework in advance. Requirements for each student will be individually predetermined at the time the program plan is established. The degree will be earned upon the successful completion of all requirements outlined in the Grand Valley State University Undergraduate and Graduate Catalog. The program of study will include a qualifying exam administered by the student's graduate committee and a minimum of 33 approved credits with a cumulative GPA of 3.0. All program plans will include the following three components:

Nine credits common to all students in the program. These will consist of an experimental design/statistics course, the introductory course (BIO 610 - Scientific Methodology), and the Capstone (BIO 698 - Perspectives in Biology).

Fifteen to 18 credits in the student's interest area, all of which must be approved by the student's graduate committee chair. Specific coursework, which may include a focus in a secondary area, will be developed by the candidate with the guidance and approval of the student's graduate committee chair.

Six to nine credits of BIO 695 - Thesis Research, BIO 693 - Graduate Project, or BIO 691 - Graduate Internship (for those selecting the optional natural resources emphasis, the corresponding course numbers are NRM 695, NRM 693, or NRM 691). Note that the credits may not be mixed in this category. This component will be conducted under the supervision of the student's graduate committee chair and with the approval of the student's graduate committee. No course-only option is available.

Successful progress toward completion of the degree and continued enrollment requires that the student's graduate committee chair be determined before admission, and the student's graduate committee be appointed before the end of the second semester of enrollment. In addition, the student must pass the qualifying exam before registering for thesis, project, or internship credits. The purpose of the qualifying exam is to ensure that students have adequate science knowledge and background to successfully complete their thesis, project, or internship. All students will be limited to a five-year period to complete their degree.

The variable credits in components two and three are designed to allow for an extended thesis, project, or internship. The graduate program will consist of a minimum of 33 credits.

## **Natural Resources Emphasis (optional)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Corresponding to the existing undergraduate degree program in natural resources management, the Master of Science in biology includes an optional natural resources emphasis. Candidates choosing this optional emphasis have the same admissions criteria and degree requirements as other M.S. students, but will focus their coursework, thesis, project, and internship activities in an area related to the management, conservation, or protection of atmospheric, aquatic, or terrestrial resources. Students in this emphasis will develop interdisciplinary studies involving CLAS faculty, as well as other collaborating agencies and groups in the West Michigan area. Students in this emphasis will have opportunities to work with faculty and conduct research at the Annis Water Resources Institute located in Muskegon, as well as at the Allendale Campus of Grand Valley State University.

### **Aquatic Sciences Emphasis (optional)**

The Master of Science in biology includes an optional aquatic sciences emphasis. Candidates choosing this optional emphasis have the same admissions criteria and degree requirements as other M.S. students, but will focus their coursework, thesis, project, and internship activities in an area related to research, management, conservation, or protection of aquatic resources. Students in this emphasis will develop interdisciplinary studies involving CLAS faculty as well as other collaborating agencies and entities in the West Michigan area. Students in this emphasis will have opportunities to work with faculty and conduct research at the Annis Water Resources Institute located in Muskegon, as well as at Grand Valley State University's Allendale Campus.

### **Financial Assistance**

Prospective students should review the Costs and Financial Aid section of the Grand Valley State University Undergraduate and Graduate Catalog in full detail. A limited amount of funding is available on a competitive basis for candidates who need assistance. Those who receive departmental assistantships will work with faculty at a variety of departmental tasks that provide support to the undergraduate programs in the biology department. Candidates who wish to instruct laboratory or lecture sections must apply separately for the adjunct teaching position, which are not linked to their status as graduate students. Additional assistance in the form of research assistantships may be available through faculty research grants. Candidates are encouraged to seek external support for their work by submitting grant proposals to external funding agencies. Assistance from faculty is available to candidates seeking external funding.

**Departmental Contact:** Biology Department graduate program coordinator, 3300a Kindschi Hall of Science, Biology Department at Grand Valley State University, Allendale, Michigan, 49401-9403. Telephone (616) 331-2470.

## **Master of Science in Water Resource Policy**

### **Requirements**

#### **Master of Science in Water Resource Policy**

For students with non-STEM background.

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

Core Courses (24 to 27 credits)

NRM 451/NRM 551 - Natural Resource Policy (3 credits)

PNH 520 - Foundations of Public Service (3 credits)

PNH 611 - Research Methods (3 credits)

PNH 616 - Public Policy Analysis (3 credits)

WAT 545 - Theoretical Perspectives in Aquatic Science (3 credits)

WAT 565 - Water Policy and Science (3 credits)

WAT 691 - Internship (6 to 9 credits)

**Master of Science in Water Resource Policy**

For students with STEM background.

Core Courses (21 to 24 credits)

NRM 451/NRM 551 - Natural Resource Policy (3 credits)

PNH 520 - Foundations of Public Service (3 credits)

PNH 611 - Research Methods (3 credits)

PNH 616 - Public Policy Analysis (3 credits)

WAT 565 - Water Policy and Science (3 credits)

WAT 691 - Internship (6 to 9 credits)

**Electives**

Students with non-STEM background (6 to 9 credits)

Students with STEM background (9 to 12 credits)

BIO 530/WAT 530 - Aquatic Ecosystems and Processes (3 credits)

WAT 651 - Emerging Issues in Water Resources (2 credits)

BIO 560 - Advanced Community Ecology (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

BIO 570 - Landscape Ecology Theory and Application (3 credits)

NRM 552 - Fisheries Management (3 credits)

NRM 576/WAT 576 - Aquatic Ecosystem Management (3 credits)

PNH 535 - Grant Writing (3 credits)

PNH 614 - Organization Theory (3 credits)

PNH 621 - Administrative and Regulatory Law (3 credits)

PNH 641 - Economic and Community Development (3 credits)

PNH 642 - Conflict Management (3 credits)

PNH 671 - Building Sustainable Communities (3 credits)

### **Suggested Order of Coursework**

### **Non-STEM Sample Sequence**

#### **Year One**

##### Fall

PNH 520 - Foundations of Public Service (3 credits)

PNH 611 - Research Methods (3 credits)

WAT 545 - Theoretical Perspectives in Aquatic Science (3 credits)

##### Winter

PNH 616 - Public Policy Analysis (3 credits)

NRM 551 - Natural Resource Policy (3 credits)

WAT 565 - Water Policy and Science (3 credits)

#### **Year Two**

##### Fall

Elective course (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Elective course (3 credits)

Elective course (3 credits)

Winter

WAT 691 - Internship (6 to 9 credits)

Elective course (3 credits)

## **STEM Sample Sequence**

### **Year One**

Fall

PNH 520 - Foundations of Public Service (3 credits)

PNH 611 - Research Methods (3 credits)

WAT 545 - Theoretical Perspectives in Aquatic Science (3 credits)

Winter

PNH 616 - Public Policy Analysis (3 credits)

NRM 551 - Natural Resource Policy (3 credits)

WAT 565 - Water Policy and Science (3 credits)

### **Year Two**

Fall

Elective course (3 credits)

Elective course (3 credits)

Elective course (3 credits)

Winter

WAT 691 - Internship (6 to 9 credits)

Elective course (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

# Bachelor of Science in Wildlife Biology

**Website:** [gvsu.edu/biology](http://gvsu.edu/biology)

**Degree Offered:** Bachelor of Science in wildlife biology

The wildlife biology major prepares students to attain and succeed in positions focused on maintaining sustainable populations of wildlife species at the local, regional, state, federal, and international level. The program requires students to gain an understanding of both the wildlife they study and of the ecosystems in which they live. Students earning this degree will be qualified for positions working with state and federal wildlife agencies as well as non-governmental organizations, and by choosing the correct general education classes, for certification as an Associate Wildlife Biologist by The Wildlife Society. The degree focuses on preparing students for careers as wildlife biologists, but due to the diverse skill set required, the coursework in this major prepares students for entry level positions in a variety of related fields. Students completing the degree will meet the federal requirements for positions as wildlife biologist, wildlife technician, biological science technician, plant protection technician, range technician, forestry technician, and soil conservation technician. Through a curriculum that emphasizes hands-on and lab-based learning, the program prepares students to join a profession dedicated to meeting the challenges of maintaining wildlife diversity in the face of growing threats.

## Major Requirements (73 credits)

### Wildlife Core (34 credits)

BIO 120 - General Biology I (4 credits)

BIO 121 - General Biology II (4 credits)

BIO 215 - Ecology (4 credits)

BIO 308/NRM 308 - Wildlife Ecology (4 credits)

BIO 375 - Genetics (3 credits)

BIO 376 - Genetics Laboratory (1 credit)

BIO 408/NRM 408 - Wildlife Management (4 credits)

NRM 150 - Introduction to Natural Resources (3 credits)

NRM 250 - Resource Measurement and Maps (3 credits)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

NRM 495 - Trends in Natural Resource Management (Capstone) (4 credits) **OR BOTH** NRM 496 - Trends in Western U.S. Natural Resource Management (2 credits) **AND** NRM 497 - Field Trip - Issues in Western U.S. Natural Resources Management (2 credits)

### **Wildlife Theory and Application Electives**

Complete at least six credits from the following courses:

BIO 210 - Evolutionary Biology (3 credits)

BIO 386/NRM 386 - Ecological Restoration and Management (4 credits)

BIO 415/NRM 415 - Fire Ecology and Management (3 credits)

BIO 470 - Conservation Biology (3 credits)

BIO 475 - Population Genetics (3 credits)

BIO 485 - Molecular Ecology (3 credits)

NRM 395 - GIS Applications in Resource Management (3 credits)

NRM 462 - Forest Ecosystem Management (4 credits)

### **Animal Electives**

Complete at least nine credits from the following courses:

BIO 222 - Natural History of Vertebrates (3 credits)

BIO 232 - Natural History of Invertebrates (3 credits)

BIO 272 - Insect Biology and Diversity (3 credits)

BIO 342 - Ornithology (3 credits)

BIO 412 - Mammalogy (4 credits)

BIO 444 - Herpetology (4 credits)

### **Plant Electives**

Complete at least nine credits from the following courses:

BIO 243 - Plant Identification and Natural History (3 credits)

BIO 303 - Plant Morphology (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

BIO 313 - Plants and Islands (4 credits)

BIO 323 - Aquatic and Wetland Plants (3 credits)

BIO 333 - Systematic Botany (4 credits)

BIO 383 - Plant-Fungal Interactions (4 credits)

BIO 403 - Plant Structure and Function (4 credits)

BIO 433 - Plant Ecology (4 credits)

NRM 263 - Forest Vegetation of the Great Lakes Region (2 credits)

### **Additional Requirements for the Wildlife Biology Major (15 credits)**

#### **Physical Sciences**

Complete at least nine credits from the following courses:

CHM 109 - Introductory Chemistry (4 credits) **OR** CHM 115 - Principles of Chemistry I (4 credits)

CHM 116 - Principles of Chemistry II (5 credits)

CHM 231 - Introductory Organic Chemistry (4 credits)

CHM 232 - Biological Chemistry (4 credits)

GEO 111 - Exploring the Earth (4 credits)

NRM 281 - Principles of Soil Science (4 credits)

PHY 200 - Physics for the Life Sciences (4 credits) **OR** PHY 220 - General Physics I (5 credits)

#### **Mathematics and Statistics (6 credits)**

STA 215 - Introductory Applied Statistics (3 credits)

Complete at least three credits from the following courses:

MTH 122 - College Algebra (3 credits)

MTH 123 - Trigonometry (3 credits)

MTH 124 - Precalculus: Functions and Models (5 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

MTH 125 - Survey of Calculus (3 credits)

STA 216 - Intermediate Applied Statistics (3 credits)

The Wildlife Biology major fulfills the B.S. degree requirements with the completion of BIO 215 - Ecology (4 credits), STA 215 - Introductory Applied Statistics (3 credits) and NRM 495 - Trends in Natural Resource Management (Capstone) (4 credits) **OR BOTH** NRM 496 - Trends in Western U.S. Natural Resource Management (2 credits) and NRM 497 - Field Trip - Issues in Western U.S. Natural Resources Management (2 credits).

### **Suggested Order of Coursework**

#### **First Year**

BIO 120 - General Biology I (4 credits)

BIO 121 - General Biology II (4 credits)

NRM 150 - Introduction to Natural Resources (3 credits)

General education courses

Physical science elective (e.g., CHM 109 or CHM 115)

#### **Second Year**

BIO 215 - Ecology (4 credits)

NRM 250 - Resource Measurement and Maps (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

General education courses

Physical science elective course

Wildlife elective courses

#### **Third Year**

BIO 308 - Wildlife Ecology (4 credits) **OR** NRM 308 - Wildlife Ecology (4 credits)

BIO 375 - Genetics (3 credits)

BIO 376 - Genetics Laboratory (1 credit)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

General education courses

Wildlife elective courses

Physical science elective course

### **Fourth Year**

BIO 408 - Wildlife Management (4 credits) **OR** NRM 408 - Wildlife Management (4 credits)

NRM 495 - Trends in Natural Resource Management (Capstone) (4 credits)

MTH/STA elective course

General education courses

Wildlife elective courses

## **Biomedical Sciences**

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

**Website:** [gvsu.edu/bms](http://gvsu.edu/bms)

The biomedical sciences major consists of courses prescribed by professional schools (medical, dental, osteopathic, veterinary, pharmacy, graduate) as essential to the successful completion of a professional school curriculum, plus electives necessary to provide educational breadth and maturity. In short, the biomedical sciences major is designed to aid students in gaining a comprehensive understanding of human life sciences and is a gateway to many exciting and meaningful career paths.

The four general areas of significance in the biomedical sciences curriculum are anatomy, physiology, microbiology, and nutrition. Faculty in the Biomedical Sciences Department are involved in a wide variety of research projects, providing numerous opportunities for undergraduate and graduate students to gain real laboratory experience. Areas of research include bacterial genetics, cancer biology, cardiovascular disease, epidemiology, human anatomy, immunology, neuroscience, obesity, parasitology, physiological biochemistry, stem cell biology, and toxicology to name a few.

### **Degrees Offered**

Bachelor of Science in biomedical sciences, Bachelor of Science in microbiology, Master of Health Science in biomedical sciences, and emphasis in nutrition sciences.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## Participating Programs

Study Abroad ([gvsu.edu/studyabroad](http://gvsu.edu/studyabroad))

Students have an opportunity to spend a semester or a year studying at Kingston University (KU) in the United Kingdom. The School of Life Sciences at KU offers a number of courses that will be accepted as part of the biomedical sciences degrees.

## Bachelor of Science in Biomedical Sciences

### Requirements

#### Degree Requirements

Students must complete the general university degree requirements as identified in the General Academic Policies section of the Grand Valley State University Undergraduate and Graduate Catalog.

#### Required Biomedical Sciences Courses

BMS 208 - Human Anatomy (3 credits)

BMS 212 - Introductory Microbiology (3 credits)

BMS 213 - Laboratory in Microbiology (1 credit)

BMS 290 - Human Physiology (3 credits)

BMS 391 - Laboratory in Human Physiology (2 credits)

BMS 495 - Concepts in Wellness (Capstone) (3 credits)

#### Additional Required Courses

BIO 120 - General Biology I (4 credits)

BIO 355 - Human Genetics (3 credits) **OR BOTH** BIO 375 - Genetics (3 credits) **AND** BIO 376 - Genetics Laboratory (1 credit)

CHM 115 - Principles of Chemistry I (4 credits)

CHM 116 - Principles of Chemistry II (5 credits)

CHM 241 - Organic Chemistry for Life Sciences I (5 credits)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

CHM 242 - Organic Chemistry for Life Sciences II (4 credits)

CHM 461 - Biochemistry I (4 credits)

MTH 122 - College Algebra (3 credits)

MTH 123 - Trigonometry (3 credits)

PHY 220 - General Physics I (5 credits)

PHY 221 - General Physics II (5 credits)

STA 215 - Introductory Applied Statistics (3 credits)

### **Biomedical Sciences Electives**

Nine additional hours of upper-division (BMS 300-level and higher) biomedical sciences courses, excluding BMS 374 and BMS 495.

In addition, the following courses outside of BMS may also be included in these nine hours:

BIO 302 - Comparative Vertebrate Anatomy (4 credits)

BIO 416 - Advanced Genetics Laboratory (2 credits)

BIO 422 - Embryology (3 credits)

CMB 451 - Bioinformatics: Tools and Techniques for Life Scientists (3 credits)

CMB 405 - Cell and Molecular Biology (4 credits)

CMB 406 - Cell and Molecular Biology Laboratory (2 credits)

CMB 411 - Genetics of Development and Cancer (3 credits)

CMB 414 - Molecular Biology of the Gene (3 credits)

CMB 426 - Research Applications in Nucleic Acids (4 credits)

CMB 440 - Research Applications in Drosophila Genomics (3 credits)

CMB 452 - Computer Modeling and Drug Design (3 credits)

CMB 460 - Genomics and Molecular Diagnostics (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CHM 462 - Techniques in Biochemistry (3 credits)

CHM 463 - Biochemistry II (3 credits)

## **Nutrition Science Emphasis**

Graduates from this emphasis will be prepared to pursue graduate training in many disciplines within the biomedical sciences, especially nutrition or physiology. Students who wish to become a registered dietician can do so by completing an accredited didactic program in dietetics at the graduate level and an approved dietetic internship program. The nutrition emphasis also offers outstanding preparation for premedical or prephysician assistant students who are interested in understanding the mechanisms by which diet influences health and disease. In addition, this emphasis will prepare graduates for career opportunities as a laboratory technician. Because it is impossible to design one curriculum to fulfill the requirements of every graduate school or career choice, it is the student's responsibility, in consultation with an advisor, to see that requirements are met for the graduate schools or careers in which the student is interested.

### **Required Biomedical Sciences Courses**

BMS 105 - Basic Nutrition (3 credits)

BMS 208 - Human Anatomy (3 credits)

BMS 212 - Introductory Microbiology (3 credits)

BMS 213 - Laboratory in Microbiology (1 credit)

BMS 290 - Human Physiology (3 credits)

BMS 391 - Laboratory in Human Physiology (2 credits)

BMS 495 - Concepts in Wellness (Capstone) (3 credits)

**AND** any four of the following five nutrition courses (12 credits):

BMS 305 - Clinical Nutrition (3 credits)

BMS 306 - Advanced Human Nutrition (3 credits)

BMS 304 - Community Nutrition (3 credits)

BMS 407 - Nutrition in the Life Cycle (3 credits)

BMS 415 - Nutrition and Physical Performance (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Additional Required Courses**

BIO 120 - General Biology I (4 credits)

BIO 355 - Human Genetics (3 credits) **OR BOTH** BIO 375 - Genetics (3 credits) **AND** BIO 376 - Genetics Laboratory (1 credit)

CHM 115 - Principles of Chemistry I (4 credits)

CHM 116 - Principles of Chemistry II (5 credits)

CHM 241 - Organic Chemistry for Life Sciences I (5 credits)

CHM 242 - Organic Chemistry for Life Sciences II (4 credits)

CHM 461 - Biochemistry I (4 credits)

MTH 122 - College Algebra (3 credits)

MTH 123 - Trigonometry (3 credits)

PHY 220 - General Physics I (5 credits)

PHY 221 - General Physics II (5 credits)

STA 215 - Introductory Applied Statistics (3 credits)

## **Combined Bachelor of Science and Master of Health Science in Biomedical Sciences**

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

**Website:** [gvsu.edu/grad/biomed](http://gvsu.edu/grad/biomed)

Qualified undergraduates may be admitted to an accelerated bachelor's/master's program and obtain both a B.S. and an M.H.S. in biomedical sciences within an accelerated time frame. Up to 12 credits of graduate work may be used in partial satisfaction of the requirements for the undergraduate degree (in alignment with university policy, a maximum of 12 credit hours of graduate work will count toward both the graduate and undergraduate degrees). If students earn at least a grade of B in each of these classes, they are granted advanced standing in the master's program. All other master's degree requirements must be met, including research and a thesis. After completing 120 credits and all requirements for the bachelor's degree, students are awarded a bachelor's degree.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Application Procedure**

Students typically apply directly to the Department of Biomedical Sciences graduate program director for the combined B.S./M.H.S. program during the first semester of their third academic year. Separate application to the graduate school may be required. Complete applications will be reviewed by the graduate committee and be acknowledged within four weeks.

Application requirements include:

75 hours of academic credit completed or in progress

GPA of 3.25 or greater

Completion of BMS 208, BMS 290 and BMS 212 with a grade of B or better

Grade of C+ or better in all other science courses (e.g. BIO 120, CHM 115, CHM 116, CHM 241, CHM 242, STA 215)

One letter of recommendation from a potential research mentor

One additional letter of recommendation

Academic transcripts (unofficial transcripts are acceptable)

Letter of intent

## **Requirements During Undergraduate Studies**

All university requirements, including general education courses, must be completed before the final (graduate) year of the combined B.S./M.H.S. program. In the final undergraduate year, students will take 12 to 15 credits of graduate-level courses. If any courses are dual-listed, students in the combined B.S./M.H.S. program must complete all assignments expected of graduate students and they will be evaluated in the same way as graduate students.

Students will earn 12 graduate credits during their undergraduate program.

A student shall be considered a graduate student for all purposes upon fulfillment of one of the following events: the award of a baccalaureate degree, the completion of 12 graduate credit hours or at the request of the graduate program director with the approval of the academic dean.

## **Requirements During Graduate Studies**

After successful completion of their undergraduate program, students will be eligible to take the second year of the M.H.S. curriculum. At this point, students will be treated as graduate students

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

for purposes of tuition and fees, financial aid, etc. Students must complete all requirements for M.H.S. research concentration.

### **Graduation Without Completion of the Program**

If a student decides at some point to pursue only the undergraduate portion of the combined degree, the Department of Biomedical Sciences will still recognize the graduate courses taken in lieu of undergraduate courses. Credit from the undergraduate degree cannot be used toward a graduate degree at a later date.

## **Master of Health Sciences in Biomedical Sciences**

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

**Website:** [gvsu.edu/grad/biomed](http://gvsu.edu/grad/biomed)

Grand Valley's Master of Health Science (M.H.S.) in biomedical sciences provides graduate-level coursework and training for career advancement beyond that provided by a bachelor's degree.

### **General Studies (Non-Thesis)**

The general M.H.S. degree is for students who want to further their knowledge in biomedical sciences and prepare for professional schools in healthcare. This program may also address the needs of students pursuing non-research careers.

### **Research (Thesis)**

The research concentration is for students who want additional knowledge and experience before applying to doctoral programs or pursuing careers involving biomedical-related research. This option may also be chosen by students who want additional preparation for professional schools. Performance of original research and completion of a thesis is required.

### **Combined Degree**

The BMS department also offers a combined B.S. and M.H.S. degree that can be completed in five years. The combined degree is limited to the research concentration for the M.H.S.

### **Admission**

GPA of 3.0 on a 4.0 scale from all undergraduate courses

Three recommendations

Completion of undergraduate courses in anatomy, physiology, microbiology, and statistics

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Coursework in chemistry is highly recommended

Application questionnaire

## **1. Requirements for General Studies Emphasis**

Students must complete a minimum of 33 semester hour credits, including the biomedical sciences graduate core.

### **Core Courses (16 credits)**

BMS 508 - Advanced Human Physiology (3 credits)

BMS 523 - Epidemiology (3 credits)

BMS 605 - Core Principles of Gross Anatomy (4 credits) **OR BMS 560 - Regional Human Anatomy (4 credits)**

BMS 607 - Infection and Immunity (3 credits)

STA 610 - Applied Statistics for Health Professions (3 credits) **OR STA 622 - Statistical Methods for Biologists (3 credits)**

### **Additional Required Classes (3 credits)**

BMS 693 - Project in Biomedical Sciences (3 credits)

### **Electives (At least 14 credits)**

Courses to fulfill the elective credits are selected with guidance from the graduate program director. Graduate courses both within and outside of biomedical sciences can be selected if deemed appropriate and aligned with the student's career goals.

### **Integrative Written Exam**

Successful completion of an integrative written examination after completion of 18 credits including all core courses. Students who fail any part of the examination may take another examination within 12 months of the original effort.

## **2. Requirements for Research Emphasis**

Students must complete a minimum of 33 semester hour credits, including the biomedical sciences graduate core and formal thesis.

### **Core Courses (16 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

BMS 508 - Advanced Human Physiology (3 credits)

BMS 605 - Core Principles of Gross Anatomy (4 credits) **OR** BMS 560 - Regional Human Anatomy (4 credits)

BMS 607 - Infection and Immunity (3 credits)

BMS 523 - Epidemiology (3 credits)

STA 610 - Applied Statistics for Health Professions (3 credits) **OR** STA 622 - Statistical Methods for Biologists (3 credits)

### **Additional Required Classes (10 credits)**

BMS 501 - Graduate Seminar in Biomedical Sciences (1 credit)

BMS 601 - Experimental Design (3 credits)

BMS 695 - Master's Thesis Research (3 or 6 credits)

BMS 696 - Continuation of Master's Project or Thesis Research (1 credit) (if needed after completion of BMS 695)

### **Electives (At least 7 credits)**

Courses to fulfill the elective credits are selected with guidance from the graduate program director. Graduate courses both within and outside of biomedical sciences can be selected if deemed appropriate and aligned with the student's career goals.

### **3. Electives**

Courses to fulfill the elective credits are selected with guidance from the graduate program director. Graduate courses both within and outside of biomedical sciences can be selected if deemed appropriate and aligned with the student's career goals. Common elective with BMS include:

BMS 509 - Endocrinology (3 credits)

BMS 512 - Medical Bacteriology (3 credits)

BMS 526 - Sensory Systems Neuroscience (3 credits)

BMS 531 - Medical Virology (3 credits)

BMS 532 - Medical Mycology (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

BMS 538 - Advanced Neuroscience (3 credits)

BMS 540 - Molecular Ecology of Infectious Disease (3 credits)

BMS 550 - Human Histology (4 credits)

BMS 608 - Pathologic Physiology (3 credits)

BMS 655 - Advanced Human Anatomy (3 credits)

BMS 679 - Clinical Practicum (3 to 6 credits)

BMS 699 - Independent Study (1 to 3 credits)

## Biostatistics

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

**Website:** [gvsu.edu/biostat](http://gvsu.edu/biostat)

Statistics is a discipline that develops and utilizes tools for making decisions in the presence of uncertainty. Statistics is utilized in many fields; however, when data is collected in the life sciences and medicine, we use the term biostatistics to distinguish this particular application of statistical concepts and methods. A biostatistician has academic training and/or work experience in defining research problems, formulating rational methods of inquiry, and gathering, analyzing, and interpreting data in the life sciences and medicine.

Research activities for a biostatistician cover the full range of studies that take place within the life sciences and medicine. These include clinical trials, as well as data from other preclinical, genetic, and epidemiology studies. Also included are population-based health surveys of various types and evaluations of health promotion programs. Opportunities are also available for biometrical research related to problems in agriculture wildlife and natural resources (e.g., data analyses for ongoing wildlife and water quality studies).

The objective of the M.S. program in biostatistics is to prepare professional biostatisticians who are capable of taking leadership in the application of statistical methods to the design and analysis of health research and biomedical studies and to the planning and evaluation of health services programs. Career opportunities are found in government, private industry, medical research institutions, and universities. Demand for biostatisticians is high, and graduates have their choice of a variety of attractive job offers.

Students can enter the M.S. program from a variety of academic and professional backgrounds. Some applicants pursue a degree in biostatistics directly after completing undergraduate studies. Other applicants pursue the study in biostatistics after years of experience as a medical or health

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

professional. To the extent possible, the curriculum of each student will be tailored to their background and interests.

Upon completion of the M.S. in biostatistics, the student will be prepared to function as a statistical consultant in the application of statistics to the health or medical research. This will necessitate that they receive training in both statistical methodology and the life sciences. As a result, our biostatistics program incorporates coursework in biology, computer science and information systems, and the health professions and sciences. In addition to building upon the strengths of the Grand Valley faculty and existing curricula, the program also integrates the regional health providers and scientific community through the required internship experience. Additionally, graduates will be trained in the preparation of reports, presentations, and publications resulting from health science studies.

## **Master of Science in Biostatistics**

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

The M.S. in biostatistics is one of four synergistic professional science master's (PSM) degree programs at Grand Valley State University. The four programs (health informatics and bioinformatics, biotechnology, data science and analytics, and biostatistics) are interdisciplinary and involve both the university and its industry partners. All four programs emphasize teamwork, problem-solving, communication, scientific knowledge, and technical skills. Each program is designed to integrate university coursework with business/industrial internships to better prepare students for the variety of career pathways associated with the life science and health science industries. The overall objectives and interactions of these three new programs are described in the PSM section of the Grand Valley State University Undergraduate and Graduate Catalog.

The requirements for the M.S. in biostatistics consist of 37 credits with a minimum cumulative GPA of 3.0. Consistent with Grand Valley State University policy, all courses must be completed within eight consecutive years from entry into the first graduate course.

### **Admission**

To be admitted into the M.S. in biostatistics, the following is required:

Grade point average of 3.0 on a 4.0 scale from all undergraduate coursework or a satisfactory score on the GRE

Resume detailing work experiences and accomplishments

Personal statement of career goals and background experiences, including an explanation of how this program will help achieve educational and professional objectives

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Letters of recommendations from at least two individuals who are in positions to attest to the applicant's successful completion of the program

## **Requirements**

Students must complete the following requirements.

### **1. PSM Core Courses**

Twelve credits are required, including:

CMB 610 - Foundations of Biotechnology (3 credits)

CIS 661 - Introduction to Health and Bioinformatics (3 credits)

PSM 650 - Ethics and Professionalism in Applied Science (3 credits)

STA 610 - Applied Statistics for Health Professions (3 credits) **OR** STA 622 - Statistical Methods for Biologists (3 credits)

### **2. Directed Courses for Biostatistics Program**

Requires 19 credits. At least four elective credits are selected with advisor approval from graduate courses that are appropriate to each student's interests and goals. Students are strongly encouraged to meet with their advisor during their first semester to develop specific plans for their elective coursework.

STA 616 - Statistical Programming (3 credits)

STA 621 - Design of Experiments and Regression (4 credits)

STA 623 - Categorical Data Analysis (3 credits)

STA 625 - Clinical Trials (2 credits)

STA 630 - Topics in Advanced Statistical Applications (3 credits)

### **3. PSM Seminar Course**

PSM 662 - Seminar in Professional Science Practice (2 credits)

### **4. Internship**

Requires at least four credits.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

PSM 691 - Internship (1 to 9 credits)

## Business (General)

For additional information about opportunities your college offers, please refer to the Seidman College of Business section in this catalog.

The 18-credit-hour major in general business provides a broad curriculum in business for the student who desires to be a generalist. The major allows students to take courses in several business disciplines instead of concentrating on a specific emphasis. The major is designed for students who wish to work in a family-owned business or any small business that would need an employee with a broad background. In addition, the general business major may serve the interests of a student who wishes to be an entrepreneur.

## Bachelor of Business Administration

### Requirements for the Major in Business Administration

To complete the requirements for graduation with a B.B.A. degree, the following course requirements for a total of 120 undergraduate hours must be met: general education; business core; business major, major requirements listed with information on individual majors; cognates; and electives.

### Core Courses

All business core courses acquaint you with various fields in business and help you learn to communicate, to interact, and to assume responsible positions in your chosen field.

For the B.B.A., you must complete the following courses.

ACC 212 - Principles of Financial Accounting (3 credits)

ACC 213 - Principles of Managerial Accounting (3 credits)

BUS 201 - Legal Environment for Business (3 credits)

**BOTH** ECO 210 - Introductory Macroeconomics (3 credits) **AND** ECO 211 - Introductory Microeconomics (3 credits) **OR ONLY** ECO 200 - Business Economics (3 credits)

Upper-division economics course (not ECO 490) Credits: 3

FIN 320 - Managerial Finance (3 credits)

MGT 268 - Business Processes and Management Information Systems (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MGT 331 - Managing People and Organizations (3 credits)

MGT 366 - Operations Management (3 credits)

MGT 495 - Administrative Policy (3 credits)

MKT 350 - Marketing Management (3 credits)

Students are required to select one class from the following list. This course may count toward the major or minor if applicable.

ACC 333 - Corporate Governance and Accounting Ethics (3 credits) (required of all accounting majors)

ECO 440 - Public Economics and Ethics (3 credits)

FIN 330 - Ethics in Finance (3 credits)

MGT 340 - Ethics and Business, Social Justice and Sustainability (3 credits)

MGT 438 - Business Ethics (3 credits)

MKT 375 - Marketing Ethics (3 credits)

### **Required Business Electives**

Three upper-division business courses are not applied to the major or minor (nine credits total). However, these courses can be applied toward a second business major if one is declared.

### **Electives**

Students may elect nonbusiness or business courses to fulfill their elective course requirements. Students may apply up to six hours of internship and independent research credit, in any combination, toward their degree requirements. Business majors may not take any of the major courses, except the internship and study abroad courses, on a credit/no credit basis.

### **Suggested Order of Coursework**

#### **Year One**

Begin general education Foundations and Cultures requirements

Begin and complete 100- and 200-level business major requirements

#### **Year Two**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Complete general education Foundations and Cultures requirements

Include at least one course designated as Supplemental Writing Skills

Begin and complete 200-level business cognate and core requirements

Complete the required Seidman Success Standard courses prior to the third year for access to 300-level business courses (all GPA and credit hour requirements criteria apply)

### **Year Three**

Begin 300-level cognate and core requirements

Begin business major and elective courses (please see a Seidman College faculty mentor for guidance on elective courses)

Begin Issues required courses in the General Education curriculum

### **Year Four**

Complete Seidman College of Business major and elective courses

Complete the Seidman College of Business Capstone

Complete Issues requirements

Complete second Supplemental Writing Skills course

## **Bachelor of Business Administration in General Business**

The 18-credit-hour major in general business provides a broad curriculum in business for the student who desires to be a generalist. The major allows students to take courses in several business disciplines instead of concentrating on a specific emphasis. The major is designed for students who wish to work in a family-owned business or any small business that would need an employee with a broad background. In addition, the general business major may serve the interests of a student who wishes to be an entrepreneur.

### **Requirements for the B.B.A.**

#### **Core Courses**

All business core courses acquaint you with various fields in business and help you learn to communicate, to interact, and to assume responsible positions in your chosen field.

For the B.B.A., you must complete the following courses.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

ACC 212 - Principles of Financial Accounting (3 credits)

ACC 213 - Principles of Managerial Accounting (3 credits)

BUS 201 - Legal Environment for Business (3 credits)

**BOTH** ECO 210 - Introductory Macroeconomics (3 credits) **AND** ECO 211 - Introductory Microeconomics (3 credits) **OR ONLY** ECO 200 - Business Economics (3 credits)

Upper-division economics course - not ECO 490 (3 credits)

FIN 320 - Managerial Finance (3 credits)

MGT 268 - Business Processes and Management Information Systems (3 credits)

MGT 331 - Managing People and Organizations (3 credits)

MGT 366 - Operations Management (3 credits)

MGT 495 - Administrative Policy (3 credits)

MKT 350 - Marketing Management (3 credits)

Students are required to select one class from the following list. This course may count toward the major or minor if applicable.

ACC 333 - Corporate Governance and Accounting Ethics (3 credits)

ECO 440 - Public Economics and Ethics (3 credits)

FIN 330 - Ethics in Finance (3 credits)

MGT 340 - Ethics and Business, Social Justice and Sustainability (3 credits)

MGT 438 - Business Ethics (3 credits)

MKT 375 - Marketing Ethics (3 credits)

### **Required Business Electives**

Three upper-division Seidman College courses are not applied to the major or minor (nine credits total). However, these courses can be applied toward a second business major if one is declared.

### **Electives**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Students may elect nonbusiness or business courses to fulfill their elective course requirements. Students may apply up to six hours of internship and independent research credit, in any combination, toward their degree requirements. Business majors may not take any of the major courses, except the internship and study abroad courses, on a credit/no-credit basis.

## **Requirements for a Major in General Business**

In addition to the business core, the requirements are as follows.

MGT 330 - Entrepreneurship and Small Business Management (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

Quantitative group - choose one:

MTH 122 - College Algebra (3 credits)

MTH 125 - Survey of Calculus (3 credits)

MTH 201 - Calculus I (4 credits)

PHI 103 - Logic (3 credits)

MGT 361 - Management Science (3 credits)

One of the following:

ACC 317 - Individual Income Taxation (3 credits)

ACC 318 - Entity Taxation (3 credits)

One of the following:

FIN 321 - Investments (3 credits)

FIN 322 - Intermediate Managerial Finance (3 credits)

FIN 331 - Risk and Insurance (3 credits)

One of the following:

MKT 351 - Consumer Behavior (3 credits)

MKT 352 - Marketing Research (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MKT 451 - Marketing Strategy (3 credits)

One of the following:

ACC 330 - International Accounting (3 credits)

ECO 349 - Emerging Markets Issues (3 credits)

ECO 365 - Comparative Economic Systems (3 credits)

ECO 369 - International Economic Issues (3 credits)

ENT 350 - Entrepreneurial Business Plan (3 credits)

FIN 429 - International Financial Management (3 credits)

MGT 303 - International Business and Culture (3 credits)

MGT 437 - Family Business (3 credits)

MGT 466 - International Management and Multinational Corporations (3 credits)

MKT 359 - Multinational Marketing (3 credits)

**AND** one three-credit internship in any business discipline.

Students with business experience may meet with an advisor to discuss substituting an alternative course for their internship experience.

The upper division economics course selected as part of the business requirements cannot double count in a general business major.

## **Bachelor of Business Administration in International Business**

### **Requirements for the B.B.A.**

#### **Core Courses**

All business core courses acquaint you with various fields in business and help you learn to communicate, to interact, and to assume responsible positions in your chosen field.

For the B.B.A., you must complete the following courses.

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

ACC 212 - Principles of Financial Accounting (3 credits)

ACC 213 - Principles of Managerial Accounting (3 credits)

BUS 201 - Legal Environment for Business (3 credits)

**BOTH** ECO 210 - Introductory Macroeconomics (3 credits) **AND** ECO 211 - Introductory Microeconomics (3 credits)  
**OR ONLY** ECO 200 - Business Economics (3 credits)

Upper-division economics course - not ECO 490 (3 credits)

FIN 320 - Managerial Finance (3 credits)

MGT 268 - Business Processes and Management Information Systems (3 credits)

MGT 331 - Managing People and Organizations (3 credits)

MGT 366 - Operations Management (3 credits)

MGT 495 - Administrative Policy (3 credits)

MKT 350 - Marketing Management (3 credits)

Students are required to select one class from the following. This course may count toward the major or minor if applicable.

ACC 333 - Corporate Governance and Accounting Ethics (3 credits)

ECO 440 - Public Economics and Ethics (3 credits)

FIN 330 - Ethics in Finance (3 credits)

MGT 340 - Ethics and Business, Social Justice and Sustainability (3 credits)

MGT 438 - Business Ethics (3 credits)

MKT 375 - Marketing Ethics (3 credits)

### **Required Business Electives**

Three upper-division business courses are not applied to the major or minor (nine credits total). However, these courses can be applied toward a second business major if one is declared.

### **Elective Courses**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Students may elect nonbusiness or business courses to fulfill their elective course requirements. Students may apply up to six hours of internship and independent research credit, in any combination, toward their degree requirements. Business majors may not take any of the major courses, except the internship and study abroad courses, on a credit/no-credit basis.

## **Requirements for a Major in International Business**

International business majors must complete all requirements for the B.B.A. degree, plus the specific requirements for the major noted as follows.

### **Background Component**

Required course:

STA 215 - Introductory Applied Statistics (3 credits)

Quantitative group - choose one:

MTH 122 - College Algebra (3 credits)

MTH 125 - Survey of Calculus (3 credits)

MTH 201 - Calculus I (4 credits)

PHI 103 - Logic (3 credits)

MGT 361 - Management Science (3 credits)

### **International Business Component**

Four courses from the following group:

ACC 330 - International Accounting (3 credits)

ECO 369 - International Economic Issues (3 credits)

FIN 429 - International Financial Management (3 credits)

MGT 433 - International Human Resource Management (3 credits)

MGT 466 - International Management and Multinational Corporations (3 credits)

MKT 359 - Multinational Marketing (3 credits)

One course from the following group:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

ECO 349 - Emerging Markets Issues (3 credits)

ECO 365 - Comparative Economic Systems (3 credits)

PLS 315 - International Political Economy (3 credits)

### **Cultural Component**

Students must take six hours of course credit that may be completed by taking EITHER of the following options.

#### **OPTION A**

Take two courses from the following:

BUS 301 - International Business and Culture (3 credits)

EAS 201 - East Asia in the Contemporary World (3 credits)

GPY 220 - Cultural Geography (3 credits)

GPY 235 - Geography for a Changing World (3 credits)

GPY 350 - Geopolitics, Energy and Environment of Russia and Central Eurasia (3 credits)

GPY 352 - Geography of Latin America (3 credits)

LAS 210 - Exploring Latin America (3 credits)

PLS 211 - International Relations (3 credits)

PLS 221 - Government and Politics of Western Europe (3 credits)

PLS 283 - Chinese Politics and U.S.-China Relations (3 credits)

PLS 327 - Politics of Developing Countries (3 credits)

Other courses in a variety of disciplines may be used to fulfill this group as approved by the advisor.

#### **OPTION B**

At least six hours of international internship credit. This option is highly recommended.

## **Business Fundamentals, Undergraduate Certificate**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## Requirements

ACC 201 - Accounting for Non-Business Majors 1 (1.5 credits)

ACC 202 - Accounting for Non-Business Majors 2 (1.5 credits)

FIN 300 - Fundamentals of Finance for Non-Business Majors (3 credits)

MGT 300 - Fundamentals of Management for Non-Business Majors (3 credits)

MKT 300 - Fundamentals of Marketing for Non-Business Majors (3 credits)

## Business Minor

Eligible business majors who elect to complete one of the business minors may be required to extend their degree programs beyond the minimum 120-semester-hour university degree requirement.

The undergraduate minor program in business is for nonbusiness majors and includes 18 credit hours of courses listed below. This minor is designed to complement major fields of study in other departments or schools. It is not designed to satisfy the requirements for teacher certification.

### Requirements for a Minor in Business

Students must achieve a minimum 2.5 GPA in these courses to receive the business minor designation. Courses cannot be taken on a credit/no-credit basis.

**Both** ACC 212 - Principles of Financial Accounting (3 credits) and ACC 213 - Principles of Managerial Accounting (3 credits)

**OR** ACC 201 - Accounting for Non-Business Majors 1 (1.5 credits), ACC 202 - Accounting for Non-Business Majors 2 (1.5 credits), and HTM 273 - Hospitality and Tourism Financial Decision Making (3 credits)

BUS 201 - Legal Environment for Business (3 credits)

FIN 300 - Fundamentals of Finance for Non-Business Majors (3 credits) **OR** FIN 320 - Managerial Finance (3 credits)

MGT 300 - Fundamentals of Management for Non-Business Majors (3 credits) **OR** MGT 331 - Managing People and Organizations (3 credits)

MKT 300 - Fundamentals of Marketing for Non-Business Majors (3 credits) **OR** MKT 350 - Marketing Management (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

# Digital Micro Master's Badge in Emerging Leadership

The digital Micro-Master's badge in emerging leadership is designed to prepare emerging leaders for the challenges they will experience as they gain greater levels of responsibility. The badge (not a degree or certificate) will prepare students for success as

effective leaders; students will learn how to influence others based on their own leadership style and the fundamentals of effective leadership at the supervisory level;

integrative thinkers; they will gain an understanding of how all the different functions in a firm fit together as a whole; and

strategic analyzers; students will be able to provide strategic recommendations to specific organizational problems.

## Admission

Completion of a bachelor's degree is required for admission. Strong preference will be given to candidates with at least three years of experience and company support.

Contact for admissions/inquiries:

Seidman Graduate Services Office: [gvsu.edu/seidmangrad](http://gvsu.edu/seidmangrad)

Assistant Dean, Student Engagement and Graduate Program Operations: Koleta Moore.

## Requirements

The digital badge is cohort based, comprised of five courses (14 credits), and concludes with an applied project that is part of the coursework.

## Courses

Students must complete the following (14 credits):

BUS 501 - Self-Management for Leaders (2 credits)

BUS 502 - Operational Alignment for Leaders (2.5 credits)

BUS 503 - Leading and Empowering Teams (2.5 credits)

BUS 504 - Essentials of Enterprise Leadership (3.5 credits)

BUS 505 - Implementing Principles of Strategic Leadership (3.5 credits)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

In addition to courses, students will participate in coaching and professional mentoring. One-on-one coaching is designed for students' professional development and is not an internship. This will be done with industry mentors who will be available for the duration of the program; students will be able to collaborate with them for professional networking and guidance. The mentors will be arranged by the Seidman College of Business and will be available for guidance and coaching for about five hours during completion of the 14 credits.

## **Master of Business Administration**

**Website:** [gvsu.edu/seidmangrad](http://gvsu.edu/seidmangrad)

### **Master of Business Administration (Professional M.B.A.)**

The professional M.B.A. serves primarily working professionals. Most students attend classes part-time while working full-time. This facilitates a synergistic connection between the classroom and the workplace. M.B.A. students bring diversity of academic and professional backgrounds, making the classroom a dynamic environment for the exchange of perspectives and ideas.

### **Admission**

The Seidman College of Business seeks individuals who want to build a meaningful career. Admission to the M.B.A. program is competitive because the M.B.A. Admissions Committee carefully considers each applicant. The M.B.A. Admissions Committee takes a holistic approach to candidate evaluation with consideration of relevant professional experience, potential for career growth, academic ability, leadership qualities, communication and interpersonal skills, and motivation for success. Applicants with managerial, operational, or decision-making experience receive preference for admission. Seidman purposefully maintains a relatively small class size and values candidates with diverse backgrounds, skill sets, cultures, and talents. No particular undergraduate major is necessary for students applying to the M.B.A. program. Instead, candidates must demonstrate competency in background business subjects.

To apply, students should

- complete the M.B.A. application (including essays/personal statement);

- submit official transcripts;

- submit a recent resume;

- provide two graduate references; and

- provide official GMAT scores (if applicable).

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

International students may be required to submit additional documents as part of their admission materials.

Individuals who submit all required documents may be selected for an interview as part of the admission process.

### **Waiver of the Graduate Management Admission Test (GMAT) Requirement**

Most prospective graduate business students take the GMAT. The GMAT is strongly recommended and may be used to strengthen the applicant's profile. A GMAT waiver is an option for highly qualified individuals.

To be considered for a GMAT waiver, candidates must meet one of the following criteria:

Document at least three years of relevant professional experience that shows increased responsibilities over that period.

Document having earned an acceptable score on the Graduate Record Examination (GRE); other graduate exams may be considered by request.

A transcript showing undergraduate GPA of 3.2 or higher from an AACSB-accredited business program.

A transcript showing undergraduate GPA of 3.4 or higher from a regionally accredited university in any major.

Document having earned a master's degree or higher from a regionally accredited program.

Meeting the criteria to waive the GMAT does not guarantee admission to the M.B.A. program. Even those who are eligible to waive should consider taking the GMAT because a strong score increases the likelihood of admission.

### **Transfer Credit**

No transfer credit is accepted for the M.B.A. program.

### **Academic Review**

A cumulative GPA of 3.0 is required in all graduate level courses that fulfill graduation requirements for the M.B.A. A grade of C or better must be earned in all graduate courses that fulfill graduation requirements for the M.B.A.

### **Program Location**

The M.B.A. program is offered on the Pew Grand Rapids Campus in the L. William Seidman Center in downtown Grand Rapids, MI.

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

## **Graduate Outcomes/Time to Program Completion**

The Seidman College of Business faculty has identified the following learning goals for M.B.A. students. Objectives related to each goal are assessed regularly to ensure that they are being achieved.

Effective business communications

Business acumen and strategic decision making

Global and intercultural competence

Value-driven leadership

The cohort-based program is typically completed in 22 months.

The Seidman College of Business faculty has adopted APA as the standard citation style for M.B.A. coursework. Unless a faculty member indicates otherwise, students are expected to use this citation method where appropriate in their written coursework.

## **Requirements for the Professional M.B.A.**

The M.B.A. program consists of 36 semester hours of graduate coursework. Foundational competencies may need to be proven by students based on undergraduate major and performance.

### **Foundational Business Competencies**

Foundational competencies may be met by

completion of courses;

successful completion of the test-out exams for each area; and

completion of accelerated self-study segments and exams.

Please see the Seidman College of Business Graduate Programs office for specific foundational tests.

### **M.B.A. Courses**

The following courses (36 credits) are required of all professional M.B.A. students.

#### **Summer Starter Courses**

M.B.A. Boot Camp:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MBA 601 - Applied Data Analysis and Decision Making (1 credit)

MBA 675 - Legal Environment for Business (1 credit)

MBA 676 - Leading People and Teams (1 credit)

MBA 681 - Strategic Mindset and Customer Centricity (1 credit)

### **Semester One**

Fall:

MBA 611 - Accounting for Managers (3 credits)

MBA 641 - Applied Business Economics (3 credits)

Winter:

MBA 621 - Financial Management (3 credits)

MBA 651 - Marketing for Professionals (3 credits)

Spring/Summer:

MBA 677 - Advanced Leadership and Ethics (1.5 credits)

MBA 674 - Self-Awareness and Leadership Style for MBAs (1 credit)

### **Semester Two**

Fall:

MBA 631 - Leading People and Organizations (3 credits)

MBA 660 - Operations and Supply Chain Management (3 credits)

MBA 679 - Effective Leadership (1 credit)

Winter:

MBA 610 - Management Information Systems and Business Intelligence (2 credits)

MBA 683 - Strategic and Global Competitiveness (6 credits)

Spring/Summer:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MBA 678 - Advanced Leadership and Ethics (1.5 credits)

MBA 684 - Professional Consulting and Communications (1 credit)

The M.B.A. culminates with a real-world, integrative project that takes place during the final two semesters of the program. It is facilitated by the program's academic director and evaluated by the academic director and supporting faculty.

### **Master of Business Administration (Executive M.B.A.)**

The executive M.B.A. serves experienced professionals. The program is cohort-based, and classes meet primarily on select Fridays and Saturdays throughout a 22-month period. The curriculum is highly strategic and systems oriented. It culminates in a real-world project.

### **Admission to the Executive M.B.A.**

A bachelor's degree and at least five years of significant professional experience are required for consideration, and final selection is based on prior academic performance, potential for leadership, and employer recommendation. Applicants must submit official documentation of all previous college coursework, and personal statements, recommendations, and resumes. Any major is acceptable.

### **Transfer Credit**

No transfer credit is accepted for the EMBA program.

### **Academic Review**

A cumulative GPA of at least 3.0 is required in all 600-level courses that fulfill graduation requirements for the executive M.B.A. A grade of C or better must be earned in all graduate courses that fulfill graduation requirements for the EMBA.

### **Program Location**

The executive M.B.A. program is offered in the L. William Seidman Center on the Pew Grand Rapids Campus, located downtown in Grand Rapids, MI.

### **Graduate Outcomes/Time to Program Completion**

The Seidman Center faculty has identified learning goals for executive M.B.A. students, which are listed previously in the traditional Master of Business Administration section of this catalog.

The program is four semesters and meets throughout 22 months.

### **Requirements for the Executive M.B.A.**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

The EMBA program consists of 39 semester hours in a lock-step format. Preparation for M.B.A. coursework in areas of accounting, finance, business law, and economics can be fulfilled through GVSU courses and/or established online courses. Individualized program plans inform each student which foundation area(s) need to be completed and provide direction for completion. Also required is a series of workshops that integrate the academic curriculum and provide executive, focused professional development.

### **Core Courses**

The following core courses are required of all EMBA students (39 credits).

#### **Semester One**

EMBA 601 - Financial Accounting for Executives (1.5 credits)

EMBA 610 - Strategic Information Systems for Executives (2 credits)

EMBA 611 - Managerial Accounting for Executives (1.5 credits)

EMBA 641 - Business Economics for Executives (3 credits)

EMBA 681 - Developing the Strategic Mindset (1 credit)

#### **Semester Two**

EMBA 621 - Finance for Executives (3 credits)

EMBA 651 - Marketing Management for Executives (3 credits)

EMBA 652 - Negotiations for Executives (2 credits)

EMBA 675 - Law for Executives (3 credits)

#### **Semester Three**

EMBA 626 - Financial Policy for Executives (3 credits)

EMBA 635 - Organizational Change Management (2 credits)

EMBA 636 - Emerging Trends--Industry Disruptions and Firm Sustainability (3 credits)

EMBA 667 - Service and Value Chain Management (3 credits)

EMBA 682 - Systems Thinking and Advanced Tactics (2 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

## **Semester Four**

EMBA 678 - Executive Leadership and Ethics (3 credits)

EMBA 683 - Corporate Strategy for Executives (3 credits)

## **Additional Professional Development**

Approximately 130 hours of professional development over four semesters will be facilitated by the program's executive director. It is integral to the program's overall goals and is required of all students.

## **Semester One**

Team building

Innovation

Content integration

## **Semester Two**

Content integration

## **Semester Three**

Action learning Capstone project\*

Content integration

## **Semester Four**

Action learning Capstone project\*

Content integration

## **\*Culminating Experience**

The executive M.B.A. culminates with a real-world, integrative project that takes place during the final two semesters of the program. It is facilitated by the program's executive director and evaluated by the executive director and academic director.

# **Business Administration**

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

For additional information about opportunities your college offers, please refer to the Seidman College of Business section in this catalog.

**Website:** [gvsu.edu/seidman](http://gvsu.edu/seidman)

The undergraduate business program provides students with business education that blends liberal arts and professional courses with practical application. The programs are designed to prepare students for careers in various business areas as well as for admission into graduate and professional schools.

## **Admission**

Refer to Seidman College of Business in the Colleges section of this catalog.

## **Academic Review**

In order to graduate, business students must achieve a 2.5 minimum cumulative GPA and a 2.5 minimum cumulative GPA in all Seidman College business and economics courses. If the cumulative GPA falls below 2.5, students will be considered to be on an academic contract with Seidman College. Students will not be permitted to take additional 300- and 400-level business and economics courses. However, such students may repeat 300- and 400-level Seidman College business and economics courses for which they received a low grade. Students are advised to contact the Seidman Undergraduate Programs Office for assistance. Once students reestablish themselves in good standing with Seidman College by improving their grade point average to a 2.50 or higher, they can be reassigned to their Seidman College major.

Students may repeat up to three different business and economics courses in their undergraduate career, but no single business or economics course can be repeated more than once. Exceptions are made only with the approval of the assistant dean for Seidman Academic Student Services.

It is the policy of the Seidman College of Business that no credit shall be earned for any course if, at any time, it is found that the student has not met the prerequisites as determined by the head of the unit offering the course.

## **Academic Advising**

All routine advising for program requirements and scheduling for undergraduate students is provided by the Seidman Undergraduate Programs Office, 1041 SCB, L. William Seidman Center. Appointments are available at either the Seidman Center or in Allendale by calling (616) 331-7500. It is the student's responsibility to contact the office for program planning. First year and sophomore business students are encouraged to contact any faculty member or the Seidman Undergraduate Programs Office concerning business career opportunities and advice. A faculty advisor will be assigned when a student is admitted to the upper-division program.

## **Internship Opportunities**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Undergraduate business students are encouraged to become involved in, and receive academic credit for, a work experience directly related to their major. Junior and senior students who wish to apply must have completed at least nine hours of the core program requirements and should have an overall GPA of 2.5 or higher to be eligible. Internship application forms are available at the Seidman Undergraduate Programs Office. Students selected will intern for a varied number of hours each week depending on the number of credits of the internship. Coordination of each internship is provided by the Seidman Internship Coordinator. Students may apply up to six hours of internship and independent research credit, in any combination, toward their degree requirements.

### **Transfer Students**

Transfer students may receive transfer credit for basic courses in accounting, business law, computing, economics, management, marketing, mathematics, and statistics completed at their junior or community college.

In all cases, transfer students may apply a maximum of 24 hours of transfer credit for business courses toward their Seidman College of Business degree and four of the six business major courses required for the degree at the Seidman College of Business. It is extremely important that transfer students meet with an advisor in the Seidman Undergraduate Programs Office before registering for classes.

### **Graduate Business Program**

The graduate business programs are open to qualified individuals with bachelor's degrees from accredited colleges and universities.

### **Participating Programs**

#### **B.B.A./J.D.**

The Seidman College of Business and Michigan State University College of Law (MSU COL) have partnered to offer a "3+3" program (Legal Education Admission Program - LEAP) that gives Grand Valley business students the opportunity to earn a B.B.A. and a Juris Doctor (J.D.) in approximately six years.

Interested students complete a minimum of 96 credits comprised of the required undergraduate courses in their first three years of study at Grand Valley. This includes all university-level requirements as well as the requirements for the specific business major. Upon admission to the law school, Seidman College students complete their undergraduate electives with law school courses. Up to 24 credits of MSU COL work in which the student earned a 2.0 or above will be accepted. MSU COL courses may be applied to the four upper-division elective courses (12 credits) required for the B.B.A. The B.B.A. will be awarded upon satisfactory completion of the number of credits and requirements necessary for the undergraduate program.

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

Students may apply anytime during their junior year for admission to LEAP. GVSU students interested in LEAP must have a minimum grade-point average of 3.60, and a score of 156 or higher on the Law School Admission Test (LSAT) is highly recommended. A Joint Committee comprised of faculty from both institutions will admit students to the LEAP program on the basis of undergraduate record, ACT scores, and other information deemed relevant. Additionally, applicants to the program must obtain letters of recommendation from the GVSU LEAP advisor and a second recommendation from another GVSU faculty member, with both recommenders commenting on the applicant's preparedness for this accelerated program.

## **Honors Organizations**

### **Beta Alpha Psi: Kappa Beta Chapter**

Beta Alpha Psi is a national scholastic and professional honors society. The primary objective of the society is to encourage and give recognition to scholastic and professional excellence in the field of accounting, finance, and information systems. Grand Valley's chapter of Beta Alpha Psi is dedicated to enhancing career opportunities and providing a social environment for persons of similar life goals. The chapter has regular meetings, sponsors speakers, participates in outreach programs such as the VITA (Volunteer Income Tax Assistance) program, and holds numerous social events. Members have the opportunity to attend regional and national meetings held in different cities each year. Membership allows students to learn firsthand about elements of a successful accounting career and ensures multiple network opportunities with practicing professional accountants.

Membership is open to any part- or full-time student majoring in accounting and finance at Grand Valley with an upper level cumulative GPA in declared area of concentration of at least a 3.0 (based on a 4.0 scale) and a cumulative overall GPA of at least 3.0 (or an overall GPA of 3.25 for the last 35 credits).

### **Beta Gamma Sigma**

The Grand Valley State University chapter of Beta Gamma Sigma is the international national honor society serving business programs accredited by AACSB International, The Association to Advance Collegiate Schools of Business, in business administration, promotes high scholarship in business education by recognizing and rewarding scholastic attainment in business subjects.

Membership in Beta Gamma Sigma is awarded once each year to undergraduate and graduate students who are in the top 10 percent of the second semester sophomore class, the top 10 percent of the junior class, the top 10 percent of the senior class, and the top 20 percent of graduating masters' students. Induction occurs annually near the end of the winter semester.

### **Omicron Delta Epsilon**

Grand Valley is home to Omicron Delta Epsilon's Rho Chapter of Michigan. Omicron Delta Epsilon is the international honor society for economics and is one of the world's largest academic honor societies. The objectives of Omicron Delta Epsilon include recognition of scholastic attainment, the honoring of outstanding achievement in economics and the

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

establishment of closer ties between students and faculty in economics within and among colleges and universities.

Membership is open primarily to economics majors (although nonmajors who have a significant interest in economics will also be considered) who have completed at least 12 credit hours of economics courses, have at least an overall B average at Grand Valley and a minimum 3.0 GPA in their economics courses, and be ranked in the top third of their class. Induction occurs annually near the end of the winter semester.

## **Bachelor of Business Administration in General Management**

This major is recommended for students interested in more diverse areas of management and allows for combining interests in areas such as human resource management, management information systems, and operations management by selecting from a range of courses.

### **Requirements for the B.B.A.**

#### **Core Courses**

All business core courses acquaint you with various fields in business and help you learn to communicate, to interact, and to assume responsible positions in your chosen field.

For the B.B.A., you must complete the following courses.

ACC 212 - Principles of Financial Accounting (3 credits)

ACC 213 - Principles of Managerial Accounting (3 credits)

BUS 201 - Legal Environment for Business (3 credits)

**BOTH** ECO 210 - Introductory Macroeconomics (3 credits) **AND** ECO 211 - Introductory Microeconomics (3 credits)

**OR ONLY** ECO 200 - Business Economics (3 credits)

Upper-division economics course - not ECO 490 (3 credits)

FIN 320 - Managerial Finance (3 credits)

MGT 268 - Business Processes and Management Information Systems (3 credits)

MGT 331 - Managing People and Organizations (3 credits)

MGT 366 - Operations Management (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

MGT 495 - Administrative Policy (3 credits)

MKT 350 - Marketing Management (3 credits)

Students are required to select one class from the following list. This course may count toward the major or minor if applicable.

ACC 333 - Corporate Governance and Accounting Ethics (3 credits)

ECO 440 - Public Economics and Ethics (3 credits)

FIN 330 - Ethics in Finance (3 credits)

MGT 340 - Ethics and Business, Social Justice and Sustainability (3 credits)

MGT 438 - Business Ethics (3 credits)

MKT 375 - Marketing Ethics (3 credits)

### **Required Business Electives**

Three upper-division business courses are not applied to the major or minor (nine credits total). However, these courses can be applied toward a second business major, if one is declared.

### **Elective Courses**

Students may elect nonbusiness or business courses to fulfill their elective course requirements. Students may apply up to six hours of internship and independent research credit, in any combination, toward their degree requirements. Business majors may not take any of the major courses, except the internship and study abroad courses, on a credit/no credit basis.

### **Required Courses**

In addition to the two courses required as follows, six additional management courses are required at or above the 300-level.

STA 215 - Introductory Applied Statistics (3 credits)

Quantitative group - choose one:

MTH 122 - College Algebra (3 credits)

MTH 125 - Survey of Calculus (3 credits)

MTH 201 - Calculus I (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

PHI 103 - Logic (3 credits)

MGT 361 - Management Science (3 credits)

## **Combined Bachelor of Business Administration and Juris Doctor**

Seidman College of Business and Michigan State University College of Law (MSU Law) have partnered to offer a 3+3 program (Legal Education Admission Program - LEAP) that gives Grand Valley business students the opportunity to earn a B.B.A. and a Juris Doctor (J.D.) in approximately six years.

Interested students complete a minimum of 96 credits comprised of the required undergraduate courses in their first three years of study at Grand Valley. This includes all university-level requirements as well as the requirements for the specific business major. Upon admission to the law school, Seidman College students complete their undergraduate electives with law school courses. Up to 24 credits of MSU Law work in which the student earned a 2.0 or above will be accepted. MSU Law courses may be applied to the four upper-division elective courses (12 credits) required for the B.B.A. The B.B.A. will be awarded upon satisfactory completion of the number of credits and requirements necessary for the undergraduate program.

The Legal Education Admission Program (LEAP) is open only to students who matriculate as first-year students at Grand Valley. Students may apply any time prior to their senior year for consideration for the program. A Joint Committee comprised of faculty from both institutions will admit students to the LEAP program on the basis of undergraduate record, ACT scores, and other information deemed relevant. In order to be eligible for consideration for final admission to MSU Law, 3+3 students must have earned an aggregate Grand Valley GPA of 3.5 or above, scored 156 or above on the LSAT, and satisfied any other current MSU College of Law admission requirements.

## **Business Economics**

For additional information about opportunities your college offers, please refer to the Seidman College of Business section in this catalog.

## **Bachelor of Business Administration in Business Economics**

### **Requirements for a Major in Business Economics**

Because economics is a department in the Seidman College of Business, students pursuing a B.B.A. in economics must achieve a 2.5 or higher cumulative GPA, have completed 55 semester hours, and achieved a 2.5 or higher combined GPA in ACC 212, BUS 201, ECO 210, ECO 211, MGT 268, and STA 215 to be admitted to the business economics program. To graduate, upper-division economics majors must achieve a 2.5 minimum cumulative GPA and a 2.5 minimum

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

GPA in all economics courses. A student whose cumulative GPA falls below 2.5 will not be permitted to take additional 300- and 400-level economics or business courses. However, such students may repeat 300- and 400-level economics and business courses for which they received a low grade. Students may repeat up to three different economics and business courses in their undergraduate career, but no single economics or business course can be repeated more than once. Exceptions are made only with the approval of the associate dean of the Seidman College of Business. Business economics majors are eligible to participate in the business internship program.

Students who plan to enter a graduate program in economics or a related field are highly encouraged to take the following courses: MTH 201, MTH 202, MTH 203, and MTH 204. These students should also consider a mathematics or statistics minor and consult with their advisors at an early date to explore alternatives and plan their coursework.

## **Requirements for the B.B.A.**

### **Core Courses**

All business core courses acquaint you with various fields in business and help you learn to communicate, to interact, and to assume responsible positions in your chosen field.

For the B.B.A., you must complete the following courses.

ACC 212 - Principles of Financial Accounting (3 credits)

ACC 213 - Principles of Managerial Accounting (3 credits)

BUS 201 - Legal Environment for Business (3 credits)

**BOTH** ECO 210 - Introductory Macroeconomics (3 credits) **AND** ECO 211 - Introductory Microeconomics (3 credits)

**OR ONLY** ECO 200 - Business Economics (3 credits)

Upper-division economics course (not ECO 490) (3 credits)

FIN 320 - Managerial Finance (3 credits)

MGT 268 - Business Processes and Management Information Systems (3 credits)

MGT 331 - Managing People and Organizations (3 credits)

MGT 366 - Operations Management (3 credits)

MGT 495 - Administrative Policy (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MKT 350 - Marketing Management (3 credits)

Students are required to select one class from the following list. This course may count toward the major or minor if applicable.

ACC 333 - Corporate Governance and Accounting Ethics (3 credits)

ECO 440 - Public Economics and Ethics (3 credits)

FIN 330 - Ethics in Finance (3 credits)

MGT 340 - Ethics and Business, Social Justice and Sustainability (3 credits)

MGT 438 - Business Ethics (3 credits)

MKT 375 - Marketing Ethics (3 credits)

### **Required Business Electives**

Three upper-division business courses are not applied to the major or minor (nine credits total). However, these courses can be applied toward a second business major if one is declared.

### **Electives**

Students may elect nonbusiness or business courses to fulfill their elective course requirements. Students may apply up to six hours of internship and independent research credit, in any combination, toward their degree requirements. Business majors may not take any of the major courses, except the internship and study abroad courses, on a credit/no-credit basis.

### **General Business Economics**

General business economics students will focus on applications in business and public policy issues. General business economics supports careers in fields such as banking, business analysis, insurance services, and marketing research. This emphasis is also a solid foundation for graduate programs.

### **Required Courses**

The upper-division economics course selected as part of the core requirements cannot count as an economics major course.

ECO 300 - Data Analytics for Economics and Business (3 credits)

ECO 312 - Applied Microeconomics (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

ECO 313 - Business Cycles and Growth (3 credits)

ECO 495 - Senior Economic Project (Capstone) (3 credits)

ECO elective at the 300- or 400-level (3 credits)

ECO elective at the 300- or 400-level (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

Quantitative group - choose one:

MTH 122 - College Algebra (3 credits)

MTH 125 - Survey of Calculus (3 credits)

MTH 201 - Calculus I (4 credits)

PHI 103 - Logic (3 credits)

MGT 361 - Management Science (3 credits)

## **Real Estate Business Economics**

This emphasis supports careers such as real estate agent, commercial and residential appraiser, mortgage broker, commercial lender, urban planner, title examiner, location specialist, REIT manager, and regional developer. In addition to the required courses listed as follows, it is highly recommended that students take ECO 490 - Economics Internship in real estate work and ECO 385/GPY 385. Students who obtain the economics B.B.A. with the real estate emphasis must take the following courses.

### **Required Courses**

The upper-division economics course selected as part of the core requirements cannot count as an economics major course.

STA 215 - Introductory Applied Statistics (3 credits)

ECO 300 - Data Analytics for Economics and Business (3 credits)

ECO 312 - Applied Microeconomics (3 credits)

ECO 313 - Business Cycles and Growth (3 credits)

ECO 336 - Urban and Real Estate Economics (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

ECO 495 - Senior Economic Project (Capstone) (3 credits)

FIN 350 - Real Estate Principles (3 credits)

Quantitative group - choose one:

MTH 122 - College Algebra (3 credits)

MTH 125 - Survey of Calculus (3 credits)

MTH 201 - Calculus I (4 credits)

PHI 103 - Logic (3 credits)

MGT 361 - Management Science (3 credits)

### **Requirements for an Honors Emphasis in Business Economics**

The undergraduate honors emphasis in economics is for students pursuing a B.B.A. degree in business economics. Students must achieve a minimum 3.2 GPA in their economics courses and a 3.2 GPA in their overall degree to receive the honors emphasis designation. Courses cannot be taken on a credit/no-credit basis. Students are required to complete the following classes:

ECO 210 - Introductory Macroeconomics (3 credits)

ECO 211 - Introductory Microeconomics (3 credits)

ECO 300 - Data Analytics for Economics and Business (3 credits)

ECO 312 - Applied Microeconomics (3 credits)

ECO 313 - Business Cycles and Growth (3 credits)

ECO 450 - Advanced Economic Policy and Analysis (3 credits)

ECO 495 - Senior Economic Project (Capstone) (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

Quantitative group - choose one:

MTH 122 - College Algebra (3 credits)

MTH 125 - Survey of Calculus (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MTH 201 - Calculus I (4 credits)

PHI 103 - Logic (3 credits)

MGT 361 - Management Science (3 credits)

# Cardiovascular Sonography

**Website:** [gvsu.edu/cvs](http://gvsu.edu/cvs)

Sonographers specialized in echocardiography and vascular sonography utilize sound waves to produce diagnostic images and guide invasive and noninvasive procedures of the body. Sonographers work collaboratively with cardiologists, radiologists, and vascular surgeons to diagnose a diverse range of conditions related to the heart and circulatory system. A sonographer practicing in the field of echocardiography and vascular sonography must be well-versed in sectional anatomy, clinical medicine, cardiovascular pathology, and ultrasound physics.

## Skills Required for Cardiovascular Sonography

Comprehensive understanding of cardiovascular anatomy and physiology

Effective communication and interpersonal skills with patients and other health care professionals

Critical thinking

Time management

Ability to master new fine-motor physical skills

Compassionate and effective interaction with the sick or injured

## Career Opportunities

Career opportunities for sonographers in adult echocardiography, pediatric echocardiography, and vascular sonography are vast, ranging from inpatient to outpatient settings, large hospitals to private doctors' offices, as well as the ability to travel. Sonographers will work in collaboration with other medical professionals such as doctors, nurses, stress technicians, and surgeons to provide diagnostic services. Career advancement opportunities exist in education, administration, research, and in commercial companies such as education/application specialists, sales representatives, and technical advisors.

## Cardiovascular Sonography Program

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Students receive didactic, laboratory, and clinical experiences in the university's laboratories and through a clinical education system. Clinical education sites are located as far as three hours from GVSU. Students must have transportation available to these sites. Students should be aware that prior to the beginning of their clinical courses, they must complete comprehensive health compliance obligations including but not limited to a criminal background check, fingerprinting, and drug screening. It is the responsibility of the student to comply. If there is illegal activity in the background check/fingerprinting, or if there is evidence of one or more prohibited substances in the drug test, the clinical sites have the right to refuse a student's placement, a factor which may negatively impact a student's ability to progress in the cardiovascular sonography (CVS) program. In addition, individuals who have been charged with or convicted of a crime may not be eligible for national certification by the American Registry for Diagnostic Medical Sonography (ARDMS). Students to whom this may apply are strongly advised to work with the ARDMS for preapplication review of eligibility for certification from their website at [ardms.org](http://ardms.org). ARDMS contact information: Telephone (301) 738-8401 or (800) 541-9754; Fax (301) 738-0312. Students who complete the cardiovascular sonography major from GVSU may become eligible for the ARDMS examinations, upon completion of specific clinical requirements that are promulgated by the credentialing organizations. Information on these requirements changes from time to time and is available on the credentialing organization websites. Granting of the baccalaureate degree is not contingent on taking ARDMS examinations.

## **Accreditation**

The cardiovascular sonography program is accredited under the Commission on Accreditation of Allied Health Education Program (CAAHEP) and programmatically through the Joint Review Committee on Education in Cardiovascular Technology (JRC-CVT). For more information, please visit [jrccvt.org](http://jrccvt.org).

## **Admission Criteria**

### **Selection Factors**

Admission to the cardiovascular sonography (CVS) program is a competitive selective process that requires a secondary application. Prospective students can access the application at [gvsu.edu/cvs](http://gvsu.edu/cvs). The CVS program is administered through the College of Health Professions: [gvsu.edu/chp](http://gvsu.edu/chp). Students who complete the prerequisite and general education courses by August of the year they start the program are eligible to apply **February 1** of the same year. This coursework is typically completed by the end of the sophomore year. Applicants are selected to enroll based on the following criteria.

Academic grade point average from completed prerequisite courses.

AHS 100 - Medical Terminology (3 credits)

BMS 250 - Anatomy and Physiology I (4 credits)

BMS 251 - Anatomy and Physiology II (4 credits)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

MTH 122 - College Algebra (3 credits)

PHY 220 - General Physics I (5 credits)

PSY 101 - Introductory Psychology (3 credits)

SOC 105 - Social Problems (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

**AND** one of the following research methods courses:

AHS 301 - Introduction to Health Care Research (3 credits)

PSY 300 - Research Methods in Psychology (3 credits)

BMS 301 - Introduction to Research in the Biomedical Sciences (3 credits)

**Admission Considerations:**

Academic grade point average from prerequisite courses (40%)

Academic grade point average from previous two calendar years (10%)

Interview and/or writing assessment completed on-site at the College of Health Professions (30%)

Health care experience: Minimum of 16 hours volunteer or paid and two to three hours job shadow (5%)\*

Recommendations (5%)

Additional leadership considerations (10%)

Physical performance requirements and technical standards

Grade of C (2.0) or higher for each prerequisite course

Two SWS courses are required for graduation. It is the responsibility of the student to select courses that will fulfill all writing requirements.

There are no waiting lists for this program. Program class size limit is based on clinical availability.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Once admitted to the CVS program students are expected to achieve a grade of B- or higher in all major courses to continue in the program.

## **Bachelor of Science in Cardiovascular Sonography**

### **Requirements for a Major in Cardiovascular Sonography**

#### **Prerequisite Courses (35 credits)**

Note: A grade C (2.0) or higher is required for each prerequisite course.

AHS 100 - Medical Terminology (3 credits)

BIO 120 - General Biology I (4 credits)

BMS 250 - Anatomy and Physiology I (4 credits) prerequisite BIO 120\*

BMS 251 - Anatomy and Physiology II (4 credits)

MTH 122 - College Algebra (3 credits) prerequisite MTH 110

PHY 220 - General Physics I (5 credits) prerequisite MTH 123

PSY 101 - Introductory Psychology (3 credits)\*

SOC 105 - Social Problems (3 credits)\*

STA 215 - Introductory Applied Statistics (3 credits)\*

**AND** one of the following:

AHS 301 - Introduction to Health Care Research (3 credits)

PSY 300 - Research Methods in Psychology (3 credits)

BMS 301 - Introduction to Research in the Biomedical Sciences (3 credits)

\*Also fulfills general education requirements

#### **General Education Requirements: Foundations and Cultures (12 credits + 6 Issues credits)**

Remaining general education courses not covered in the major coursework or major prerequisites:

General education Arts (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

General education Philosophy and Literature (3 credits)

General education Historical Perspectives (3 credits)

General education Global Perspectives (3 credits)

Issues (Two courses that can be taken when student has 55+ credits.) (6 credits)

AHS 340 is a required program and Issues course

WRT 150 - Strategies in Writing (4 credits) **OR BOTH** WRT 120 - Strategies in Writing - Stretch I (3 credits) **AND** WRT 130 - Strategies in Writing - Stretch II (3 credits)

Students are strongly encouraged to meet periodically with their academic advisor to determine their progress toward and eligibility for admission into the cardiovascular program: [gvsu.edu/chpss](http://gvsu.edu/chpss). Students are assigned to a College of Health Professions Student Services academic advisor prior to program admission. Upon admission into the program students are assigned to a CVS faculty advisor.

### **B.S. Program Requirements (10 credits)**

BMS 250 - Anatomy and Physiology I (4 credits)

STA 215 - Introductory Applied Statistics (3 credits)

**AND** one of the following:

AHS 301 - Introduction to Health Care Research (3 credits)

BMS 301 - Introduction to Research in the Biomedical Sciences (3 credits)

PSY 300 - Research Methods in Psychology (3 credits)

Note: STA 215 is a prerequisite for the three previously listed research courses.

### **Cardiovascular Sonography Courses (68 credits includes Issues course)**

The cardiovascular sonography major prepares students for clinical practice in adult echocardiography, pediatric echocardiography, and vascular sonography. Cardiovascular sonographers work collaboratively with cardiologist, radiologists, vascular surgeons, or other specialized physicians to diagnose a diverse range of conditions involving invasive and noninvasive procedures using complex computerized high-frequency sound wave and Doppler signal equipment. The sonographer must acquire excellent knowledge of sectional anatomy, clinical medicine, pathology, and the use of sonographic instrumentation.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## Major Coursework

AHS 340 - Health Care Management (3 credits) Required Issues course.

RIE 330 - Echocardiography I (4 credits)

RIE 331 - Echocardiography I Laboratory (2 credits)

RIE 332 - Echocardiography II (3 credits)

RIE 333 - Echocardiography II Laboratory (1 credit)

RIE 340 - Cardiac and Vascular Hemodynamics (2 credits)

RIE 341 - ECG in Radiologic and Imaging Sciences (2 credits)

RIE 360 - Introduction to Echocardiography Clinical (2 credits)

RIE 361 - Echocardiography Clinical Education I (2 credits)

RIE 362 - Echocardiography Clinical Education II (3 credits)

RIE 363 - Pediatric Echo Clinical Education I (2 credits) **OR** RIE 366 - Vascular Sonography Clinical Education I (2 credits)

RIE 432 - Vascular Sonography I (2 credits)

RIE 433 - Vascular Sonography I Laboratory (1 credit)

RIE 434 - Pediatric Echocardiography I (3 credits)

RIE 435 - Pediatric Echocardiography I Laboratory (1 credit)

RIE 436 - Vascular Sonography II (2 credits)

RIE 437 - Vascular Sonography II Laboratory (2 credits)

RIE 438 - Pediatric Echocardiography II (3 credits)

RIE 439 - Vascular Sonography III (2 credits)

RIE 440 - Vascular Sonography III Laboratory (1 credit)

RIE 457 - Cardiovascular Image Evaluation (2 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

RIE 463 - Pediatric Echocardiography Clinical Education II (3 credits) **OR** RIE 466 - Vascular Sonography Clinical Education II (3 credits)

RIE 464 - Pediatric Echocardiography Clinical Education III (3 credits) **OR** RIE 467 - Vascular Sonography Clinical Education III (3 credits)

RIE 495 - Advanced Clinical Problems in Echocardiography and Vascular Sonography (3 credits)

RIT 441 - Gross Human Sectional Anatomy (4 credits)

RIU 320 - Applied Ultrasound Physics Instruction I (2 credits)

RIU 321 - Applied Ultrasound Physics Instruction I Lab (1 credit)

RIU 324 - Applied Doppler Ultrasound Physics (2 credits)

RIU 420 - Applied Ultrasound Physics Instruction II (2 credits)

## **Suggested Order of Coursework**

### **Year One**

Fall Semester (15 credits):

BIO 120 - General Biology I (4 credits)

MTH 110 - Algebra (4 credits) **OR** Math Placement Test

WRT 150 - Strategies in Writing (4 credits) **OR** WRT 120 - Strategies in Writing - Stretch I (3 credits)

General education Arts (3 credits)

Winter Semester (16 credits):

AHS 100 - Medical Terminology (3 credits)

BMS 250 - Anatomy and Physiology I (4 credits)

MTH 122 - College Algebra (3 credits)

PSY 101 - Introductory Psychology (3 credits)

SOC 105 - Social Problems (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Year Two**

Fall Semester (14-15 credits):

BMS 251 - Anatomy and Physiology II (4 credits)

MTH 123 - Trigonometry (3 credits) Prerequisite for PHY 220 **OR** Math Placement Test

STA 215 - Introductory Applied Statistics (3 credits)

General education Philosophy and Literature (3 credits)

Electives (1-2 credits)

Winter Semester (15 credits):

Students apply to CVS by deadline.

PHY 220 - General Physics I (5 credits)

PSY 300 - Research Methods in Psychology (3 credits)

General education Historical Perspectives (3 credits)

General education Global Perspectives (3 credits)

Elective (1 credit)

## **Year Three**

Fall Semester (15 credits):

Students admitted to CVS.

RIU 320 - Applied Ultrasound Physics Instruction I (2 credits)

RIU 321 - Applied Ultrasound Physics Instruction I Lab (1 credit)

RIE 330 - Echocardiography I (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

RIE 331 - Echocardiography I Laboratory (2 credits)

RIE 340 - Cardiac and Vascular Hemodynamics (2 credits)

RIE 341 - ECG in Radiologic and Imaging Sciences (2 credits)

RIE 360 - Introduction to Echocardiography Clinical (2 credits)

Winter Semester (15 credits):

RIU 324 - Applied Doppler Ultrasound Physics (2 credits)

RIE 332 - Echocardiography II (3 credits)

RIE 333 - Echocardiography II Laboratory (1 credit)

RIE 361 - Echocardiography Clinical Education I (2 credits)

RIE 432 - Vascular Sonography I (2 credits)

RIE 433 - Vascular Sonography I Laboratory (1 credit)

RIT 441 - Gross Human Sectional Anatomy (4 credits)

Spring/Summer Semester (5 credits):

RIE 362 - Echocardiography Clinical Education II (3 credits)

RIE 363 - Pediatric Echo Clinical Education I (2 credits) **OR** RIE 366 - Vascular Sonography Clinical Education I (2 credits)

## **Year Four**

Fall Semester (16 credits):

RIU 420 - Applied Ultrasound Physics Instruction II (2 credits)

RIE 434 - Pediatric Echocardiography I (3 credits)

RIE 435 - Pediatric Echocardiography I Laboratory (1 credit)

RIE 436 - Vascular Sonography II (2 credits)

RIE 437 - Vascular Sonography II Laboratory (2 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

RIE 463 - Pediatric Echocardiography Clinical Education II (3 credits) **OR** RIE 466 - Vascular Sonography Clinical Education II (3 credits)

Issues course (3 credits)

Winter Semester (17 credits):

AHS 340 - Health Care Management (3 credits)

RIE 438 - Pediatric Echocardiography II (3 credits)

RIE 439 - Vascular Sonography III (2 credits)

RIE 440 - Vascular Sonography III Laboratory (1 credit)

RIE 457 - Cardiovascular Image Evaluation (2 credits)

RIE 464 - Pediatric Echocardiography Clinical Education III (3 credits) **OR** RIE 466 - Vascular Sonography Clinical Education II (3 credits)

RIE 495 - Advanced Clinical Problems in Echocardiography and Vascular Sonography (3 credits)

## Cell and Molecular Biology

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

**Website:** [gvsu.edu/cmb](http://gvsu.edu/cmb)

Cell and molecular biology (CMB) is for students with a passion for the life sciences who want to prepare for employment in their field or for graduate/professional training. This interdisciplinary subject draws on diverse fields such as biochemistry, biophysics, computational biology, genetics and developmental biology and is the basis for many applied fields including biotechnology, pharmacology, and biomedicine. CMB is focused on determining how cells develop and function and the significance of those functions in the living organism. The Bachelor of Science in cell and molecular biology at Grand Valley prepares students for employment or graduate training in the critically important and dynamic fields of cell and molecular biology, biotechnology, evolutionary development, and biomedical research. In addition, the B.S. in CMB provides excellent preparation for successful application to professional programs. The major requires core courses that address issues specific to cell and molecular biology, which are supplemented by courses from the biology, biomedical sciences, chemistry and physics departments. A unique and defining part of Grand Valley's CMB degree is the student's participation in independent research/internship. Each student will have a research mentor from CMB or another participating GVSU department or from an area business or

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

research institute, ensuring that students will get practical experience conducting original research in their area of interest. This practical experience, in addition to the rigorous curriculum, has been demonstrated to contribute to our graduates' success in the workforce as well as in graduate and professional programs.

Many upper-level classes in the CMB degree have several prerequisites, thus it is important for students to begin their chemistry, biology, and physics course sequences as early as possible. Students who wish to major in cell and molecular biology should see a member of the CMB faculty to plan their program of study as soon as possible.

## **Participating Programs**

Faculty members from the Annis Water Resources Institute, biology, biomedical science, and chemistry departments contribute to the CMB program.

Faculty members from the CMB program contribute to the Professional Science Master's program at GVSU.

# **Bachelor of Science in Cell and Molecular Biology**

## **Requirements**

### **1. Core Courses**

All students majoring in cell and molecular biology must complete the following core courses, for a total of 56 credits.

BIO 375 - Genetics (3 credits)

BIO 376 - Genetics Laboratory (1 credit)

CHM 115 - Principles of Chemistry I (4 credits)

CHM 116 - Principles of Chemistry II (5 credits)

CHM 241 - Organic Chemistry for Life Sciences I (5 credits)

CHM 242 - Organic Chemistry for Life Sciences II (4 credits)

CHM 461 - Biochemistry I (4 credits)

CHM 462 - Techniques in Biochemistry (3 credits)

CMB 155 - Introduction to Cell and Molecular Biology (3 credits) **OR** BIO 120 - General Biology I (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

CMB 156 - Discoveries in Cell and Molecular Biology: A Research-based Laboratory Course (1 credit)

CMB 250 - Introduction to Biotechnology (4 credits)

CMB 451 - Bioinformatics: Tools and Techniques for Life Scientists (3 credits)

CMB 405 - Cell and Molecular Biology (4 credits)

CMB 406 - Cell and Molecular Biology Laboratory (2 credits)

CMB 409 - Responsible Conduct of Research (1 credit)

CMB 426 - Research Applications in Nucleic Acids (4 credits)

CMB 495 - Perspectives in Cell and Molecular Biology (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

## **2. Major Course Requirements**

### **Math/Physics Sequences**

#### Option A

Requires 13 credits, including:

MTH 125 - Survey of Calculus (3 credits)

PHY 220 - General Physics I (5 credits)

PHY 221 - General Physics II (5 credits)

#### Option B

Requires 18 credits, including:

MTH 201 - Calculus I (4 credits)

MTH 202 - Calculus II (4 credits)

PHY 230 - Principles of Physics I (5 credits)

PHY 231 - Principles of Physics II (5 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Independent Research Experience**

A choice between an independent research experience at a private industry or research lab or at Grand Valley State University. Choose one of the options that follow.

### Option A

CMB 490 - Internship (1 to 6 credits)

### Option B

CMB 499 - Research in Cell and Molecular Biology (1 to 3 credits)

## **3. Electives**

With the required courses listed previously, most students will need additional credits to satisfy the 120-credit hour baccalaureate degree requirement. These additional credits will be comprised of electives. The elective credits are unrestricted; students may choose whatever elective courses they wish. For those students who desire more science in their CMB curriculum, the following is a list of suggested electives.

BIO 357 - Environmental Microbiology (4 credits)

BIO 403 - Plant Structure and Function (4 credits)

BIO 416 - Advanced Genetics Laboratory (2 credits)

BIO 422 - Embryology (3 credits)

BIO 423 - Plant Biotechnology (3 credits)

BIO 432 - Comparative Animal Physiology (4 credits)

BMS 208 - Human Anatomy (3 credits)

BMS 212 - Introductory Microbiology (3 credits)

BMS 213 - Laboratory in Microbiology (1 credit)

BMS 290 - Human Physiology (3 credits)

BMS 391 - Laboratory in Human Physiology (2 credits)

BMS 310 - Basic Pathophysiology (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

BMS 311 - Pharmacological Aspects of Biomedical Sciences (3 credits)

BMS 312 - Bacterial Genetics (3 credits)

BMS 313 - Bacterial Genetics Laboratory (1 credit)

BMS 410 - Immunology (3 credits)

BMS 422 - Bacterial Physiology (3 credits)

BMS 423 - Bacterial Physiology Laboratory (2 credits)

BMS 427 - Neuroanatomy (1 credit)

BMS 428 - Neurosciences (3 credits)

BMS 431 - Medical Virology (3 credits)

CHM 351 - Introduction to Physical Chemistry (3 credits)

CHM 463 - Biochemistry II (3 credits)

CMB 321 - Designing Our Future: Babies, Food, Medicine, and Biotechnology (3 credits)

CMB 411 - Genetics of Development and Cancer (3 credits)

CMB 414 - Molecular Biology of the Gene (3 credits)

CMB 440 - Research Applications in Drosophila Genomics (3 credits)

CMB 452 - Computer Modeling and Drug Design (3 credits)

CMB 499 - Research in Cell and Molecular Biology (1 to 3 credits)

PHY 320 - Optics (3 credits)

## **Suggested Order of Coursework**

### **Year One**

MTH/STA

Three general education classes

CHM 115 - Principles of Chemistry I (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

CHM 116 - Principles of Chemistry II (5 credits)

CMB 155 - Introduction to Cell and Molecular Biology (3 credits)

CMB 156 - Discoveries in Cell and Molecular Biology: A Research-based Laboratory Course  
(1 credit)

WRT 150 - Strategies in Writing (4 credits)

## **Year Two**

MTH/STA

Three general education classes

BIO 375 - Genetics (3 credits)

BIO 376 - Genetics Laboratory (1 credit)

CHM 241 - Organic Chemistry for Life Sciences I (5 credits)

CHM 242 - Organic Chemistry for Life Sciences II (4 credits)

CMB 250 - Introduction to Biotechnology (4 credits)

CMB 409 - Responsible Conduct of Research (1 credit)

## **Year Three**

CMB elective

General education course

CMB 405 - Cell and Molecular Biology (4 credits)

CMB 406 - Cell and Molecular Biology Laboratory (2 credits)

CMB 451 - Bioinformatics: Tools and Techniques for Life Scientists (3 credits)

CHM 461 - Biochemistry I (4 credits)

CHM 462 - Techniques in Biochemistry (3 credits)

PHY 220 - General Physics I (5 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

PHY 221 - General Physics II (5 credits)

## **Year Four**

Three CMB electives

Three general education courses

CMB 426 - Research Applications in Nucleic Acids (4 credits)

CMB 495 - Perspectives in Cell and Molecular Biology (3 credits)

CMB 499 - Research in Cell and Molecular Biology (1 to 3 credits) **OR** CMB 490 - Internship (1 to 6 credits)

## **Bioinformatics and Genomics Graduate Certificate**

Bioinformatics and genomics have become crucial components of life science research and industry (including biotechnology, medicine, and the pharmaceutical industry). Career options are already numerous and will become more plentiful in the future as part of the big data analytics field. Students trained in these novel techniques will be more competitive in their applications for jobs and graduate programs.

### **Admission**

A baccalaureate degree from an accredited institution of higher education is required, in addition to the following.

Undergraduate life science experience (e.g. biology, genetics, or biochemistry).

Submission of all required admission materials, including:

Completed graduate application for admission

Official copies of transcripts from all institutions of higher education previously attended (other than GVSU) Transcripts must be sent from those institutions directly to the GVSU Admissions Office

Resume

Personal statement of career goals and background experiences, including an explanation of how this program will help achieve educational and professional objectives.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

For applicants whose native language is not English: Test scores from the TOEFL (Test of English as a Foreign Language), or IELTS (International English Language Testing System), or MELAB (Michigan English Language Assessment Battery) or PTE Academic (Pearson Test of English Academic). The following minimum scores are expected: TOEFL is 80, IELTS is 6.5, MELAB is 77, and PTE Academic is 53. Alternatively, we will accept the successful completion of ELS 112 as demonstration of English language proficiency.

## **Requirements for the Certificate in Bioinformatics and Genomics**

The certificate in bioinformatics and genomics requires a minimum of 12 credits (nine credits in the core and at least three credits of electives).

### **Core Courses**

CMB 551 - Bioinformatics: Tools and Techniques for Life Scientists (3 credits)

CMB 552 - Computer Modeling and Drug Design (3 credits)

CMB 560 - Genomics and Molecular Diagnostics (3 credits)

### **Elective Courses**

Choose at least one:

BIO 585/CMB 585 - Molecular Ecology (3 credits)

CIS 611 - Introduction to Software Engineering (3 credits)

CIS 635 - Knowledge Discovery and Data Mining (3 credits)

CIS 673 - Principles of Database Design (3 credits)

CIS 677 - High-performance Computing (3 credits)

CIS 678 - Machine Learning (3 credits)

## **Bioinformatics and Genomics Undergraduate Certificate**

Bioinformatics and genomics have become crucial components of life science research and industry (including biotechnology, medicine, and the pharmaceutical industry). Career options are numerous and will become more plentiful in the future as part of the big data analytics field. Students trained in these novel techniques will be more competitive in their applications for jobs and graduate programs.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Requirements for the Certificate in Bioinformatics and Genomics**

The certificate in bioinformatics and genomics requires a minimum of 12 credits (nine credits in the core and at least three credits of electives).

### **Core Courses**

CMB 451 - Bioinformatics: Tools and Techniques for Life Scientists (3 credits)

CMB 452 - Computer Modeling and Drug Design (3 credits)

CMB 460 - Genomics and Molecular Diagnostics (3 credits)

### **Elective Courses**

Choose at least one:

CIS 160 - Learn to Code in Python (3 credits)

CIS 161 - Computational Science (3 credits)

CIS 162 - Computer Science I (4 credits)

CMB 440 - Research Applications in Drosophila Genomics (3 credits)

CMB 485 - Molecular Ecology (3 credits)

STA 312 - Probability and Statistics (3 credits)

STA 216 - Intermediate Applied Statistics (3 credits)

STA 318 - Statistical Computing (3 credits)

While these courses are all distinct in their scopes and objectives, they share a common theme of providing knowledge and hands-on experience with computer and mathematical models helping to solve diverse problems in biology or medicine. With permission, other courses may be applied toward the required elective for the certificate in bioinformatics and genomics.

### **Transfer Students**

A maximum of one course can be credited by transfer toward completion of the certificate in bioinformatics and genomics. Students must complete at least three of the courses for the certificate at GVSU.

## **Cell and Molecular Biology Minor**

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

The minor in cell and molecular biology is designed for students who wish to expand their skills and opportunities in life-science research, graduate or professional work. It consists of a minimum of 20 credits, 14 credits of required courses and at least six credits of electives.

## **Requirements for the Minor in CMB**

### **Required Courses**

Fourteen credits required.

CMB 156 - Discoveries in Cell and Molecular Biology: A Research-based Laboratory Course (1 credit)

CMB 250 - Introduction to Biotechnology (4 credits)

CMB 451 - Bioinformatics: Tools and Techniques for Life Scientists (3 credits)

CMB 405 - Cell and Molecular Biology (4 credits)

CMB 406 - Cell and Molecular Biology Laboratory (2 credits)

### **Electives**

Six credits required.

BIO 423 - Plant Biotechnology (3 credits)

CHM 461 - Biochemistry I (4 credits)

CHM 463 - Biochemistry II (3 credits)

CMB 409 - Responsible Conduct of Research (1 credit)

CMB 411 - Genetics of Development and Cancer (3 credits)

CMB 426 - Research Applications in Nucleic Acids (4 credits)

CMB 440 - Research Applications in Drosophila Genomics (3 credits)

CMB 452 - Computer Modeling and Drug Design (3 credits)

CMB 460 - Genomics and Molecular Diagnostics (3 credits)

CMB 485 - Molecular Ecology (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CMB 499 - Research in Cell and Molecular Biology (1 to 3 credits) A maximum of three credits of CMB 499 may count toward the minor.

## **Combined Bachelor of Science and Master of Science in Cell and Molecular Biology**

Qualified undergraduates may be admitted to an accelerated bachelor's/master's program and obtain both a B.S. and an M.S. in cell and molecular biology within an accelerated time frame. Students admitted to this program may take graduate courses after completing 90 undergraduate credits, and up to 12 credits of graduate work may be used in partial satisfaction of the requirements for the undergraduate degree (in alignment with university policy, a maximum of 12 credit hours of graduate work will count toward both the graduate and undergraduate degrees). If students earn at least a grade of B in each of these classes, they are granted advanced standing in the master's program and must then complete an additional 23 credits to receive the master's degree. All other master's degree requirements must be met, including an internship and the graduate Capstone. After completing 120 credits and all requirements for the bachelor's degree, students are awarded a bachelor's degree. A minimum of 23 graduate credits must be completed after the 120 credits for the bachelor's degree are completed (the M.S. program requires 35 hours).

Students with an overall GPA of at least 3.25 may apply to the combined bachelor's/master's program after

completion of the lower division core requirements: BIO 375, BIO 376; CHM 115, CHM 116, CHM 241, CHM 242; MTH 125; CMB 155 (or BIO 120); CMB 156; CMB 250;

75 hours of academic credit have been completed or are in progress; and

completion or registration for CMB 499 or CMB 490.

Note: While students may count BIO 120 for CMB 155, CMB 156 will be required for all CMB majors.

### **Admission**

Students typically apply directly to the Department of Cell and Molecular Biology for the combined B.S./M.S. program during their third academic year.

Application requirements include:

GPA of 3.25 or greater

Completion of the nine core courses listed previously with a grade of at least B in five of the nine courses and no less than a C+ in any of the nine courses

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Two letters of recommendation

Academic transcripts (unofficial transcripts are OK)

Letter of intent

Cover letter

All students who submit complete applications will be interviewed by two to three faculty members. Admission decisions will be made by a departmental admissions committee based on the student's previous academic success in CMB, as indicated by GPA and grades in the core CMB curriculum, as well as potential success in the graduate program, as indicated by the letters of recommendation, the student's letter of intent, and the interview. Decisions will normally be communicated to students within four weeks of submitting a complete application to the combined degree program in CMB.

## **Requirements**

### **During Undergraduate Studies (First Eight Semesters)**

All university requirements, including general education courses, must be completed before the final (graduate) year of the combined B.S./M.S. program. In the final undergraduate year, students will take 12 to 15 credits of graduate-level courses. If any courses are dual-listed, students in the accelerated B.S./M.S. program must complete all assignments expected of graduate students and they will be evaluated in the same way as graduate students.

Students will earn 12 graduate credits during their undergraduate program.

Students will be considered undergraduates for tuition, academic requirements, and financial aid purposes until all requirements for the undergraduate degree are completed. Following this, they will be considered graduate students, will pay graduate tuition, and will be eligible for graduate financial aid.

At least three credits of independent research (CMB 499) or internship (CMB 490), as well as the undergraduate Capstone course, will be required during the undergraduate part of the program.

### **During Graduate Studies**

After successful completion of the undergraduate program, students will be eligible to take the second year of the M.S. in CMB curriculum. At this point, students will be treated as graduate students for purposes of tuition and fees, financial aid, etc.

Students must complete an internship (or research). This could be completed during the summer immediately following the undergraduate program or during the graduate year.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## Graduation Without Completion of the Program

If a student decides at some point to pursue only the undergraduate portion of the combined degree, the Department of Cell and Molecular Biology will still recognize the graduate courses taken in lieu of undergraduate courses. Credit from the undergraduate degree cannot be used toward a graduate degree at a later date.

## Suggested Order of Coursework

### Year One

Fall Semester:

CMB 155 -  
Introduction to Cell  
and Molecular Biology  
(3 credits)

CMB 156 -  
Discoveries in Cell and  
Molecular Biology: A  
Research-based  
Laboratory Course (1  
credit)

CHM 115 - Principles  
of Chemistry I (4  
credits)

MTH 122 - College  
Algebra (3 credits)

General education  
elective (3 credits)

Total 15 credits

### Year Two

Fall Semester:

BIO 375 - Genetics (3  
credits)

BIO 376 - Genetics  
Laboratory (1 credit)

CMB 250 -  
Introduction to  
Biotechnology (4  
credits)

Winter Semester:

CHM 116 - Principles  
of Chemistry II (5  
credits)

MTH 123 -  
Trigonometry (3  
credits)

STA 215 - Introductory  
Applied Statistics (3  
credits)

General education  
elective (3 credits)

Total 14 credits

Winter Semester:

CMB elective (3  
credits)

PHY 220 - General  
Physics I (5 credits)

CHM 242 - Organic  
Chemistry for Life  
Sciences II (4 credits)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

CHM 241 - Organic  
Chemistry for Life  
Sciences I (5 credits)  
MTH 125 - Survey of  
Calculus (3 credits)  
Total 15 credits

**Year Three**

Fall Semester:

CHM 461 -  
Biochemistry I (4  
credits)  
PHY 221 - General  
Physics II (5 credits)

CMB 451 -  
Bioinformatics: Tools  
and Techniques for  
Life Scientists (3  
credits)

Two general education  
electives (6 credits)

Total 15 credits

**Year Four**

Fall Semester:

CMB 626 - Advanced  
Research Applications  
in Nucleic Acids (4  
credits)

CMB 610 -  
Foundations of  
Biotechnology (3  
credits)

CMB 501 - Scientific  
Communication for the  
Life Sciences and  
Professional Science  
Master's (3 credits)

Two general education  
electives (6 credits)

Total 15 credits

CMB 409 -  
Responsible Conduct  
of Research (1 credit)  
General education  
elective  
Total 16 credits

Winter Semester:

CHM 462 - Techniques  
in Biochemistry (3  
credits)

CMB 405 - Cell and  
Molecular Biology (4  
credits)

CMB 406 - Cell and  
Molecular Biology  
Laboratory (2 credits)

CMB 499 - Research  
in Cell and Molecular  
Biology (1 to 3 credits)

Total 15 credits

Winter Semester:

CMB 506 - Advanced  
Molecular Biology (3  
credits)

CMB 495 -  
Perspectives in Cell  
and Molecular Biology  
(3 credits)

CMB 552 - Computer  
Modeling and Drug  
Design (3 credits)

Two general education  
electives (6 credits)

Total 15 credits

## Year Four

Summer Semester:

PSM 691 - Internship  
(1 to 9 credits)

Total 4 credits

## Year Five

Fall Semester:

CMB 505 - Advanced  
Cell Biology (3  
credits)

CIS 661 - Introduction  
to Health and  
Bioinformatics (3  
credits)

PSM 650 - Ethics and  
Professionalism in  
Applied Science (3  
credits)

PSM 662 - Seminar in  
Professional Science  
Practice (2 credits)

Total 11 credits

Winter Semester:

CMB 620 - Cell  
Culture and  
Bioprocessing (3  
credits)

STA 622 - Statistical  
Methods for Biologists  
(3 credits)

Total 8 credits

**Total Credits: 143**

Note that all undergraduate general education requirements will be fulfilled.

Undergraduate credits that count toward B.S. 105 credits

Graduate credits that count toward B.S. 3 credits

Graduate credits that count toward B.S. and  
M.S. 12 credits

Graduate credits that count toward M.S. 23 credits

Undergraduate courses 105 credits

Graduate courses 38 credits

## Master of Science in Cell and Molecular Biology

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

The M.S. in cell and molecular biology requires a minimum of 35 credits for the research emphasis and 37 credits for the professional science master's, biotechnology emphasis. A minimum grade of B is required for all courses.

There are separate admissions committees for the research emphasis and the biotechnology emphasis degree programs. The research emphasis is a thesis-based master's degree. The biotechnology emphasis is one of the four internship-based professional science master's (PSM) programs at GVSU.

## **Admission**

A minimum grade point average of 3.0 on a 4.0 scale for all undergraduate coursework is required.

Satisfactory GRE score.

Extensive undergraduate life science experience.

Personal statement of career goals and background experiences, including an explanation of how this program will help achieve educational and professional objectives.

Written recommendations from at least two individuals who are in positions to attest to the applicant's successful completion of the program.

Telecommunications interview with program faculty.

## **Requirements for the M.S. in Cell and Molecular Biology**

### **Biotechnology Emphasis (PSM)**

#### **Core Cell and Molecular Biology Emphasis Courses**

Requires 22 credits, including:

CMB 501 - Scientific Communication for the Life Sciences and Professional Science Master's (3 credits)

CMB 505 - Advanced Cell Biology (3 credits)

CMB 506 - Advanced Molecular Biology (3 credits)

CMB 520 - Laboratory Techniques in Cell and Molecular Biology (3 credits)

CMB 610 - Foundations of Biotechnology (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CMB 620 - Cell Culture and Bioprocessing (3 credits)

CMB 626 - Advanced Research Applications in Nucleic Acids (4 credits)

### **Interdisciplinary Courses**

Shared with PSM degree programs. Requires six credits, including:

CIS 661 - Introduction to Health and Bioinformatics (3 credits)

STA 622 - Statistical Methods for Biologists (3 credits) **OR** STA 610 - Applied Statistics for Health Professions (3 credits)

### **Core PSM Courses**

Requires five credits, including:

PSM 650 - Ethics and Professionalism in Applied Science (3 credits)

PSM 662 - Seminar in Professional Science Practice (2 credits)

### **PSM Internship**

Requires four credits, including:

PSM 691 - Internship (1 to 9 credits) No more than four credits can be applied toward degree completion.

### **Research Emphasis**

#### **Core Cell and Molecular Biology Courses**

Requires 12 credits, including:

CMB 501 - Scientific Communication for the Life Sciences and Professional Science Master's (3 credits)

CMB 505 - Advanced Cell Biology (3 credits)

CMB 506 - Advanced Molecular Biology (3 credits)

CMB 520 - Laboratory Techniques in Cell and Molecular Biology (3 credits)

#### **Research and Thesis Courses**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Requires six to nine credits.

CMB 695 - Thesis Research (1 to 9 credits)

### **Biostatistics Course**

STA 622 - Statistical Methods for Biologists (3 credits)

### **Electives**

BIO 580 - Special Topics in Biology (1 to 4 credits)

BIO 585/CMB 585 - Molecular Ecology (3 credits)

BIO 680 - Special Topics in Biology (1 to 3 credits)

BMS 680 - Special Topics in the Biomedical Sciences (1 to 3 credits)

CMB 551 - Bioinformatics: Tools and Techniques for Life Scientists (3 credits)

CMB 552 - Computer Modeling and Drug Design (3 credits)

CMB 560 - Genomics and Molecular Diagnostics (3 credits)

CMB 580 - Special Topics in Cell and Molecular Biology (1 to 4 credits)

CMB 620 - Cell Culture and Bioprocessing (3 credits) Elective for research emphasis.

CMB 626 - Advanced Research Applications in Nucleic Acids (4 credits) Elective for research emphasis.

CMB 680 - Special Topics in Cell and Molecular Biology (1 to 4 credits)

CMB 699 - Grad Research in Cell and Molecular Biology (1 to 6 credits)

STA 616 - Statistical Programming (3 credits)

## **Chemistry**

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

**Website:** [gvsu.edu/chem](http://gvsu.edu/chem)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Chemistry is a fascinating and diverse field that affects almost every area of our lives. The clothes we wear, the medicines we take, the food we eat, the fuel we burn, and the environmental impact of living in a modern society are all affected by discoveries made through the study of chemistry.

The chemistry major is excellent preparation for any student interested in the molecular and environmental sciences. This program offers a well-rounded education in chemistry and provides a strong background for employment at the bachelor level or entry into chemistry graduate school. By selecting the appropriate electives within the chemistry major, students can earn a degree certified by the American Chemical Society.

Students interested in teaching high school chemistry may choose the chemistry major with an education emphasis. This emphasis includes courses in teaching methods and other science courses required for teacher certification. To be certified, students will also be required to complete a teachable minor and the education major from the College of Education and Community Innovation.

The Department of Chemistry also offers a B.S. in biochemistry. Students interested in attending biochemistry graduate school or in obtaining employment in biochemical or biomedical laboratories may choose the biochemistry major. This major is also appropriate for students interested in attending professional health schools, such as medical, dental, pharmacy, or veterinary schools.

For any degree program in chemistry or biochemistry, it is important to start the proper sequence of chemistry courses as soon as possible. Students who wish to major in chemistry should meet with their Chemistry Department faculty advisors as soon as possible to plan programs that match their academic interests and career goals.

The Chemistry Department also offers a green chemistry certificate. This option can be added to any major or minor. It shows that students have taken a series of classes where they learn the principles of green chemistry and the production of chemicals and design of chemical processes in a manner that is environmentally sustainable.

The Chemistry Department also offers a chemistry minor. Students from other departments can add a chemistry minor to enhance their knowledge of chemistry and laboratory experience.

### **Accreditation**

The Chemistry Department is approved by the Committee on Professional Training of the American Chemical Society and offers ACS certified degrees in chemistry and biochemistry to qualified graduates.

### **Degrees Offered**

Bachelor of Science in chemistry, Bachelor of Science in biochemistry, Bachelor of Science in chemistry with an education emphasis (secondary education certified major). Green chemistry

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

certificate. Minor in chemistry (secondary education certified major). Master of Education (general education, middle and high school emphasis, with a concentration in science) offered in cooperation with the College of Education and Community Innovation.

## **Participating Programs**

The College of Education and Community Innovation offers a M.Ed. in general education with a concentration in science. This program is called target inquiry. Contact the chemistry office for more information.

The dual geology-chemistry major is offered by the Geology Department in cooperation with the Chemistry Department. For details, see the program description.

## **Bachelor of Science in Chemistry**

A summary of all degree requirements, as well as other departmental information, is available in the Chemistry Department Handbook. All chemistry majors should obtain a copy from the department office.

A degree in chemistry will require chemistry and cognate courses that add up to 69 credits.

### **Requirements for a Major in Chemistry (B.S.)**

#### **1. Degree Requirements**

Students are required to complete the general university degree requirements as identified in the General Academic Policies section of the Grand Valley State University Undergraduate and Graduate Catalog.

#### **2. Chemistry Courses**

CHM 115 - Principles of Chemistry I (4 credits)

CHM 116 - Principles of Chemistry II (5 credits)

CHM 221 - Survey of Analytical Chemistry (4 credits)

CHM 245 - Principles of Organic Chemistry I (4 credits)

CHM 246 - Principles of Organic Chemistry I Lab (1 credit)

CHM 247 - Principles of Organic Chemistry II (3 credits)

CHM 248 - Principles of Organic Chemistry II Lab (1 credit)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CHM 273 - Principles of Inorganic Chemistry (3 credits)

CHM 325 - Instrumental Analysis (4 credits)

CHM 352 - Physical Chemistry Laboratory (1 credit)

CHM 356 - Physical Chemistry I (3 credits)

CHM 358 - Physical Chemistry II (3 credits)

CHM 391 - Chemistry Seminar I (1 credit)

CHM 461 - Biochemistry I (4 credits)

CHM 491 - Chemistry Seminar II (1 credit)

### **3. Elective Courses**

Take any three.

CHM 421 - Green Chemistry for Sustainable Environment (3 credits)

CHM 427 - Green and Environmental Chemistry Laboratory (3 credits)

CHM 441 - Advanced Topics in Organic Chemistry (3 credits)

CHM 442 - Synthetic Polymers: Life Cycle and Emerging Sustainable Technologies (3 credits)

CHM 447 - Organic Synthesis and Characterization (3 credits)

CHM 457 - Advanced Physical and Instrumental Chemistry Laboratory (3 credits)

CHM 462 - Techniques in Biochemistry (3 credits)

CHM 463 - Biochemistry II (3 credits)

CHM 471 - Advanced Inorganic Chemistry (3 credits)

CHM 475 - Electrochemistry (3 credits)

CHM 477 - Synthetic Inorganic Chemistry (3 credits)

### **4. Cognate Courses**

MTH 201 - Calculus I (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MTH 202 - Calculus II (4 credits)

PHY 230 - Principles of Physics I (5 credits)

PHY 231 - Principles of Physics II (5 credits)

### **Additional Information**

Students in the chemistry major who transfer or change majors may make these substitutions with advisor approval:

CHM 241 may replace CHM 245/CHM 246

CHM 242 may replace CHM 247/CHM 248

CHM 351 may replace CHM 358

PHY 220 may replace PHY 230

PHY 221 may replace PHY 231

Students in the chemistry major seeking a degree certified by the American Chemical Society (ACS) must also complete

at least 148 lab hours in additional elective CHM courses above the 200-level, which could include CHM 490 **OR** CHM 499, and

CHM 462 **OR** CHM 477 as one of their upper-level electives.

### **Suggested Order of Coursework**

This option for a major (B.S.) in chemistry assumes students will complete the required skills and general education courses and select electives with the help of their advisor.

#### **Year One**

CHM 115 - Principles of Chemistry I (4 credits)

CHM 116 - Principles of Chemistry II (5 credits)

MTH 201 - Calculus I (4 credits)

MTH 202 - Calculus II (4 credits)

PHY 230 - Principles of Physics I (5 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Year Two**

- CHM 221 - Survey of Analytical Chemistry (4 credits)
- CHM 245 - Principles of Organic Chemistry I (4 credits)
- CHM 246 - Principles of Organic Chemistry I Lab (1 credit)
- CHM 247 - Principles of Organic Chemistry II (3 credits)
- CHM 248 - Principles of Organic Chemistry II Lab (1 credit)
- CHM 273 - Principles of Inorganic Chemistry (3 credits)
- PHY 231 - Principles of Physics II (5 credits)

## **Year Three**

- CHM electives
- CHM 325 - Instrumental Analysis (4 credits)
- CHM 352 - Physical Chemistry Laboratory (1 credit)
- CHM 356 - Physical Chemistry I (3 credits)
- CHM 358 - Physical Chemistry II (3 credits)
- CHM 391 - Chemistry Seminar I (1 credit)

## **Year Four**

- CHM electives
- CHM 461 - Biochemistry I (4 credits)
- CHM 491 - Chemistry Seminar II (1 credit) Capstone course

## **Requirements for a Major in Chemistry (B.S.) - Education Emphasis**

The education emphasis is designed specifically for students who plan to teach chemistry at the secondary level.

The B.S. degree in chemistry with an education emphasis will require chemistry and cognate courses that add up to 79 credits.

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

## **1. Degree Requirements**

Students are required to complete the general university degree requirements as identified in the General Academic Policies section of the Grand Valley State University Undergraduate and Graduate Catalog.

## **2. Chemistry Courses**

CHM 115 - Principles of Chemistry I (4 credits)

CHM 116 - Principles of Chemistry II (5 credits)

CHM 221 - Survey of Analytical Chemistry (4 credits)

CHM 245 - Principles of Organic Chemistry I (4 credits)

CHM 246 - Principles of Organic Chemistry I Lab (1 credit)

CHM 247 - Principles of Organic Chemistry II (3 credits)

CHM 248 - Principles of Organic Chemistry II Lab (1 credit)

CHM 273 - Principles of Inorganic Chemistry (3 credits)

CHM 351 - Introduction to Physical Chemistry (3 credits)

CHM 352 - Physical Chemistry Laboratory (1 credit)

CHM 391 - Chemistry Seminar I (1 credit)

CHM 461 - Biochemistry I (4 credits)

CHM 491 - Chemistry Seminar II (1 credit)

## **3. Science Cognate Courses**

BIO 120 - General Biology I (4 credits)

BIO 121 - General Biology II (4 credits)

GEO 111 - Exploring the Earth (4 credits)

MTH 201 - Calculus I (4 credits)

PHY 220 - General Physics I (5 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

PHY 221 - General Physics II (5 credits)

#### **4. Psychology and Education Courses**

EDF 315 - Diverse Perspectives on Education (3 credits)

EDI 338 - Teachers as Decision Makers: Instruction and Assessment in Elementary Schools (3 credits)

EDS 379 - Universal Design for Learning: Secondary (3 credits)

PSY 101 - Introductory Psychology (3 credits)

PSY 301 - Child Development (3 credits)

SCI 440 - Physics and Chemistry in Secondary Education (3 credits)

#### **Additional Information**

Students in the education emphasis who transfer or change majors may make these substitutions with advisor approval:

CHM 241 may replace CHM 245/ CHM 246

CHM 242 may replace CHM 247/ CHM 248

Students in the education emphasis seeking a degree certified by the American Chemical Society must also

complete at least 190 lab hours in additional elective CHM courses above the 200-level.  
CHM 490 and CHM 499 lab hours may be used to satisfy this requirement and

eight additional credits of CHM courses above the 200-level, which must include either CHM 462 or CHM 477.

#### **Suggested Order of Coursework**

This option for a major in chemistry (B.S.) with an education emphasis assumes students will complete the required skills and general education courses and select electives with the help of their advisors.

#### **Year One**

BIO 120 - General Biology I (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CHM 115 - Principles of Chemistry I (4 credits)

CHM 116 - Principles of Chemistry II (5 credits)

MTH 201 - Calculus I (4 credits)

PHY 220 - General Physics I (5 credits)

PSY 101 - Introductory Psychology (3 credits)

## **Year Two**

BIO 121 - General Biology II (4 credits)

CHM 221 - Survey of Analytical Chemistry (4 credits)

CHM 245 - Principles of Organic Chemistry I (4 credits)

CHM 246 - Principles of Organic Chemistry I Lab (1 credit)

CHM 247 - Principles of Organic Chemistry II (3 credits)

CHM 248 - Principles of Organic Chemistry II Lab (1 credit)

CHM 273 - Principles of Inorganic Chemistry (3 credits)

PHY 221 - General Physics II (5 credits)

## **Year Three**

CHM 351 - Introduction to Physical Chemistry (3 credits)

CHM 352 - Physical Chemistry Laboratory (1 credit)

CHM 391 - Chemistry Seminar I (1 credit)

EDS 379 - Universal Design for Learning: Secondary (3 credits)

GEO 111 - Exploring the Earth (4 credits)

PSY 301 - Child Development (3 credits)

## **Year Four**

CHM 461 - Biochemistry I (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CHM 491 - Chemistry Seminar II (1 credit)

EDF 315 - Diverse Perspectives on Education (3 credits)

EDI 338 - Teachers as Decision Makers: Instruction and Assessment in Elementary Schools (3 credits)

SCI 440 - Physics and Chemistry in Secondary Education (3 credits)

## Chemistry Minor

### Requirements for a Minor in Chemistry

#### 1. Minimum Requirements

A minor in chemistry requires the following courses:

CHM 115 - Principles of Chemistry I (4 credits)

CHM 116 - Principles of Chemistry II (5 credits)

CHM 221 - Survey of Analytical Chemistry (4 credits)

CHM 241 - Organic Chemistry for Life Sciences I (5 credits) **OR BOTH** CHM 245 - Principles of Organic Chemistry I (4 credits) **AND** CHM 246 - Principles of Organic Chemistry I Lab (1 credit)

CHM 242 - Organic Chemistry for Life Sciences II (4 credits) **OR BOTH** CHM 247 - Principles of Organic Chemistry II (3 credits) **AND** CHM 248 - Principles of Organic Chemistry II Lab (1 credit)

**PLUS** one elective course from the following:

CHM 232 - Biological Chemistry (4 credits)

CHM 273 - Principles of Inorganic Chemistry (3 credits)

CHM 351 - Introduction to Physical Chemistry (3 credits)

CHM 421 - Green Chemistry for Sustainable Environment (3 credits)

CHM 442 - Synthetic Polymers: Life Cycle and Emerging Sustainable Technologies (3 credits)

CHM 461 - Biochemistry I (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

SCI 440 - Physics and Chemistry in Secondary Education (3 credits) for teacher certification only

## 2. GPA Requirement

A minimum GPA (grade point average) of 2.0 across all courses applied to the minor is required.

## 3. Teacher Certification

A chemistry minor for teacher certification also requires the following:

SCI 440 - Physics and Chemistry in Secondary Education (3 credits) as the elective course listed previously.

A minimum GPA (grade point average) of 2.7 across all courses applied to the minor.

# Green Chemistry Undergraduate Certificate

A certificate in green chemistry will be a strong curricular addition to the degrees offered at GVSU. This 13 to 14 credit hour certificate in green chemistry provides students at Grand Valley State University with a foundational knowledge of green, benign chemistry and its principles. This certificate can be completed in one calendar year, if all prerequisites were completed previously.

A certificate in green chemistry is neither a major nor a minor; it can/should be used as a focus investigation area of chemistry, environmental sciences, engineering, environmental studies, or sustainability.

## Requirements for a Certificate in Green Chemistry

Students must earn a bachelor's degree to earn this certificate. Students who seek a certificate in green chemistry are required to complete 12 to 13 credits from the courses as follows:

CHM 421 - Green Chemistry for Sustainable Environment (3 credits)

CHM 442 - Synthetic Polymers: Life Cycle and Emerging Sustainable Technologies (3 credits)

CHM 399 - Readings in Chemistry (1 to 2 credits)\* **OR** CHM 490 - Chemistry Laboratory Internship (1 to 4 credits)\* **OR** CHM 499 - Investigation Problems (1 to 5 credits)\*

**AND** one of the following courses:

CHM 427 - Green and Environmental Chemistry Laboratory (3 credits)

ECO 345 - Environmental and Resource Economics (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

GEO 445 - Introduction to Geochemistry (3 credits)

GPY 412 - Global Climate and Environmental Change (3 credits)

NRM 330 - Environmental Pollution (3 credits)

NRM 451 - Natural Resource Policy (3 credits)

\*CHM 399 - Readings in Chemistry, CHM 490 - Chemistry Laboratory Internship, and CHM 499 - Investigation Problems are variable credit independent study courses. Any combination of independent projects approved by the advisor adding up to three credits satisfies this requirement.

## Classics

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

**Website:** [gvsu.edu/classics](http://gvsu.edu/classics)

Classics is the interdisciplinary study of ancient Greece and Rome, which stand among the world's most exciting civilizations. The program in classics spans the many different aspects of the Greek and Roman world -- mythology, art and archaeology, history, languages and literatures, religious and philosophical traditions, and social and legal forms. Classics students also explore connections between the world of ancient Greece and Rome and the cultures of other places and other times. Examples of this process can be seen all around us and range from the paintings of Botticelli and Raphael in the Italian renaissance, to the works of Luis Alfaro and the West African playwrights Efu Sutherland and Wole Soyinka, to the ideas behind the American Constitution.

Classics faculty work closely with students to encourage success in all walks of life. The department is large enough to offer a complete preparation for students seeking a wide range of postgraduate and career opportunities, yet it remains small enough to allow our faculty and staff to get to know all of our students individually and to work with them one-on-one. This student-centered, community approach fosters collaboration and mutual respect and promotes cooperation, discussion, and intellectual interaction.

Courses and programs in classics are designed to meet the needs of a variety of students. Today's challenges call for leaders and managers who take words and ideas seriously, who are capable of looking outside of their own cultural and historical assumptions and approaching problems from every angle, and whose choices are informed by long-term perspectives and a concern for the judgment of posterity. Classics has long been recognized as among the most engaging academic programs and an excellent preparation for a wide range of professions and careers.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Classical Civilization (CLA)**

All of the courses offered in classics share an emphasis on encountering the classical world through primary sources, both material and textual. Complementing this emphasis is the study of the living tradition that has shaped -- and continues to shape -- the many diverse ways in which we construct our world today.

Classical civilization courses offer students opportunities to acquire and refine analytical and communications skills that make them better able to approach any problem creatively and successfully. Classics students distinguish themselves as scholars, work on archaeological excavations, organize and participate in cultural events, demonstrate leadership and committed citizenship, and travel and study abroad. The study habits and work ethic they develop are those needed for success in demanding graduate and professional programs and in real-world careers.

The department offers elementary, intermediate, and advanced instruction in classical civilization (courses marked CLA through the 400-level). Many satisfy general education Foundations or Issues requirements.

## **Ancient Greek (GRK) and Latin (LAT)**

Access to the languages in which the seminal works of the ancient world were composed provides students with a special perspective on ancient culture and gives them a unique insight into the foundations of poetry, drama, history, philosophy, religion, law, and the sciences. Training in the classical languages involves a serious engagement that is an excellent training for a variety of careers.

### **Ancient Greek**

Greek is the language of Homer and Sappho, of Aeschylus and Aristophanes, of Herodotus and Thucydides, of Plato and Aristotle, and (in its *koinê* or "common" form) of the Christian New Testament.

The department offers elementary, intermediate, and advanced instruction (courses marked GRK through the 400-level) in ancient Greek. Note, however, that the department does not offer instruction in modern Greek.

Ancient Greek is especially important for students of literature and philosophy and for those who are preparing for seminary or who wish to examine the origins and context of early Christianity.

### **Latin**

Latin was the language of ancient Rome. Even after the Roman Empire collapsed, Latin continued as the language of literature, science, philosophy, medicine, law, and religion for more than a thousand years: John Milton, Isaac Newton, Baruch Spinoza, and Thomas Aquinas all wrote in the same language as Cicero, Virgil, Caesar, and Plautus.

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

The department offers elementary, intermediate, and advanced instruction (courses marked LAT through the 400-level) in Latin, including Latin composition.

Latin will benefit students of literature and history, prelaw and premedical students, students of modern Romance languages, and those who are interested in the culture of medieval and renaissance Europe.

## **B.A. Degree Requirements in Language Study**

In addition to general education requirements, the B.A. (Bachelor of Arts) degree requires a third-semester proficiency in a foreign language. Completion or placement out of GRK 201 or LAT 201 fulfills this requirement.

## **General Education Requirements**

GRK 202 and LAT 202 fulfill the Global Perspectives requirement of the General Education Program. Many classical civilization (CLA) courses satisfy general education Foundations, SWS, and Issues requirements.

## **Placement in Language Courses**

Students who have studied Latin in high school should take a placement evaluation prior to enrolling in Latin courses. Transfer students with prior college study in Latin or ancient Greek should also seek advice from the department about the appropriate level at which to enroll. Please contact the Classics Department for the proper placement.

## **Study Abroad**

Students are encouraged to seek study abroad experience in a program emphasizing the civilizations of the classical world, such as those offered by the Intercollegiate Center for Classical Studies in Rome and the College Year in Athens. Summer internships at archaeological excavations of classical sites are also available. For more information about opportunities to study classics abroad, students should contact the Classics Department and the Padnos International Center.

## **Participating Programs**

Classics faculty regularly staff courses in the Frederik Meijer Honors College.

The Classics Department also cooperates with the Departments of Anthropology and History in offering the interdepartmental archaeology minor (ARC).

Through the Classics Department, Grand Valley holds institutional memberships in The Society for Classical Studies, The Classical Association of the Middle West and South, The American School of Classical Studies at Athens, The American Academy in Rome, and The Intercollegiate Center for Classical Studies in Rome.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

# **Bachelor of Arts in Classics**

## **Requirements for a Major in Classics**

Students majoring in classics are required to complete at least 30 credits. They must satisfy the cultural core and language core requirements and select one of three emphases: classical languages, classical studies, or Latin secondary education.

### **Core Requirements**

There are six to nine credits required. Six credits in cultural core and zero to three credits in language core are required beyond fulfillment of the Bachelor of Arts degree requirement.

### **Cultural Core Requirement (including Capstone)**

Students majoring in classics complete six credits of instruction in a sequence of courses intended to introduce them to the interdisciplinary dimension of classics and to provide detailed instruction in selected methods of inquiry and particular aspects of Greco-Roman civilization.

All classics majors take:

CLA 195 - Introduction to Ancient Greece and Rome (1 credit) ordinarily by the end of their sophomore year.

CLA 395 - Research Methods in Classics (2 credits) by the end of their junior year.

CLA 495 - Notions of the Classics (Capstone) (3 credits) during their senior year.

### **Language Core Requirement**

Students majoring in classics complete intermediate language study in either ancient Greek or Latin, typically by taking GRK 202 - Intermediate Ancient Greek II (3 credits) **OR** LAT 202 - Intermediate Latin II (3 credits). Those commencing language study typically fulfill the Bachelor of Arts degree requirement through three semesters of study in GRK/ LAT 101, LAT 102, LAT 201 (12 credits). Others may satisfy the requirements through language placement administered by the Department of Classics; they must complete the 30-credit minimum through additional coursework in the major.

### **Emphases**

#### **Classical Languages Emphasis**

A minimum of 21 credits are required beyond completion of the core requirements.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

The classical languages emphasis offers a course of undergraduate study in classics that stresses the languages and literature of the classical world. Students electing the classical languages emphasis ordinarily study one language (either ancient Greek or Latin) to an advanced level and the other language to at least the intermediate level.

Requirements in addition to core requirements:

At least 18 credits of instruction in ancient Greek (GRK) and Latin (LAT), including at least six credits in one language at the 300-level or above.

At least three credits of instruction in any course in Classics (CLA), in HNR 222 - The Worlds of Greece and Rome 4 (3 credits), or in an approved substitute.

### **Classical Studies Emphasis**

A minimum of 21 credits are required beyond completion of core requirements.

The classical studies emphasis offers a course of undergraduate study in classics that investigates Greco-Roman civilization from a range of perspectives and subject areas. Students electing the classical studies emphasis select courses at an advanced level across the program curriculum.

Requirements in addition to core requirements:

At least 15 credits of instruction at the 300-level or above in at least two of the following areas.

Archaeology:

CLA 350 - Issues in Classical Archaeology (3 credits)

Cultural studies:

CLA 301 - Re-imagining the Classics (3 credits)

CLA 302 - The Stages of Greek and Roman Drama (3 credits)

CLA 311/PHI 311 - Origins of Western Thought: Ancient Philosophy (3 credits)

CLA 315 - Ancient Religion (3 credits)

CLA 325/WGS 325 - Body, Gender, Sexuality in Antiquity (3 credits)

CLA 365 - Stoicism, Identity and the Happy Life (3 credits)

CLA 367 - Thinking Like a (Roman) Lawyer (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Ancient Greek (GRK) or Latin (LAT) at the 300-level or above.

At least six credits of instruction in any courses in classics (CLA), in HNR 221 - The Worlds of Greece and Rome 3 (3 credits) and HNR 222 - The Worlds of Greece and Rome 4 (3 credits), or in an approved substitute.

### **Latin Secondary Education Emphasis**

A minimum of 21 credits are required beyond completion of core requirements.

The Latin secondary education emphasis offers prospective Latin teachers preparation in Latin comprehension and instruction and in classical civilization at a level consistent with state and national norms. These students work within both the Department of Classics and the College of Education and Community Innovation. While the College of Education and Community Innovation is ultimately responsible for overseeing the certification process for students, the Department of Classics is responsible for overseeing the major and for recommending qualified students for admission to the College of Education and Community Innovation.

Students with a baccalaureate degree and a major in classics from another institution can be certified to teach by earning at least three credits of instruction in Latin in the classics department and completing the professional education requirements of the College of Education and Community Innovation. The required courses in Latin must be approved by the department chair or designee.

Requirements in addition to core requirements:

At least 18 credits of instruction in Latin (LAT) at the 300-level or above, three of which must be LAT 353 - Latin Prose Composition (3 credits).

At least three credits of instruction in any course in Classics (CLA), in HNR 222 - The Worlds of Greece and Rome 4 (3 credits), or in an approved substitute.

### **Suggested Order of Coursework**

The major (B.A. in classics) is designed to be flexible. Declaring classics as a double major or a minor is an effective way of enhancing one's transcript and drawing the attention of employers and postgraduate programs.

To ensure timely progress toward graduation, commencing study in either ancient Greek or Latin at an early stage is key. Prospective majors are encouraged to contact the Department of Classics in order to receive individualized advising. The following is merely a suggestion. Consult your advisor about completing required basics skills and general education requirements.

### **Year One**

GRK 101 - Elementary Ancient Greek I (4 credits) **OR** LAT 101 - Elementary Latin I (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CLA 101 - Greek and Roman Mythology (3 credits) A general education Philosophy and Literature Foundations

Honors students

HNR 211 - The Worlds of Greece and Rome 1 (3 credits)/ HNR 212 - The Worlds of Greece and Rome 2 (3 credits) An alternative general education curriculum

WRT 150 - Strategies in Writing (4 credits), if required

CLA 195 - Introduction to Ancient Greece and Rome (1 credit)

GRK 102 - Elementary Ancient Greek II (4 credits) **OR** LAT 102 - Elementary Latin II (4 credits)

CLA 121 - Greek Civilization (3 credits) **OR** CLA 131 - Roman Civilization (3 credits) A general education Historical Perspectives Foundations

Honors students

HNR 221 - The Worlds of Greece and Rome 3 (3 credits)/ HNR 222 - The Worlds of Greece and Rome 4 (3 credits) An alternative general education curriculum; prerequisite for CLA 350.

## **Year Two**

Continue second year of language study: GRK 201 - Intermediate Ancient Greek I (4 credits) and GRK 202 - Intermediate Ancient Greek II (3 credits)

**OR** LAT 201 - Intermediate Latin I (4 credits) and LAT 202 - Intermediate Latin II (3 credits)

Fulfills B.A. degree requirement and general education Global Perspectives requirements; Fulfills language core requirement.

Classical languages emphasis: Commence first year of study in the second classical language.

CLA 201 - Classical Literature (3 credits) A general education Philosophy and Literature Foundations; Supplemental Writing Skills.

CLA 250 - Classical Art and Archaeology (3 credits) A general education Arts Foundations; prerequisite for CLA 350.

## **Year Three**

Classics majors are strongly encouraged to consider spending a semester or academic year in a study abroad program.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CLA 395 - Research Methods in Classics (2 credits)

Honors students

Many CLA 300+ courses are cross-listed as honors junior seminars.

Classical languages emphasis: Continue third year of language study (GRK 300+ or LAT 300+); continue second year of study in the second classical language.

Classical studies emphasis: Select elective courses (CLA 300+; three credits; many fulfill general education Issues and other requirements).

## **Year Four**

Classics majors are strongly encouraged to explore opportunities for undergraduate research projects.

CLA 495 - Notions of the Classics (Capstone) (3 credits)

Classical languages emphasis, or majors contemplating postgraduate study in Classics: Continue language study (GRK 300+/400+ or LAT 300+/400+ three credits).

Classical studies emphasis: Select elective courses (CLA 300+; three credits many fulfill general education Issues and other requirements).

Honors student

Senior project

## **Classics Minor**

A minimum of 21 credits are required.

The classics minor is designed to be flexible and to serve students with an interest in the classical world whose plans do not allow them to complete the major. At the same time, work done toward the minor is completely and seamlessly transferable toward the major, should an opportunity arise to do so.

### **Requirements for a Minor in Classics**

All classics minors take:

CLA 195 - Introduction to Ancient Greece and Rome (1 credit)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CLA 395 - Research Methods in Classics (2 credits)

At least six credits of instruction in either ancient Greek or Latin at 200-level or above.

At least nine credits of instruction at the 300-level or above in at least two of the following areas.

Archaeology:

CLA 350 - Issues in Classical Archaeology (3 credits)

Cultural studies:

CLA 301 - Re-imagining the Classics (3 credits)

CLA 302 - The Stages of Greek and Roman Drama (3 credits)

CLA 311/PHI 311 - Origins of Western Thought: Ancient Philosophy (3 credits)

CLA 315 - Ancient Religion (3 credits)

CLA 325/WGS 325 - Body, Gender, Sexuality in Antiquity (3 credits)

CLA 365 - Stoicism, Identity and the Happy Life (3 credits)

CLA 367 - Thinking Like a (Roman) Lawyer (3 credits)

Ancient Greek (GRK) or Latin (LAT) at the 300-level or above.

At least three credits of instruction in any course in classics (CLA), in HNR 222 - The Worlds of Greece and Rome 4 (3 credits), or in an approved substitute.

## Clinical Dietetics

The clinical dietetics program is part of Grand Valley's Allied Health Sciences department (AHS) and College of Health Professions (CHP).

**Website:** [gvsu.edu/grad/clinicaldiet](http://gvsu.edu/grad/clinicaldiet)

**Degree Offered:** Master of Science in clinical dietetics

Clinical dietetics is a systematic approach to treating medical conditions, complex disease processes and their associated symptoms through medical nutrition therapy (MNT). The

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

registered dietitian nutritionist (RDN) uses and applies advanced nutrition knowledge, MNT, and the nutrition care process to promote health and prevent disease.

### **Program Mission Statement**

To develop high-potential students into exceptional masters' prepared, entry-level registered dietitians/RDNs who positively impact the health of their clients, profession, and communities.

The program's supervised practice sites are diverse, providing access to different health systems, and a wide demographic of patients. These practice sites are available locally and regionally. In addition to the supervised practice sites, clinical applications will be taught in technologically superior simulation laboratories. The M.S. in clinical dietetics will use problem-based learning, meaningful and sustainable group projects, and multiple opportunities to demonstrate critical thinking as they emerge as highly trained and sought after entry level registered dietitians/nutritionists. The program is 52-55 credits.

Track A is accredited by the Accreditation Council for Education in Nutrition and Dietetics of the Academy of Nutrition and Dietetics (ACEND®) 120 South Riverside Plaza, Suite 2190 Chicago, IL 60606-6995. Phone: (312) 899-0040 ext. 5400. Fax: (312) 899-4817. Email: ACEND@eatright.org. eatright.org/ACEND

### **Admission Requirements**

Minimum overall undergraduate grade point average of 3.0 on a 4.0 scale.

B- or better in undergraduate courses listed: biochemistry, pathophysiology, pharmacology, and advanced nutrition or medical nutrition therapy (MNT).

Personal statement of career goals and background experiences.

Written recommendations from at least two individuals who are in positions to attest to the applicant's ability to successfully complete the program.

Personal interview with the Admissions Committee.

**Program Prerequisites\*** Course marked \* require B- (2.7) grade or better. Recommend C or better in remaining prerequisites.

BIO 120 - General Biology I (4 credits)

BMS 105 - Basic Nutrition (3 credits)

BMS 212 - Introductory Microbiology (3 credits) **AND** BMS 213 - Laboratory in Microbiology (1 credit)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

BMS 250 - Anatomy and Physiology I (4 credits)

BMS 251 - Anatomy and Physiology II (4 credits)

BMS 304 - Community Nutrition (3 credits)

BMS 305 - Clinical Nutrition (3 credits)\* **OR** BMS 306 - Advanced Human Nutrition (3 credits)\* **OR** AFN 400 - Applied Medical Nutrition Therapy (3 credits)

BMS 407 - Nutrition in the Life Cycle (3 credits)

CHM 109 - Introductory Chemistry (4 credits) **OR BOTH** CHM 115 - Principles of Chemistry I (4 credits) **AND** CHM 116 - Principles of Chemistry II (5 credits)

CHM 231 - Introductory Organic Chemistry (4 credits) **OR BOTH** CHM 241 - Organic Chemistry for Life Sciences I (5 credits) **AND** CHM 242 - Organic Chemistry for Life Sciences II (4 credits)

CHM 232 - Biological Chemistry (4 credits) **OR** CHM 461 - Biochemistry I (4 credits)

HTM 250 - Food Production and Kitchen Management (4 credits) **OR** Current Serv-Safe Manager Certification **OR** AFN 300 - Food Protection Management (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

**\*In place of these program prerequisites, students may qualify for admissions with a verification statement from an ACEND-accredited undergraduate (DPD) dietetics program.**

### **Program Location**

Our program is located on the Health Campus in Raleigh Finkelstein Hall within the College of Health Professions in Grand Rapids, MI.

## **Master of Science in Clinical Dietetics**

### **Requirements**

Demonstration of completion of the 52 to 55 credits in the professional curriculum is required for the student to be granted the M.S. degree. General graduate academic policies and regulations can be found on The Graduate School website ([gvsu.edu/gs](http://gvsu.edu/gs)).

In addition, for each CD course or a discrete unit of instruction in the profession, a minimum proficiency level is described in each course syllabus. A minimum grade of 80 percent is required for passing all CD courses; additionally, the student's overall G.P.A. must never drop

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

below the 3.0 minimum in any semester or the student may be placed on academic probation or dismissed from the CD program.

## **Suggested Order of Coursework**

### **Semester One**

Requires 12 credits, 180 hours supervised practice.

CD 501 - Emerging Professional Practice Issues in Clinical Dietetics (2 credits)

CD 516 - Food and Culinary Science (4 credits)

CD 520 - Supervised Practice: Food Management Systems (3 credits) (180 hours)

CD 560 - Advanced Nutrition Education, Counseling, and Coaching (3 credits)

### **Semester Two**

Requires 12 credits, 180 hours supervised practice.

CD 510 - Nutritional Assessment (3 credits)

CD 530 - Supervised Practice: Community Nutrition I (3 credits) 180 hours.

CD 600 - Advanced Medical Nutritional Therapy I (3 credits)

CD 690 - Research Methodology in Clinical Dietetics (2 credits)

### **Semester Three**

Variable credits, 120 hours supervised practice required.

CD 610 - Advanced Medical Nutritional Therapy II (3 credits)

CD 630 - Supervised Practice: Community Nutrition II (2 credits) 120 hours; **60 hours may be taken internationally.**

CD 693 - Master's Project (1 credit) **OR** CD 695 - Thesis Research in Clinical Dietetics (1 to 6 credits)

STA 610 - Applied Statistics for Health Professions (3 credits)

### **Semester Four**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Variable credits, 300 hours supervised practice required.

CD 505 - Health Care Regulation and Policy in Dietetic Practice (2 credits)

CD 550 - Social Determinants in Food, Culture, and Environmental Justice (3 credits)

CD 625 - Supervised Practice: Clinical Nutrition I (5 credits)

CD 693 - Master's Project (1 credit) **OR** CD 695 - Thesis Research in Clinical Dietetics (1 to 6 credits)

### **Semester Five**

Variable credits; 420 hours supervised practice required.

CD 640 - Supervised Practice: Clinical Nutrition II (5 credits)

CD 650 - Supervised Practice: Area of Specialization (2 credits)

CD 689 - Seminar in Clinical Dietetics (1 credit)

CD 693 - Master's Project (1 credit) **OR** CD 695 - Thesis Research in Clinical Dietetics (1 to 6 credits)

Total credits: 52 (55) clinical experience: 1,200 hours, including 180 optional international hours.

## **Communication Sciences and Disorders**

**Website:** [gvsu.edu/csd](http://gvsu.edu/csd)

This undergraduate major prepares students for admission into a graduate program in speech-language pathology or audiology. Speech-language pathologists assess, diagnose, and treat disorders related to speech and language as well as cognitive-communication, voice, swallowing, and fluency. Audiologists identify hearing and balance disorders, provide rehabilitative services, assess amplification devices and instruct patients in their care. They also consult with industry and the government regarding noise and hearing conservation. Speech and hearing scientists conduct research seeking to improve our understanding of speech, language, and hearing so as to improve the quality of services provided to those with communication impairments.

### **Accreditation**

Undergraduate programs in communication sciences and disorders are not accredited. Graduate programs in speech-language pathology and audiology are accredited by the Council on

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Academic Accreditation in Audiology and Speech Language Pathology. Grand Valley's master's program in speech-language pathology was accredited in July 2013.

## **Admission**

Students typically apply for admission the second semester of the sophomore year. Prerequisites include a 3.0 GPA, application form, and official transcript(s) from all non-GVSU colleges/universities attended. Application forms can be found on the department of Communication Sciences and Disorders (CSD) website. All completed materials must be sent directly to the CSD department. Admitted students begin the emphasis in the fall semester. The emphasis must be completed over a minimum of two academic years.

# **Bachelor of Science in Communication Sciences and Disorders**

## **Required Courses**

AHS 301 - Introduction to Health Care Research (3 credits)

AHS 321 - Ethical and Legal Responsibilities in Health Care (3 credits)

BIO 120 - General Biology I (4 credits)

CSD 100 - Introduction to Communication Disorders (3 credits)

CSD 200 - Introduction to Hearing Science (3 credits)

CSD 220 - Communication Development (3 credits)

CSD 302 - Anatomy and Physiology of the Speech and Hearing Mechanism (3 credits)

CSD 304 - Phonetics (3 credits)

CSD 306 - Speech Science (3 credits)

CSD 309 - Basic Audiology (3 credits)

CSD 401 - Neurological Foundations of Communication Disorders (3 credits)

CSD 404 - Audiologic Rehabilitation (3 credits)

EDF 315 - Diverse Perspectives on Education (3 credits)

PHY 200 - Physics for the Life Sciences (4 credits)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

PSY 101 - Introductory Psychology (3 credits)

SLP 405 - Clinical Methods (3 credits)

SLP 407 - Pediatric Language and Articulation Disorders (2 credits)

SLP 420 - Adult Language and Cognitive Communication Disorders (2 credits)

SLP 421 - Motor Speech and Fluency Disorders (2 credits)

SLP 422 - Dysphagia and Voice Disorders (2 credits)

STA 215 - Introductory Applied Statistics (3 credits)

## **Suggested Order of Coursework**

### **Year One**

BIO 120 - General Biology I (4 credits)

CSD 100 - Introduction to Communication Disorders (3 credits)

MTH 110 - Algebra (4 credits)

PSY 101 - Introductory Psychology (3 credits)

WRT 150 - Strategies in Writing (4 credits)

General education

General education

General education

General education

### **Year Two**

AHS 301 - Introduction to Health Care Research (3 credits)

CSD 200 - Introduction to Hearing Science (3 credits)

CSD 220 - Communication Development (3 credits)

PHY 200 - Physics for the Life Sciences (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

STA 215 - Introductory Applied Statistics (3 credits)

General education

General education

General education

General education

General education

### **Year Three**

CSD 302 - Anatomy and Physiology of the Speech and Hearing Mechanism (3 credits)

CSD 304 - Phonetics (3 credits)

CSD 306 - Speech Science (3 credits)

CSD 309 - Basic Audiology (3 credits)

CSD 401 - Neurological Foundations of Communication Disorders (3 credits)

CSD 404 - Audiologic Rehabilitation (3 credits)

General education

General education

General education

General education

### **Year Four**

AHS 321 - Ethical and Legal Responsibilities in Health Care (3 credits)

EDF 315 - Diverse Perspectives on Education (3 credits)

SLP 405 - Clinical Methods (3 credits)

SLP 407 - Pediatric Language and Articulation Disorders (2 credits)

SLP 420 - Adult Language and Cognitive Communication Disorders (2 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

SLP 421 - Motor Speech and Fluency Disorders (2 credits)

SLP 422 - Dysphagia and Voice Disorders (2 credits)

General education

General education

General education

General education

## Communication Studies

For additional information about opportunities your college offers, please refer to the School of Communications website.

**Website:** [gvsu.edu/soc](http://gvsu.edu/soc)

Because our lives -- publicly, privately, and professionally -- vitally depend upon various communication processes, the communication studies major fosters in students a broad-based multidisciplinary orientation, believing that this best prepares them for lifelong learning, promotes professional and personal development, and helps them take fuller ownership of their responsibilities as citizens of local, national, and global communities. Students are brought to understand communication as a practice as well as a reflective inquiry into that practice.

Communication studies stresses fundamental capacities for expression and comprehension, including learning how to analyze difficult texts, articulate nuanced questions, cultivate aesthetic and ethical sensibilities, build persuasive appeals, and develop critical sensitivities to the persuasive appeals of others. The major in communication studies is designed to combine a broad overview of the field of communications with practice in other majors (emphasis areas) in the School of Communications. The aim is for students to become adaptable, artful, resourceful, and generally educated communicators who can draw upon all the ways of looking at communication embodied in and beyond the curriculum.

## Internships

The School of Communications faculty believes that an internship can be a significant part of the individual's undergraduate program. Students may elect to take multiple internships. Students are strongly urged to work closely with their faculty advisor or internship coordinator in identifying internships that best suit their interests and career ambitions.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

# **Bachelor of Arts or Bachelor of Science in Communication Studies**

## **Requirements**

### **1. Core Courses**

All students majoring in the School of Communications must complete the following core courses, for a total of 12 credits:

COM 101 - Concepts of Communication (3 credits)

COM 295 - Communication Theory (3 credits)

COM 201 - Speech (3 credits)

Capstone requirement:

COM 495 - Issues in Communication (Capstone) (3 credits)

All students majoring in communication studies must take COM 495 (three credits) during their senior year. This Capstone course offers a synthesis of ideas and theories about one or more current critical issues in communication.

## **B.A. and B.S. Degree**

All undergraduate programs in the School of Communications offer both the B.A. degree and the B.S. degree. All students selecting majors in the School of Communications must choose either the B.A. degree requirement or the B.S. degree requirement intended for a particular undergraduate program.

### **B.A. Degree Requirement**

The B.A. degree requires a third-semester proficiency in a foreign language of the student's choice.

### **B.S. Degree Requirement**

The B.S. degree requirement for communication studies:

STA 215 - Introductory Applied Statistics (3 credits)

COM 275 - Foundations of Communication Research (3 credits)

COM 375 - Communication Research (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## 2. Communication Studies Core

Students must complete the following core courses, for a total of 24 credits:

COM 202 - Critical Interpretation (3 credits) **OR** COM 203 - Argument and Analysis (3 credits)

Choose at least three credits from the following:

COM 498 - Senior Thesis/Project (1 to 6 credits) **OR** COM 490 - Internship (1 to 6 credits)

Choose at least 18 unduplicated credits from the following communication studies courses (courses with the COM prefix), at least 12 credits of which must be at the 300-level or above:

COM 202 - Critical Interpretation (3 credits)

COM 203 - Argument and Analysis (3 credits)

COM 209 - Health Communication Systems (3 credits)

COM 210 - Nonverbal Communication (3 credits)

COM 215 - Story Making (3 credits)

COM 220 - Media Literacy (3 credits)

COM 301 - Interpersonal Communication (3 credits)

COM 302 - Small Group Communication (3 credits)

COM 303 - Debate (3 credits)

COM 320 - Vision and Culture (3 credits)

COM 371 - Media and Society (3 credits)

COM 372 - Global Communications (3 credits)

COM 376 - Communications Policy and Law (3 credits)

COM 378 - Intercultural Communication (3 credits)

COM 380 - Special Topics in Communications (1 to 6 credits)

COM 399 - Independent Study (1 to 6 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

COM 438 - Communication Ethics (3 credits)

COM 477 - History of Communications Technologies (3 credits)

Note: Students can include more than one COM 380, no more than three credits in COM 399, and up to six COM 490 credits are allowed in the core/major.

### **3. Elective Credits\***

Students must complete at least nine elective credits. Choose from any of the following courses or other advisor-approved course(s) from across the university:

#### Advertising and Public Relations

CAP 209 - Advertising Basics (3 credits)

CAP 219 - Public Relations Basics (3 credits)

CAP 310 - Advertising Management and Cases (3 credits)

CAP 315 - Advertising Copywriting (3 credits)

CAP 320 - Public Relations Management and Cases (3 credits)

CAP 321 - Media Relations Writing (3 credits)

#### Multimedia Journalism

CMJ 184 - Introduction to Multimedia Production (3 credits)

CMJ 236 - News in Society (3 credits)

CMJ 256 - News Reporting (3 credits)

CMJ 284 - Broadcast News (3 credits)

CMJ 290 - Media History (3 credits)

CMJ 316 - News Design and Layout (3 credits)

#### Film and Video Production

FVP 123 - Survey of Media Production Modes (3 credits)

FVP 125 - Media Production I (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

FVP 225 - Film Culture (3 credits)

FVP 373 - Issues of Representation (3 credits)

FVP 376 - Latin American Cinema (3 credits)

#### Photography

PHO 171 - Photography I (4 credits)

PHO 172 - Photography II (3 credits)

PHO 175 - Understanding Still Photography (3 credits)

PHO 266 - History of Photography I (3 credits)

PHO 272 - Digital Photography 1 (3 credits)

PHO 279 - Color Photography 1 (3 credits)

#### Theatre

THE 151 - Acting Process (3 credits)

THE 161 - Theatre Production (3 credits)

THE 162 - Play Analysis (3 credits)

THE 261 - Stagecraft I (3 credits)

THE 362 - Production Dramaturgy (3 credits)

THE 371 - Theatre History I (3 credits)

THE 372 - Theatre History II (3 credits)

#### Health Communication

COM 209 - Health Communication Systems (3 credits)

CAP 220 - Fundamentals of Public Relations (3 credits)

COM 410 - Senior Seminar in Health Communication (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

\*Courses cannot count for both elective credits and communication studies core credits. COM prefix courses not otherwise applied to the major may be eligible for substitution as elective course credits, pending advisor approval. Other courses may qualify for application to the major but may not be listed; see your advisor.

## **Suggested Order of Coursework**

This option assumes students will complete the required skills, general education, and cognate courses.

### **Year One**

COM 101 - Concepts of Communication (3 credits)

COM 201 - Speech (3 credits)

COM 2XX

### **Year Two**

COM 202 - Critical Interpretation (3 credits) **OR** COM 203 - Argument and Analysis (3 credits) Both are SWS.

COM 295 - Communication Theory (3 credits)

COM 2XX

One class elective credit area

One class elective credit area

### **Year Three**

COM 3/4XX

COM 3/4XX

COM 3/4XX

One class elective credit area

### **Year Four**

COM 3/4XX

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

COM 495 - Issues in Communication (Capstone) (3 credits)

COM 498 - Senior Thesis/Project (1 to 6 credits) **OR** COM 490 - Internship (1 to 6 credits)

## **Combined Degree Programs in Communication**

Qualified undergraduate students majoring in advertising/public relations, communication studies, health communication, or multi-media journalism who are pursuing either a B.A. or B.S. degree may be admitted to a combined degree program (CDP) to obtain both their undergraduate degree and master's degree in communication (MCom) within an accelerated time frame.

### **Overview**

Students with a GPA of 3.3 (B+), or greater, may apply to the CDP in their junior year.

A minimum of 85 semester credits must be completed or in progress in order to apply to the CDP.

Students must have completed, or are registered for, their major's undergraduate capstone.

Students accepted into the CDP are eligible to take up to 12 credits of graduate-level communication (COM) courses in their senior year. These graduate credits will count toward the fulfillment of requirements for both their baccalaureate and graduate degrees.

Students must maintain a minimum 3.0 GPA to remain in good standing in the CDP. Each graduate course taken during this time must receive a grade of B or better (not B-) in order to continue in the MCom graduate program beyond the initial 12 credits.

In the second year of the program, students will be defined as graduate students for purposes of tuition and fees as well as financial aid and other matters pertaining to graduate students. Please see [gvsu.edu/financialaid/tuition-fees-68.htm](http://gvsu.edu/financialaid/tuition-fees-68.htm) for more information.

The specific 12 credits of graduate coursework to be taken and applied toward the fulfillment of the undergraduate/graduate programs are COM 600, COM 620, COM 634, and COM 642. If a student decides to pursue only the undergraduate portion of the CDP, the graduate credits completed will satisfy requirements for the undergraduate major. In this situation, these graduate credits from the undergraduate degree may not be used toward a graduate degree at a later time.

### **Application**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Apply at [gvsu.edu/admissions/graduate-application-24.htm](http://gvsu.edu/admissions/graduate-application-24.htm). You are required to submit an online application, GVSU transcript, current resume, two letters of recommendation, and a 500-word essay that addresses your career goals and how the MCom graduate program is relevant to these goals. Deadline for application is April 1. Applicants are encouraged to meet with the graduate program director in advance of the deadline to discuss the CDP.

Alex Nesterenko, Ph.D.  
Graduate Program Director  
School of Communications  
Email: [nesterea@gvsu.edu](mailto:nesterea@gvsu.edu)

### **Sample Schedule for the Accelerated MCom Program: Advertising/Public Relations**

#### **Year One**

##### Fall

CAP 105 - Technology in Public Relations and Advertising (3 credits)

COM 101 - Concepts of Communication (3 credits)

MTH 110 - Algebra (4 credits)

WRT 150 - Strategies in Writing (4 credits)

##### Winter

CAP 115 - Research Basics for Advertising and Public Relations (3 credits)

COM 201 - Speech (3 credits)

General Education

General Education

#### **Year Two**

##### Fall

CAP 210 - Fundamentals of Advertising (3 credits)

CAP 220 - Fundamentals of Public Relations (3 credits)

COM 295 - Communication Theory (3 credits)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

B.A./B.S. cognate course

General Education

Winter

CAP 310 - Advertising Management and Cases (3 credits)/CAP 320 - Public Relations Management and Cases (3 credits)

CMJ 256 - News Reporting (3 credits)/WRT 219 - Introduction to Creative Writing (3 credits)

B.A./B.S. cognate course

General Education

General Education

### **Year Three**

Fall

CAP 315 - Advertising Copywriting (3 credits)/CAP 321 - Media Relations Writing (3 credits)

B.A./B.S. cognate course

General Education

General Education

Winter

CAP 325 - Advertising and Public Relations Ethics and Law (3 credits)/PHI 325 - Ethics in Professional Life (3 credits)

CAP 413 - Media Planning (3 credits)/CAP 423 - Writing Corporate Communications (3 credits)

CAP elective

CAP elective

Free elective

### **Year Four**

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

Fall

CAP 490 - Internship in Advertising/Public Relations (1 to 6 credits)

CAP 495 - Advertising and Public Relations Campaign (3 credits)

Free elective

COM 600 - Systems Theory and Communication (3 credits)

COM 620 - Empirical Methods in Communication (3 credits)

Winter

COM 634 - Ethics in Professional Communication (3 credits)

COM 642 - Communication Law (3 credits)

Free elective

Free elective

Free elective

**Year Five**

Fall

COM 610 - Secondary Information and Analysis (3 credits)

COM 660 - Communication Management and Cases (3 credits)

Graduate elective

Graduate elective

Winter

PNH 520 - Foundations of Public Service (3 credits)

COM 641 - Emerging Communication Technologies (3 credits)

COM 693 - Master's Project (3 credits)/COM 695 - Master's Thesis (3 credits)

Graduate elective

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

The number of credits taken each semester will vary depending on the particular courses taken. A minimum of 120 credits is required to complete the undergraduate degree. In the sample above, at least one required course, such as a lab science course, would bring the total number of credits to 120.

### **Sample Schedule for the Accelerated MCom Program: Communication Studies**

#### **Year One**

##### Fall

COM 101 - Concepts of Communication (3 credits)

MTH 110 - Algebra (4 credits)

WRT 150 - Strategies in Writing (4 credits)

General Education

##### Winter

COM 201 - Speech (3 credits)

General Education

General Education

General Education

General Education

#### **Year Two**

##### Fall

COM 202 - Critical Interpretation (3 credits)/COM 203 - Argument and Analysis (3 credits)

COM 295 - Communication Theory (3 credits)

B.A./B.S. cognate course

General Education

General Education

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Winter

CS core course

CS core course

B.A./B.S. cognate course

General Education

General Education

**Year Three**

Fall

CS core course

CS core course

B.A./B.S. cognate course

General Education

General Education

Winter

CS core course

CS core course

CS elective

CS elective

Free elective

**Year Four**

Fall

CAP 495 - Advertising and Public Relations Campaign (3 credits)

CS elective

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Free elective

COM 600 - Systems Theory and Communication (3 credits)

COM 620 - Empirical Methods in Communication (3 credits)

Winter

COM 490 - Internship (1 to 6 credits)/COM 498 - Senior Thesis/Project (1 to 6 credits)

COM 634 - Ethics in Professional Communication (3 credits)

COM 642 - Communication Law (3 credits)

Free elective

Free elective

**Year Five**

Fall

COM 610 - Secondary Information and Analysis (3 credits)

COM 660 - Communication Management and Cases (3 credits)

Graduate elective

Graduate elective

Winter

PNH 520 - Foundations of Public Service (3 credits)

COM 641 - Emerging Communication Technologies (3 credits)

COM 693 - Master's Project (3 credits)/COM 695 - Master's Thesis (3 credits)

Graduate elective

The number of credits taken each semester will vary depending on the particular courses taken. A minimum of 120 credits is required to complete the undergraduate degree. In the sample above, at least one required course, such as a lab science course, would bring the total number of credits to 120.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Sample Schedule for the Accelerated MScCom Program: Health Communication**

### **Year One**

#### Fall

COM 101 - Concepts of Communication (3 credits)

MTH 110 - Algebra (4 credits)

WRT 150 - Strategies in Writing (4 credits)

General education

#### Winter

AHS 100 - Medical Terminology (3 credits)

COM 201 - Speech (3 credits)/COM 215 - Story Making (3 credits)

COM 209 - Health Communication Systems (3 credits)

General Education

General Education

### **Year Two**

#### Fall

CAP 210 - Fundamentals of Advertising (3 credits)

CAP 220 - Fundamentals of Public Relations (3 credits)

CHM 109 - Introductory Chemistry (4 credits)

B.A./B.S. cognate course

General Education

#### Winter

BIO 104 - Biology for the 21st Century (4 credits)

BMS 223 - Infectious Human Diseases; Prevention and Control (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CMJ 256 - News Reporting (3 credits)

COM 295 - Communication Theory (3 credits)

B.A./B.S. cognate course

### **Year Three**

Fall

BMS 202 - Anatomy and Physiology (4 credits)

CAP 321 - Media Relations Writing (3 credits)

B.A./B.S. cognate course

General Education

General Education

Winter

AHS 340 - Health Care Management (3 credits)

CMJ 390 - Technical Writing (3 credits)

General Education

General Education

Free elective

### **Year Four**

Fall

CAP 495 - Advertising and Public Relations Campaign (3 credits)

MKT 350 - Marketing Management (3 credits)

COM 600 - Systems Theory and Communication (3 credits)

COM 620 - Empirical Methods in Communication (3 credits)

HCO elective

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Winter

COM 410 - Senior Seminar in Health Communication (3 credits)

COM 490 - Internship (1 to 6 credits)

COM 634 - Ethics in Professional Communication (3 credits)

COM 642 - Communication Law (3 credits)

Free elective

### **Year Five**

Fall

COM 610 - Secondary Information and Analysis (3 credits)

COM 660 - Communication Management and Cases (3 credits)

Graduate elective

Graduate elective

Winter

PNH 520 - Foundations of Public Service (3 credits)

COM 641 - Emerging Communication Technologies (3 credits)

COM 693 - Master's Project (3 credits)/COM 695 - Master's Thesis (3 credits)

Graduate elective

The number of credits taken each semester will vary depending on the particular courses taken. A minimum of 120 credits is required to complete the undergraduate degree. In the sample above, at least one required course, such as a lab science course, would bring the total number of credits to 120.

### **Sample Schedule for the Accelerated MScCom Program: Multi-media Journalism**

#### **Year One**

Fall

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CMJ 184 - Introduction to Multimedia Production (3 credits)

COM 101 - Concepts of Communication (3 credits)

MTH 110 - Algebra (4 credits)

WRT 150 - Strategies in Writing (4 credits)

#### Winter

CMJ 236 - News in Society (3 credits)

CMJ 256 - News Reporting (3 credits)

General Education

General Education

General Education

#### **Year Two**

#### Fall

CMJ 260 - Multimedia Journalism Workshop (3 credits)

CMJ 284 - Broadcast News (3 credits)

COM 201 - Speech (3 credits)/COM 215 - Story Making (3 credits)

B.A./B.S. cognate course

General Education

#### Winter

CMJ 290 - Media History (3 credits)

COM 295 - Communication Theory (3 credits)

B.A./B.S. cognate course

General Education

General Education

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Year Three**

### Fall

CMJ 310 - Advanced Reporting Techniques (3 credits)

B.A./B.S. cognate course

CMJ elective

General Education

General Education

### Winter

CMJ 316 - News Design and Layout (3 credits)

CMJ 325 - Issues in Journalism (3 credits)

General Education

General Education

General Education

## **Year Four**

### Fall

CMJ 460 - Multimedia Reporting (3 credits)

CAP 495 - Advertising and Public Relations Campaign (3 credits)

CMJ elective

COM 600 - Systems Theory and Communication (3 credits)

COM 620 - Empirical Methods in Communication (3 credits)

### Winter

CMJ 490 - Internship (1 to 6 credits)

COM 634 - Ethics in Professional Communication (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

COM 642 - Communication Law (3 credits)

Free elective

Free elective

## **Year Five**

Fall

COM 610 - Secondary Information and Analysis (3 credits)

COM 660 - Communication Management and Cases (3 credits)

Graduate elective

Graduate elective

Winter

PNH 520 - Foundations of Public Service (3 credits)

COM 641 - Emerging Communication Technologies (3 credits)

COM 693 - Master's Project (3 credits)/COM 695 - Master's Thesis (3 credits)

Graduate elective

The number of credits taken each semester will vary depending on the particular courses taken. A minimum of 120 credits is required to complete the undergraduate degree. In the sample above, at least one required course, such as a lab science course, would bring the total number of credits to 120.

# **Communications**

## **Master of Science in Communications**

**Website:** [gvsu.edu/soc](http://gvsu.edu/soc)

As the field of communications has matured, the value of empirically based decision-making has become increasingly clear. Communication professionals must be knowledgeable about acquiring and assessing relevant information and integrating the analysis of that information into the decision-making process.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

The Master of Science degree in the School of Communications is a versatile program that meets the needs of various aspects of professional communication. Individuals in public relations, advertising, journalism, and broadcasting, to name a few, as well as those seeking a degree that will enhance their effectiveness and leadership skills within an organization, find this to be a rewarding and beneficial program. Communication professionals who become managers and decision-makers will increasingly be selected because they have leadership skills, knowledge of theory and research and their application, the ability to access information to solve communication problems, and the ability to effectively implement information into the decision-making process. The curriculum of the master's program is attendant to these skills.

The 36-credit master's program is designed with working professionals in mind. Courses are scheduled during evenings and offered at Grand Valley's Pew Grand Rapids Campus. Taken part-time, the Master of Science in communications is completed in two to three years.

## **Admission**

For admission to the Master of Science in communications, applicants must provide all information required by the university. This includes official transcripts of all previous college/university coursework, a baccalaureate degree or equivalent international credential, and a 500-word essay that addresses the candidate's career goals and how the GVSU graduate program in communications is relevant to these goals. Please note the following additional criteria for admission:

Undergraduate GPA of 3.0 on a 4.0 scale for the last 60 credits of undergraduate work.

Applicants with less than a 3.0 GPA may meet alternate admissions criteria such as professional work experience, personal interview, or academic success in specified courses.

Background coursework in communication theory and research methods advisable.

Two letters of recommendation.

A phone interview with a representative from the School of Communications.

## **Course Requirements**

The following courses (27 credits) are required of all students for the Master of Science in Communications.

COM 600 - Systems Theory and Communication (3 credits)

COM 610 - Secondary Information and Analysis (3 credits)

COM 620 - Empirical Methods in Communication (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

COM 634 - Ethics in Professional Communication (3 credits)

COM 641 - Emerging Communication Technologies (3 credits)

COM 642 - Communication Law (3 credits)

COM 660 - Communication Management and Cases (3 credits)

COM 693 - Master's Project (3 credits)\* **OR** COM 695 - Master's Thesis (6 credits)\*

PNH 520 - Foundations of Public Service (3 credits) **OR** BUS 631 - Leadership and Organizational Dynamics (3 credits)

\*Note: Students choosing to complete a project (COM 693) must complete a minimum of 9 elective credits. Students choosing to complete a thesis (COM 695) must complete a minimum of 6 elective credits.

### **Elective Courses**

Students must complete 6 to 9 elective courses from the following list, from 600-level courses in business and public administration, and from other programs for which students are eligible. See the School of Communications graduate program director for approval.

COM 643 - Small Group Communication and Leadership (3 credits)

COM 680 - Special Topics in Communications (3 credits)

COM 699 - Independent Study (1 to 4 credits)

### **Suggested Order of Coursework**

For the M.S. in communications, the following schedule assumes the student has satisfied all background courses. For more information about the program, contact the School of Communications.

#### **Year One**

Fall Semester:

COM 600 - Systems Theory and Communication (3 credits)

Winter Semester:

COM 610 - Secondary Information and Analysis (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Spring/Summer Semester:

Elective course

## **Year Two**

Fall Semester:

COM 620 - Empirical Methods in Communication (3 credits)

Winter Semester:

PNH 520 - Foundations of Public Service (3 credits) **OR** BUS 631 - Leadership and Organizational Dynamics (3 credits)

COM 634 - Ethics in Professional Communication (3 credits)

Spring/Summer Semester:

Elective course

## **Year Three**

Fall Semester:

Elective course

COM 641 - Emerging Communication Technologies (3 credits)

Winter Semester:

COM 642 - Communication Law (3 credits)

COM 660 - Communication Management and Cases (3 credits)

Spring/Summer Semester:

COM 693 - Master's Project (3 credits) **OR** COM 695 - Master's Thesis (3 credits)

# **Computer Science**

For additional information about opportunities your college offers, please refer to the Seymour and Esther Padnos College of Engineering and Computing section in this catalog.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

**Website:** [cis.gvsu.edu/computer-science-major](http://cis.gvsu.edu/computer-science-major)

## **Degrees Offered**

Undergraduate and graduate computing programs at Grand Valley are offered by the School of Computing. Computing programs prepare students for a rewarding career that is in high-demand.

One of the strengths of the computing programs at Grand Valley is flexibility. We offer B.S. degrees in computer science, cybersecurity, information systems, and information technology. All programs share faculty, courses, and laboratory resources. Also, by choosing electives and minors in related subject areas, students can further tailor their degrees to fit their individual needs and career goals. We offer minors in computer engineering, computer science, data science, health care information systems, information security systems, information systems, and information technology.

Two key elements in computer education are a theoretical foundation and practical experience. Computer science major prepares students to design and implement software, discover new uses of computing, and to solve computing problems.

Theoretical and practical aspects of computing are emphasized. Operating systems, software engineering, data communications, programming languages and their implementation, and the analysis of algorithms are among the topics covered. Cognate courses emphasize communication and analytical reasoning.

## **Mission**

The mission of the School of Computing is to provide the GVSU student community with the intellectual foundations and experiences necessary to use information technology effectively in their chosen careers.

To enable students to attain this goal, the computing faculty have two primary responsibilities. First, we offer a solid conceptual foundation required for a career in computing. Second, we provide direct, experiential knowledge of technology necessary to be a productive user/producer of information technology.

To achieve these goals, we

- work continuously to keep our curriculum relevant to our mission;

- ensure that work-relevant experience is part of every class;

- establish and nurture industrial contacts;

- establish an integrated, supported co-op experience for computing majors; and

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

provide all students, regardless of their major interests, fundamental knowledge of computers and information processing

## **Computer Science Program Goals**

By the time of graduation, computer science students will demonstrate the ability to perform the following:

Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions.

Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.

Communicate effectively in a variety of professional contexts.

Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.

Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.

Apply computer science theory and software development fundamentals to produce computing-based solutions.

Three years after graduation, our typical computer science alumni are expected to be computing professionals who perform as follows:

Use technical communication and teamwork skills to solve problems and develop software systems.

Continue to develop their professional knowledge and skills.

Behave ethically while contributing to their profession and to society.

## **Accreditation**

The computer science major is accredited under the General Criteria and Computer Science Criteria by the Computing Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD, 21202-4012. Telephone: (410) 347-7700, [abet.org](http://abet.org).

## **Advisory Board**

The School of Computing Advisory Board (CISAB) is composed of the school's director and leading computing experts in West Michigan. The board meets twice each year and advises the

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

school on curriculum development and continuing education. It serves as an important interface between the school and the computing community.

## **Admission**

Admission to major standing in computer science (CS) is competitive and requires an application for admittance into the major. Applicants must meet the following criteria:

Overall GPA of 2.5 or above in all Grand Valley State University coursework.

Completion of each course in the CS foundation with a grade of C or above (C- is not sufficient).

GPA of 2.5 or above in the CS foundation.

The CS foundation includes CIS 162 and CIS 163; MTH 225; STA 215 or STA 312; and COM 201. Completing the CS foundation courses require programming, analytical reasoning, and communication skills. These skills are important to excel in the computing field.

The CS foundation GPA is calculated on no more than one repeat per course. Achievement of the minimum requirements does not guarantee admission to the major. The School of Computing will also consider internship availability and the applicant's suitability for internships before granting admission. Transfer students must complete at least six hours of CIS coursework before applying, but should consult with a School of Computing advisor before scheduling their first semester.

While admission to major standing in computer science may be achieved with completion of the cybersecurity, information systems or information technology foundation instead of the CS foundation, it is still necessary to complete all the required courses in the computer science major.

# **Bachelor of Science in Computer Science**

## **Requirements for a Major in Computer Science**

Students who wish to major in computer science must complete the following.

### **1. Degree Requirements**

Students must complete the general university degree requirements as identified in the General Academic Regulations section of the catalog.

### **2. Admission**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Admission to major standing in computer science is competitive and requires an application for admittance into the major. See the computer science program description for more information regarding admission to the major.

### **3. Computer Science Major**

Computer science majors must complete the following CIS courses with a minimum 2.0 GPA.

#### **Required Computer Science Courses**

- CIS 162 - Computer Science I (4 credits)
- CIS 163 - Computer Science II (4 credits)
- CIS 241 - System-level Programming and Utilities (3 credits)
- CIS 263 - Data Structures and Algorithms (3 credits)
- CIS 290 - Professional Responsibilities and Practices (3 credits)
- CIS 343 - Structure of Programming Languages (3 credits)
- CIS 350 - Introduction to Software Engineering (3 credits)
- CIS 351 - Computer Organization and Assembly Language (4 credits)
- CIS 353 - Database (3 credits)
- CIS 452 - Operating Systems Concepts (4 credits)
- CIS 457 - Data Communications (4 credits)
- CIS 467 - Computer Science Project (3 credits) (Capstone course)
- CIS 490 - Internship (2 to 5 credits)

#### **Elective Computer Science Courses**

Computer science majors must select three electives from the following:

- CIS 335 - Data Mining (3 credits)
- CIS 357 - Mobile Application Development (3 credits)
- CIS 360 - Information Management and Science (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CIS 365 - Artificial Intelligence (3 credits)

CIS 367 - Computer Graphics (3 credits)

CIS 368 - Usability Design and Evaluation (3 credits)

CIS 371 - Web Application Programming (3 credits)

CIS 373 - Pervasive Computing (3 credits)

CIS 375 - Wireless Networks and Security (3 credits)

CIS 380 - Special Topics in Computer Information Systems (1 to 4 credits)

CIS 418 - Secure Software Engineering (3 credits)

CIS 430 - Computer and Cyber Forensics (3 credits)

CIS 443 - Software Development Tools (3 credits)

CIS 451 - Computer Architecture (3 credits)

CIS 455 - Applied Cryptography (3 credits)

CIS 458 - System Security (3 credits)

CIS 461 - Compiler Design and Construction (3 credits)

CIS 465 - Automata and Theory of Computation (3 credits)

CIS 480 - Special Topics in Computer Information Systems (1 to 4 credits)

#### **4. Cognate Courses**

Computer science majors must complete the following cognate courses:

COM 201 - Speech (3 credits)

MTH 201 - Calculus I (4 credits)

MTH 225 - Discrete Structures: Computer Science (3 credits)

MTH 325 - Discrete Structures: Computer Science 2 (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

STA 215 - Introductory Applied Statistics (3 credits) **OR** STA 312 - Probability and Statistics (3 credits)

WRT 350 - Business Communication (3 credits)

Select one math elective:

MTH 202 - Calculus II (4 credits)

MTH 204 - Linear Algebra I (3 credits)

MTH 465 - Automata and Theory of Computation (3 credits)

STA 216 - Intermediate Applied Statistics (3 credits)

STA 418 - Statistical Computing and Graphics with R (3 credits)

Select two science electives:

BIO 120 - General Biology I (4 credits)

BIO 121 - General Biology II (4 credits)

BMS 202 - Anatomy and Physiology (4 credits)

CHM 115 - Principles of Chemistry I (4 credits)

CHM 116 - Principles of Chemistry II (5 credits)

GEO 111 - Exploring the Earth (4 credits)

PHY 220 - General Physics I (5 credits)

PHY 221 - General Physics II (5 credits)

PHY 230 - Principles of Physics I (5 credits)

PHY 231 - Principles of Physics II (5 credits)

## **Suggested Order of Coursework**

This suggested order of coursework assumes that students will complete the CS foundation and general education courses with the help of their advisor and apply for admission at the end of the winter semester of their first year. The following course sequence also assumes a strong

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

mathematics background for the entering student. If mathematics deficiencies exist, completing the mathematics prerequisites should be the student's top priority.

Recommended course of study plans may be found on the PCEC Advising website: [gvsu.edu/pcec/advising/program-plans-computer-science-cs-67.htm](http://gvsu.edu/pcec/advising/program-plans-computer-science-cs-67.htm).

### **Year One**

CIS 162 - Computer Science I (4 credits)

MTH 124 - Precalculus: Functions and Models (5 credits)

STA 215 - Introductory Applied Statistics (3 credits)

CIS 163 - Computer Science II (4 credits)

COM 201 - Speech (3 credits)

MTH 225 - Discrete Structures: Computer Science (3 credits)

WRT 150 - Strategies in Writing (4 credits)

Appropriate general education coursework

### **Year Two**

CIS 241 - System-level Programming and Utilities (3 credits)

CIS 290 - Professional Responsibilities and Practices (3 credits)

MTH 201 - Calculus I (4 credits)

MTH 325 - Discrete Structures: Computer Science 2 (3 credits)

CIS 263 - Data Structures and Algorithms (3 credits)

CIS 351 - Computer Organization and Assembly Language (4 credits)

Math elective

Appropriate general education coursework

### **Year Three**

CIS 350 - Introduction to Software Engineering (3 credits)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

CIS 353 - Database (3 credits)

CIS 457 - Data Communications (4 credits)

CIS 343 - Structure of Programming Languages (3 credits)

Computer science elective

Science electives

Appropriate general education coursework

### **Year Four**

CIS 452 - Operating Systems Concepts (4 credits)

WRT 350 - Business Communication (3 credits)

CIS 467 - Computer Science Project (3 credits)

CIS 490 - Internship (2 to 5 credits)

Computer science electives

Appropriate general education coursework

## **Combined Bachelor of Science in Computer Science and Master of Science in Applied Computer Science**

Qualified undergraduates may be admitted to a combined bachelor's/master's program and obtain both a B.S. in computer science and an M.S. in applied computer science within an accelerated time frame. Students admitted to this program will count up to 12 credits of graduate work in partial satisfaction of the requirements for the undergraduate degree. After completing 120 credits and all requirements for the bachelor's degree, students are awarded a bachelor's degree. A minimum of 21 graduate credits must be completed after the 120 credits of the bachelor's degree. All other master's degree requirements must be met, including a graduate Capstone.

### **Admission**

We encourage students to apply for the combined B.S./M.S. program in their second year. It is also possible to apply in the third year, but students in their fourth year typically do not receive the benefits of the combined program.

Application requirements include:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Overall GPA of 3.25 or greater

Student must have been admitted to the computer science program

60 hours of academic credit have been completed or are in progress

Two letters of recommendation

Academic transcripts (unofficial transcripts are allowable)

Admission decisions will be made by the school admissions committee based on the student's previous academic success in the School of Computing, as indicated by GPA and grades in the foundation CS courses, as well as potential success in the graduate program, as indicated by the letters of recommendation, and the student's letter of intent. Decisions will typically be communicated to students within four weeks of submitting a complete application to the combined degree program.

## **Requirements**

### **During Undergraduate Studies**

All university requirements, including general education courses, must be completed before the final (graduate) year of the combined B.S./M.S. program. In the final undergraduate year, students will normally take nine credits of graduate-level courses. If any courses are dual-listed, students in the combined B.S./M.S. program must complete all assignments expected of graduate students and they will be evaluated in the same way as graduate students.

Students will be considered undergraduates for tuition, academic requirements and financial aid purposes until all requirements for the undergraduate degree are completed. Following this they will be considered graduate students, will pay graduate tuition, and will be eligible for graduate financial aid.

The school has identified the following courses that students may dual-count toward the B.S. and M.S. degrees. Up to 12 credits can be dual counted. Students are strongly encouraged to work with the graduate program director in ACS to ensure all undergraduate and graduate requirements are met.

CIS 611 in lieu of CIS 350\*

CIS 616 in lieu of CIS 458

CIS 617 in lieu of CIS 430

CIS 635 in lieu of CIS 335

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CIS 657 in lieu of CIS 357

CIS 658 in lieu of CIS 371

CIS 660 in lieu of CIS 360

CIS 672 in lieu of CIS 351

CIS 673 in lieu of CIS 353

CIS 654 in lieu of CIS 457

CIS 693 in lieu of CIS 467

\*CIS 350 is an SWS course but CIS 611 is not. Students are reminded that a bachelor's degree requires two SWS courses.

### **During Graduate Studies**

A student shall be considered a graduate student for all purposes upon either of the following events: the award of a baccalaureate degree or the completion of 120 credit hours.

### **Graduation Without Completion of the Program**

If a student decides at some point to pursue only the undergraduate portion of the combined degree, the school will still recognize the graduate courses taken in lieu of undergraduate courses. Credit from the undergraduate degree cannot be used toward a graduate degree at a later date.

Please note that awarding of the B.S. in computer science requires a Capstone course, either CIS 467 or CIS 693, or both CIS 690 and CIS 695. Awarding of the M.S. in applied computer science requires a graduate Capstone course: CIS 693, or both CIS 690 and CIS 695.

### **Suggested Order of Coursework**

This sample order of coursework assumes that students will complete the ACS foundation and general education courses with the help of their advisor and apply for undergraduate admission at the end of the winter semester of their second year. The following course sequence also assumes a strong mathematics background for the entering student. If mathematics deficiencies exist, completing the mathematics prerequisites should be the student's top priority.

Note: This is only one of many possible sequences of courses. Students are strongly encouraged to work with the graduate program director in CIS to ensure all undergraduate and graduate requirements are met, and to customize the combined program to their areas of interest.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

The sequence as follows makes no attempt to minimize credit load. For example, the sequence assumes that all general education courses are distinct, and no "double dipping" is done.

### **Year One**

No change from CS sample curriculum (33 credits).

General education course (A)

General education course (PL)

CIS 162 - Computer Science I (4 credits)

CIS 163 - Computer Science II (4 credits)

COM 201 - Speech (3 credits)

MTH 122 - College Algebra (3 credits)

MTH 123 - Trigonometry (3 credits)

MTH 225 - Discrete Structures: Computer Science (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

WRT 150 - Strategies in Writing (4 credits)

### **Year Two**

No change from CS sample curriculum (30 credits).

Three general education courses (SBS1, HP, GP)

CIS 241 - System-level Programming and Utilities (3 credits)

CIS 263 - Data Structures and Algorithms (3 credits)

CIS 290 - Professional Responsibilities and Practices (3 credits)

CIS 353 - Database (3 credits)

MTH 201 - Calculus I (4 credits)

MTH 202 - Calculus II (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MTH 325 - Discrete Structures: Computer Science 2

### **Year Three**

Includes 21 undergraduate credits and six graduate credits (27 credits).

Computer science elective (3 credits)

General education Natural Sciences course - NS1 (3 credits)

General education Natural Sciences lab - NS2 (3 credits)

Two general education courses - SBS2, US (6 credits)

CIS 343 - Structure of Programming Languages (3 credits)

CIS 351 - Computer Organization and Assembly Language (4 credits)

CIS 611 - Introduction to Software Engineering (3 credits)

CIS 654 - Computer Networking (3 credits)

### **Year Four**

Includes 18 to 21 undergraduate credits and nine graduate credits (27 to 30 credits).

Computer science elective (3 credits)

General education Issues course 1 (3 credits)

General education Issues course 2 (3 credits)

CIS 452 - Operating Systems Concepts (4 credits)

CIS 490 - Internship (2 to 5 credits)

CIS 613 - Software Testing (3 credits)

CIS 641 - Systems Analysis and Design (3 credits)

CIS 657 - Mobile Application Development (3 credits)

WRT 350 - Business Communication (3 credits)

### **Year Five**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Includes 18 graduate credits.

CIS 623 - Graphical User Interface Design (3 credits)

CIS 656 - Distributed Systems (3 credits)

CIS 658 - Web Architectures (3 credits)

CIS 661 - Introduction to Health and Bioinformatics (3 credits)

CIS 677 - High-performance Computing (3 credits)

CIS 693 - Master's Project (3 credits)

### **Credits**

Undergraduate credits that count toward B.S.	102 to 105 credits
Graduate credits that count toward B.S. and M.S.	12 credits
Graduate credits that count toward M.S.	21 credits
Total Credits	135 to 138 credits

## **Combined Bachelor of Science in Computer Science and Master of Science in Cybersecurity**

Qualified undergraduates may be admitted to a combined bachelor's/master's program and obtain both a B.S. in computer science and an M.S. in cybersecurity within an accelerated time frame. Students admitted to this program will count up to 12 credits of graduate work in partial satisfaction of the requirements for the undergraduate. After completing 121 credits and all requirements for the bachelor's degree, students are awarded a bachelor's degree. A minimum of 21 graduate credits must be completed after the 121 credits of the bachelor's degree. All other master's degree requirements must be met.

### **Admission**

We encourage computer science students to apply for the combined B.S./M.S. program in computer science and cybersecurity in their second year. It is also possible to apply in the third year but students in their fourth year typically do not receive the benefits of the combined program. Application requirements include:

Overall GPA of 3.25 or greater

Student must have been admitted to the computer science program

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

60 hours of academic credit have been completed or are in progress

Two letters of recommendation

Academic transcripts (unofficial transcripts are allowable)

Admission decisions will be made by the school admissions committee based on the student's previous academic success in computer science, as indicated by GPA and grades in the foundation computer science courses, as well as potential success in the graduate program, as indicated by the letters of recommendation. Decisions will normally be communicated to students within four weeks of submitting a complete application to the combined degree program.

## **Requirements**

### **During Undergraduate Studies**

All university requirements, including general education courses, must be completed before the final (graduate) year of the combined B.S./M.S. program. In the final undergraduate year, students will normally take 12 credits of graduate-level courses. If any courses are dual-listed, students in the combined B.S./M.S. program must complete all assignments expected of graduate students and they will be evaluated in the same way as graduate students.

The school has identified the following courses that students may dual-count toward the B.S. and M.S. degrees. Up to 12 credits can be dual counted. Students are strongly encouraged to work with the graduate program director in cybersecurity to ensure all undergraduate and graduate requirements are met.

CIS 518 in lieu of CIS elective

CIS 555 in lieu of CIS elective

CIS 617 in lieu of CIS elective

CIS 654 in lieu of CIS 457

### **During Graduate Studies**

A student shall be considered a graduate student for all purposes upon either of the following events: the award of a baccalaureate degree, or the completion of 12 graduate credit hours.

### **Graduation Without Completion of the Program**

If a student decides at some point to pursue only the undergraduate portion of the combined degree, the School will still recognize the graduate courses taken in lieu of undergraduate

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

courses. Credit from the undergraduate degree cannot be used toward a graduate degree at a later date.

The student will still be responsible for completing all of their other computer science degree requirements.

## **Suggested Order of Coursework**

This sample order of coursework assumes that students will complete the CS foundation and general education courses with the help of their advisor and apply for graduate admission at the end of the winter semester of their second year. The following course sequence also assumes a strong mathematics background for the entering student. If mathematics deficiencies exist, completing the mathematics prerequisites should be the student's top priority.

This is only one of many possible sequences of courses. Students are strongly encouraged to work with the graduate program director in cybersecurity to ensure all undergraduate and graduate requirements are met, and to customize the combined program to their areas of interest. The following sequence makes no attempt to minimize credits. For example, the sequence assumes that all general education courses are distinct, and no "double dipping" is done.

### **Year One**

CIS 162 - Computer Science I (4 credits)

CIS 163 - Computer Science II (4 credits)

COM 201 - Speech (3 credits)

MTH 201 - Calculus I (4 credits)

MTH 202 - Calculus II (4 credits) **OR** MTH 204 - Linear Algebra I (3 credits)

**OR** MTH 465 - Automata and Theory of Computation (3 credits) **OR** STA 216 - Intermediate Applied Statistics (3 credits)

**OR** MTH 225 - Discrete Structures: Computer Science (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

WRT 150 - Strategies in Writing (4 credits)

### **Year Two**

CIS 241 - System-level Programming and Utilities (3 credits)

CIS 263 - Data Structures and Algorithms (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CIS 290 - Professional Responsibilities and Practices (3 credits)

CIS 351 - Computer Organization and Assembly Language (4 credits)

MTH 325 - Discrete Structures: Computer Science 2 (3 credits)

General education Arts

General education Social and Behavioral Sciences

General education History

General education Social and Behavioral Sciences

### **Year Three**

CIS 343 - Structure of Programming Languages (3 credits)

CIS 350 - Introduction to Software Engineering (3 credits)

CIS 353 - Database (3 credits)

CIS 490 - Internship (2 to 5 credits)

CIS 617 - Digital Forensics and Investigations (3 credits)

CIS 654 - Computer Networking (3 credits)

WRT 350 - Business Communication (3 credits)

General education Global Perspectives

General education Natural Science

General education Natural Science with lab

### **Year Four**

CIS 452 - Operating Systems Concepts (4 credits)

CIS 467 - Computer Science Project (3 credits)

CIS 518 - Secure Software Engineering (3 credits)

CIS 555 - Applied Cryptography (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CIS 616 - Data Security and Privacy (3 credits)

Graduate elective (3 credits)

General education U.S. Diversity

General education Issues

General education Issues

General education Philosophy and Literature

### **Year Five**

CIS 615 - Information Security Principles (3 credits)

CIS 619 - Data Analytics for Cybersecurity (3 credits)

CIS 693 - Master's Project (3 credits)

Graduate elective (3 credits)

Graduate elective (3 credits)

Graduate elective (3 credits)

## **Combined Bachelor of Science in Computer Science and Master of Science in Data Science and Analytics**

Qualified undergraduates may be admitted to a combined bachelor's/master's program and obtain both a B.S. in computer science (CS) and an M.S. in data science and analytics (DSA) within an accelerated time frame. Students admitted to this program will count up to 12 credits of graduate work in partial satisfaction of the requirements for the undergraduate. After completing 120 credits and all requirements for the bachelor's degree, students are awarded a bachelor's degree. A minimum of 21 graduate credits must be completed after the 120 credits of the bachelor's degree. All other master's degree requirements must be met.

### **Admission**

Students will normally apply directly to the School of Computing for the combined B.S./M.S. program during their second academic year. Application requirements include:

Overall GPA of 3.25 or greater

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Student must have been admitted to the computer science program

60 hours of academic credit have been completed or are in progress

Two letters of recommendation

Academic transcripts (unofficial transcripts are allowable)

Admission decisions will be made by the school admissions committee based on the student's previous academic success in computer science, as indicated by GPA and grades in the foundation computer science courses, as well as potential success in the graduate program, as indicated by the letters of recommendation, and the student's letter of intent. Decisions will normally be communicated to students within four weeks of submitting a complete application to the combined degree program.

## **Requirements**

### **During Undergraduate Studies**

All university requirements, including general education courses, must be completed before the final (graduate) year of the combined B.S./M.S. program. In the final undergraduate year, students will normally take 12 credits of graduate-level courses. If any courses are dual-listed, students in the combined B.S./M.S. program must complete all assignments expected of graduate students and they will be evaluated in the same way as graduate students.

Students will be considered undergraduates for tuition, academic requirements and financial aid purposes until all requirements for the undergraduate degree are completed. Following this they will be considered graduate students, will pay graduate tuition, and will be eligible for graduate financial aid.

The school has identified the following courses that students may dual-count toward the B.S. and M.S. degrees. Up to 12 credits can be dual counted. Students are strongly encouraged to work with the graduate program director in DSA to ensure all undergraduate and graduate requirements are met.

CIS 635 as both a DSA requirement and a CS elective

CIS 660 as both a DSA requirement and a CS elective

CIS 671 as both a DSA requirement and a CS elective

PSM 691 as both the DSA internship and the CS internship (CIS 490)

Note: DSA students normally take 4-credit internships, while CS students only need two credits. To keep the number of dual counted credits to 12, only three of the credits for PSM 691 will be counted toward CIS 490.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

It is recommended that students interested in the combined CS/DSA degree choose STA 216 as their math/statistics cognate elective, as STA 216 is the prerequisite for all of the DSA statistics courses.

### **During Graduate Studies**

A student shall be considered a graduate student for all purposes upon either of the following events: the award of a baccalaureate degree or the completion of 120 credit hours.

### **Graduation Without Completion of the Program**

If a student decides at some point to pursue only the undergraduate portion of the combined degree, the school will still recognize the graduate courses taken in lieu of undergraduate courses. Credit from the undergraduate degree cannot be used toward a graduate degree at a later date.

The student will still be responsible for completing all of their CS electives and the internship: CIS 490.

### **Suggested Order of Coursework**

This sample order of coursework assumes that students will complete the CS foundation and general education courses with the help of their advisor and apply for undergraduate admission at the end of the winter semester of their second year. The following course sequence also assumes a strong mathematics background for the entering student. If mathematics deficiencies exist, completing the mathematics prerequisites should be the student's top priority.

Note: This is only one of many possible sequences of courses. Students are strongly encouraged to work with the graduate program director in DSA to ensure all undergraduate and graduate requirements are met, and to customize the combined program to their areas of interest. The following sequence makes no attempt to minimize credits. For example, the sequence assumes that all general education courses are distinct, and no "double dipping" is done.

### **Year One**

Fall Semester:

CIS 162 - Computer Science I (4 credits)

MTH 122 - College Algebra (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

WRT 150 - Strategies in Writing (4 credits)

General education

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Winter Semester:

CIS 163 - Computer Science II (4 credits)

COM 201 - Speech (3 credits)

MTH 204 - Linear Algebra I (3 credits)

MTH 225 - Discrete Structures: Computer Science (3 credits)

General education

## **Year Two**

Fall Semester:

CIS 241 - System-level Programming and Utilities (3 credits)

MTH 201 - Calculus I (4 credits)

MTH 325 - Discrete Structures: Computer Science 2 (3 credits)

General education

General education

Winter Semester:

CIS 263 - Data Structures and Algorithms (3 credits)

CIS 290 - Professional Responsibilities and Practices (3 credits)

CIS 353 - Database (3 credits)

STA 216 - Intermediate Applied Statistics (3 credits)

Science cognate

## **Year Three**

Fall Semester:

CIS 350 - Introduction to Software Engineering (3 credits)

CIS 351 - Computer Organization and Assembly Language (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CIS 457 - Data Communications (4 credits)

General education

General education

Winter Semester:

CIS 343 - Structure of Programming Languages (3 credits)

WRT 350 - Business Communication (3 credits)

CIS 635 - Knowledge Discovery and Data Mining (3 credits)

General education

Science cognate

## **Year Four**

Fall Semester:

CIS 452 - Operating Systems Concepts (4 credits)

CIS 660 - Information Management and Science (3 credits)

CIS 671 - Information Visualization (3 credits)

General education

Winter Semester:

CIS 467 - Computer Science Project (3 credits)

STA 616 - Statistical Programming (3 credits)

PSM 662 - Seminar in Professional Science Practice (2 credits)

General education

Spring/Summer Semester:

PSM 691 - Internship (1 to 9 credits)

## **Year Five**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Fall Semester:

PSM 650 - Ethics and Professionalism in Applied Science (3 credits)

STA 518 - Statistical Computing and Graphics with R (3 credits)

STA 631 - Statistical Modeling and Regression (3 credits)

Winter Semester:

CIS 677 - High-performance Computing (3 credits)

CIS 678 - Machine Learning (3 credits)

STA 526 - Multivariate Data Analysis (3 credits)

Undergraduate credits that count toward B.S.	107
Graduate credits that count toward B.S. and M.S.	12 (Note: Only three credits of PSM 691 apply to B.S.)
Graduate credits that count toward M.S.	24
Total credits	143

## Computer Science Minor

### Requirements for a Minor in Computer Science

The following minor requires a minimum GPA of 2.0 to be approved.

CIS 162 - Computer Science I (4 credits)

CIS 163 - Computer Science II (4 credits)

CIS 241 - System-level Programming and Utilities (3 credits)

CIS 263 - Data Structures and Algorithms (3 credits)

CIS 350 - Introduction to Software Engineering (3 credits)

CIS 353 - Database (3 credits)

MTH 225 - Discrete Structures: Computer Science (3 credits)

Select one of the following:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CIS 343 - Structure of Programming Languages (3 credits)

CIS 351 - Computer Organization and Assembly Language (4 credits)

CIS 457 - Data Communications (4 credits)

## Criminal Justice

For additional information about opportunities, please refer to the College of Community and Public Service section in this catalog.

**Website:** [gvsu.edu/cj](http://gvsu.edu/cj)

The School of Criminal Justice offers a bachelor of science or bachelor of arts and a master's degree in criminal justice. Students take a variety of required and elective courses to educate themselves as critical thinkers and to gain a comprehensive knowledge of the field. The school also offers an undergraduate major in legal studies for students seeking to become paralegals. For information about the paralegal program, consult the legal studies section in the Grand Valley State University Undergraduate and Graduate Catalog. Summer course offerings will be determined on an annual basis. Please check the schedule of courses.

### **Vision**

The School of Criminal Justice educates students to become knowledgeable, competent, and ethical leaders in the criminal justice and legal professions.

### **Mission**

To promote the growth of students through teaching, mentoring, creative scholarship, and community engagement.

Graduates will possess a solid foundation of knowledge and performance skills in the criminal justice field and legal system and will also have the ability to make ethically sound and appropriate decisions in response to the challenges presented to them in their professional and personal lives.

Faculty and staff of the School of Criminal Justice will demonstrate, model, and promote a respect for diversity and commitments to integrity, intellectual and moral virtues, and lifelong learning through effective teaching, active scholarship, and service.

### **Requirements for Licensure in Law Enforcement**

The School of Criminal Justice at Grand Valley State University operates a Michigan Commission on Law Enforcement Standards (MCOLES) approved Police Academy during the summer months. The program leads to eligibility for law enforcement licensing in Michigan. The

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

courses taken in this program can also be used for graduation. Non-Grand Valley students who meet the MCOLES minimum eligibility requirements may apply. The Grand Valley Police Academy has a proven reputation for excellence. Entry is extremely competitive and is not guaranteed. Those wishing to apply will be required to pass the MCOLES pre-enrollment Reading and Writing and Physical Fitness tests and meet the minimum state employment standards as part of the application process. Grand Valley State University students may apply for the academy during their senior year. Non-Grand Valley students must possess at least an associate degree prior to the start date of the academy. Application packets will be available on our website ([gvsu.edu/cj/policeacademy](http://gvsu.edu/cj/policeacademy)) during the yearly application process. MCOLES requirements can be found at [mcoles.org](http://mcoles.org) under the Licensure and Professional Development section.

Grand Valley offers two unique police academy programs: a 16-week Basic Police Academy and an abbreviated eight-week Military Police Basic Training Program (MPBTP) designed specifically for military police veterans. Both academy programs are conducted during the spring and summer semester. Upon successful completion of either program and the state law enforcement licensing examination, participants will be eligible to be licensed as a law enforcement officer in the State of Michigan. Students selected to attend the 16-week Basic Police Academy must enroll in the following courses (15 credits): CJ 415, CJ 416, CJ 417, CJ 418, and CJ 419. Students selected to attend the eight-week MPBTP must enroll in the following courses (6 credits): CJ 415 and CJ 416.

Eligibility for the MPBTP requires that a candidate must have performed as a military police officer (in any branch of the U.S. Military) for a minimum of 2,080 hours in a specified law enforcement MOS, have satisfactorily completed military police training at a federal service school, possess an honorable discharge or be currently serving, and not be separated from employment in a specified law enforcement MOS for more than five years.

## **Internships**

The School of Criminal Justice allows selected students to complete internships at specified job sites. Upper-division undergraduate students may elect from one to nine hours of CJ 490 if they are approved by the internship coordinator and a job site supervisor unless otherwise specified by a particular organization. Students taking three credits of CJ 490, are normally expected to put in 15 hours at the internship site per week. Credit hours are based on site requirements. Graduate students without prior criminal justice or private security work experience are highly encouraged to complete CJ 640 - Graduate Internship (see Criminal Justice Master Degree Requirements). No more than six credit hours may be applied to the undergraduate major; no more than three credit hours may be applied to the graduate internship. To apply for an internship, contact the internship coordinator.

## **Honors Organizations**

Alpha Phi Sigma is the nationally recognized honor society for students in the criminal justice sciences. The society recognizes academic excellence by undergraduates and graduate students

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

of criminal justice. Members participate in many activities, including community service, career workshops, and fundraisers.

## **Bachelor of Arts or Bachelor of Science in Criminal Justice**

### **Requirements for a Major in Criminal Justice**

To complete the requirements for graduation with a bachelor's degree in criminal justice or legal studies, students must fulfill the general education requirements. While most courses taken at accredited colleges and universities are transferable for full credit, only four courses will be considered toward criminal justice major programs. Students should take at least two-thirds of the credits constituting their major from Grand Valley State University.

### **Bachelor of Arts or Bachelor of Science Degree Requirements**

#### **Requirements for B.A. Degree**

The B.A. degree requires third-semester proficiency in a foreign language

#### **Requirements for B.S. Degree**

STA 215 - Introductory Applied Statistics (3 credits)

CJ 300 - Research Methods in Criminal Justice (3 credits)

CJ 400 - Qualitative Methods (3 credits)

#### **Core Courses**

#### **Major Degree Requirements for B.A. and B.S. Degrees**

All majors must take the following nine courses for a total of 27 credits:

CJ 101 - Justice and Society (3 credits)

CJ 201 - Criminology (3 credits)

CJ 305 - Constitutional Rights and Civil Liberties (3 credits)

CJ 312 - Police Process (3 credits)

CJ 330 - Correctional Process (3 credits)

CJ 340 - Courts Process (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

CJ 350 - Juvenile Justice Process (3 credits)

CJ 482 - Culture, Crime and Justice (3 credits)

CJ 495 - Issues in Criminal Justice (Capstone) (3 credits)

### **Electives**

In addition, majors must select 12 credit hours of electives from criminal justice courses, not including the B.S. degree course requirements CJ 300 and CJ 400 or police academy courses (CJ 415, CJ 416, CJ 417, CJ 418, and CJ 419). Choose from:

CJ 302 - Criminal Law (3 credits)

CJ 311 - Criminal Investigation (3 credits)

CJ 315 - Principles of Security (3 credits)

CJ 320 - Crimes Against Women (3 credits)

CJ 325 - Criminal Justice and Human Rights (3 credits)

CJ 335/DS 335 - Digital Crime, Media and Culture (3 credits)

CJ 355 - Youth Culture and Crime (3 credits)

CJ 360 - Inside-Out Prison Exchange Program (3 credits)

CJ 370 - Environmental Crime and Justice (3 credits)

CJ 380 - Special Topics in Criminal Justice and Legal Studies (1 to 3 credits)

CJ 399 - Independent Readings in Criminal Justice (1 to 3 credits)

CJ 405 - Terrorism (3 credits)

CJ 408 - White-Collar and Corporate Crime (3 credits)

CJ 420 - Juvenile Correctional Counseling (3 credits)

CJ 442 - Victimology (3 credits)

CJ 464 - Security Management (3 credits)

CJ 490 - Criminal Justice Internship (1 to 9 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CJ 499 - Independent Study and Research (1 to 3 credits)

## **Grand Valley Police Academy**

The GVSU Basic Police Academy is an annual 16-week intensive program that meets the Michigan Commission on Law Enforcement Standards (MCOLES) training requirements and prepares students for the Michigan Law Enforcement Licensing Examination. Upon completion of the program, participants will have all of the qualifications necessary to be eligible for licensure as a law enforcement officer in the State of Michigan. Students enrolled in the GVSU police academy must take the following courses (a total of 15 credits).

### **Core Courses**

CJ 415 - Law Enforcement Physical Education, Defensive Tactics and Firearms (3 credits)

CJ 416 - Special Operations and Training (3 credits)

CJ 417 - Criminal Investigations II (3 credits)

CJ 418 - Patrol and Traffic Administration and Procedure (3 credits)

CJ 419 - Michigan Criminal Law (3 credits)

### **Courses Recommended for Prospective Police Academy Applicants**

CJ 302 - Criminal Law (3 credits)

CJ 305 - Constitutional Rights and Civil Liberties (3 credits)

CJ 311 - Criminal Investigation (3 credits)

CJ 490 - Criminal Justice Internship (1 to 9 credits)

## **Grand Valley Military Police Basic Training Program**

The GVSU Military Police Veteran's Academy is an annual eight-week intensive program designed to transition eligible candidates to a civilian law enforcement career. The program meets the Michigan Commission on Law Enforcement Standards (MCOLES) training requirements and prepares students for the Michigan Law Enforcement Licensing Examination.

To be eligible for consideration, a candidate must have performed as a military police officer (in any branch of the U.S. Military) for a minimum of 2,080 hours in a specified law enforcement MOS; have satisfactorily completed military police training at a federal service school; possess an honorable discharge or be currently serving; and not be separated from employment in a specified law enforcement MOS for more than five years.

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

Upon completion of the program, participants will have all of the qualifications necessary to be eligible for licensure as a law enforcement officer in the State of Michigan. Students enrolled in the GVSU military police basic police training program must take the following courses (a total of six credits):

CJ 415 - Law Enforcement Physical Education, Defensive Tactics and Firearms (3 credits)

CJ 416 - Special Operations and Training (3 credits)

## **Suggested Order of Coursework for a Major in Criminal Justice (B.A.)**

### **Year One**

WRT 150 - Strategies in Writing (4 credits)

CJ 101 - Justice and Society (3 credits) General education Social and Behavioral Science and CJ core

General education Art, Philosophy and Literature, Social and Behavior Sciences, or Math (3 credits)

Foreign language 101 (4 credits) To ensure proper placement, contact the Department of Modern Languages and Literatures for testing

MTH 110 - Algebra (4 credits)

General education Art, Philosophy and Literature, Social and Behavior Sciences, or Math (3 credits)

General education Art, Philosophy and Literature, Social and Behavior Sciences, or Math (3 credits)

Foreign language 102 (4 credits)

### **Year Two**

General education science course with lab (4 to 5 credits)

CJ 201 - Criminology (3 credits) CJ core.

General education Arts, Philosophy and Literature, Social and Behavioral Science, or Math (3 credits)

Foreign language 201 (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

Minor or general elective course (1 credit)

General education science course/nonlab (3 credits)

General education Arts, Philosophy and Literature, Social and Behavioral Science, or Math  
(3 credits)

CJ 312, CJ 330, CJ 340, or CJ 350 (3 credits) CJ core.

CJ 312, CJ 330, CJ 340, or CJ 350 (3 credits) CJ core.

Minor or general elective course (3 credits)

### **Year Three**

CJ 312, CJ 330, CJ 340, or CJ 350 (3 credits) CJ core.

CJ 305 - Constitutional Rights and Civil Liberties (3 credits) CJ core.

General education Global Perspectives (3 credits)

General education Issues (3 credits)

Minor or general elective course (3 credits)

Minor or general elective course (1 credits)

CJ major elective (3 credits)

General education Issues (3 credits)

CJ 482 - Culture, Crime and Justice (3 credits) CJ core.

General education U.S. Diversity (3 credits)

Minor or general elective course (3 credits)

Minor or general elective course (1 credit)

### **Year Four**

CJ major elective (3 credits)

CJ major elective (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Minor or general elective course (3 credits)

Minor or general elective course (3 credits)

CJ 495 - Issues in Criminal Justice (Capstone) (3 credits)

CJ major elective (3 credits)

Minor or general elective course (3 credits)

Minor or general elective course (3 credits)

Minor or general elective course (3 credits)

## **Suggested Order of Coursework for a Major in Criminal Justice (B.S.)**

### **Year One**

WRT 150 (4 credits)

CJ 101 (3 credits) General education SS and CJ core.

General education science course with lab (4 credits)

General education Art, Philosophy and Literature, Social and Behavior Sciences, or History  
(3 credits)

MTH 110 (4 credits)

General education Art, Philosophy and Literature, Social and Behavior Sciences, or History  
(3 credits)

General education science course/nonlab (3 credits)

Minor or general elective course (3 credits)

### **Year Two**

CJ 201 - Criminology (3 credits) CJ core.

STA 215 - Introductory Applied Statistics (3 credits) General education MTH, SCI, and CJ  
cognate.

General education Global Perspectives (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

General education Art, Philosophy and Literature, Social and Behavior Sciences, or History  
(3 credits)

Minor or general elective course (3 credits)

CJ 312, CJ 330, or CJ 350 (3 credits) CJ core.

CJ 312, CJ 330, or CJ 350 (3 credits) CJ core.

General education U.S. Diversity (3 credits)

Minor or general elective (3 credits)

Minor or general elective (3 credits)

### **Year Three**

CJ 300 (3 credits) CJ cognate.

CJ 305 (3 credits) CJ core.

CJ 340 (3 credits) CJ core.

General education Issues (3 credits)

General education Issues (3 credits)

Minor or general elective (3 credits)

Minor or general elective (3 credits)

CJ 312, CJ 330, or CJ 350 (3 credits) CJ core.

CJ 400 (3 credits) CJ cognate and SWS; CJ 300 prerequisite.

Minor or general elective (3 credits)

### **Year Four**

CJ major elective (3 credits)

CJ major elective (3 credits)

CJ 482 - Culture, Crime and Justice (3 credits) CJ core.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Minor or general elective (3 credits)

Minor or general elective (3 credits)

CJ 495 - Issues in Criminal Justice (Capstone) (3 credits)

CJ major elective (3 credits)

CJ major elective (3 credits)

Minor or general elective (3 credits)

Minor or general elective (3 credits)

## **Criminal Justice Minor**

### **Requirements for a Minor in Criminal Justice**

Minors are required to complete the following nine credit hours of core courses:

CJ 101 - Justice and Society (3 credits)

CJ 201 - Criminology (3 credits)

CJ 305 - Constitutional Rights and Civil Liberties (3 credits)

They must also complete an additional 12 credit hours from any criminal justice course(s).

## **Juvenile Justice Minor**

The juvenile justice minor, offered by the School of Criminal Justice, is a 21-credit interdisciplinary program open to all students. This minor is designed to promote an awareness and understanding of juvenile offenders and at-risk youth. This minor is also designed to provide students with a comprehensive education that will prepare them for careers in the field of human services as it relates to juvenile offenders and at-risk youth.

Only nine credits maximum may apply to both the criminal justice major and juvenile justice minor. Seek advising for assistance.

### **Requirements for a Minor in Juvenile Justice**

There are 21 credits required, including:

CJ 101 - Justice and Society (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CJ 201 - Criminology (3 credits)

CJ 355 - Youth Culture and Crime (3 credits)

CJ 420 - Juvenile Correctional Counseling (3 credits)

Elective courses:

CJ 350 - Juvenile Justice Process (3 credits)

LS 350 - Family Law (3 credits)

SOC 285 - Families in Society (3 credits)

SOC 252 - Sociology of Drug Use and Abuse (3 credits)

SOC 389 - Child Maltreatment (3 credits)

PSY 301 - Child Development (3 credits)

SW 150 - Introduction to Social Work and Social Welfare (3 credits)

SW 320 - Child Welfare Policy and Practice (3 credits)

RTX 302 - Leisure, Health, and Wellness (3 credits)

See the director of the School of Criminal Justice for additional information.

## **Master of Science in Criminal Justice**

**Website:** [gvsu.edu/grad/cj](http://gvsu.edu/grad/cj)

The 36 credit hour Master of Science degree in criminal justice at Grand Valley State University is designed to provide graduate students with the necessary education and practical skills to become natural leaders and academicians in the field. The program's mission is to develop highly ethical and capable leaders, specialists, and scholars, with an advanced and practical knowledge in criminology and criminal justice to prepare them for future work in their careers, classrooms, and/or communities. Our program also seeks to create a dynamic community of criminal justice professionals and scholars who will work in concert to critique, challenge, and advance the study and practice of criminal justice. Our faculty believe that professional education is best reinforced by concrete application of theoretical concepts. Graduate courses will provide students the opportunity to apply to their agencies or professional endeavors the skills, concepts, and knowledge acquired in the program. The result of this applied process is a bridge between theory and practice and between the classroom and the professional field.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

The criminal justice curriculum encompasses applied concepts of ethics, political and social justice, historical analysis of institutions and policy, leadership and management, and theories and research. The curriculum also prepares students who plan to apply to a doctoral program with appropriate theoretical, research, analytical, and critical interpretation skills.

### **Mission**

To develop highly ethical and capable leaders, specialists, and scholars, with an advanced and practical knowledge in criminology and criminal justice to prepare them for future work in their careers, classrooms, and/or communities.

### **Admission**

To apply for the Master of Science degree in criminal justice, please note the following requirements:

Undergraduate GPA of at least a 3.0 on a 4.0 scale calculated from the last 60 hours of undergraduate work.

If applying for student admission into the SCJ undergraduate/graduate combined degree program, an undergraduate GPA of at least a 3.25 on a 4.0 scale calculated from the last 60 hours of undergraduate work.

Three letters of recommendation (at least two from current or former professors).

A personal statement/essay detailing academic preparation, background experiences and professional, educational, and career goals for entry into a master's program in criminal justice, and any special topic areas that you would like to pursue at the master's level.

The Graduate Committee reserves the right to require additional information it deems appropriate, including GRE test scores and writing samples. The committee may also require applicants to appear for an oral interview. The decisions of the Graduate Committee are final.

Students who have not earned a degree in criminal justice or criminology may be required to take undergraduate criminal justice courses at the discretion of the MCJ graduate program director. Approved courses such as introduction to criminal justice, criminology, research methods, and statistics are highly recommended.

Applications for fall admission should be received by May first; winter admission applications should be received by November first.

### **Transfer Credit**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Up to 12 hours of transfer credit may be applied to the degree program. Such credit must meet the requirements specified in the Transfer of Credit section of this catalog, be recommended as applicable to the degree program by a graduate faculty advisor, and be approved for transfer application by the MCJ graduate program director.

### **Program Location**

The program is offered in the DeVos Center, Pew Grand Rapids Campus, located in downtown Grand Rapids, MI.

### **Requirements for the M.S. in Criminal Justice**

Students must complete a minimum of 36 graduate credit hours:

18 credit hours of core courses

12-15 credit hours of elective courses (12 credit hours if completing a thesis; 15 credit hours if completing the MCJ Capstone course)

Three to six hours of culminating experience.

### **Core Courses**

Core of required courses consists of 18 credit hours as follows:

CJ 604 - Criminal Justice Policy and Program Evaluation (3 credits)

CJ 606 - Research Methodology and Data Analysis (3 credits)

CJ 607 - Criminology (3 credits)

CJ 609 - Criminal Justice Systems (3 credits)

CJ 610 - Race, Gender, and Class in the Criminal Justice System (3 credits)

CJ 642 - Victimology (3 credits)

### **Electives**

Choose from the following courses (15 credits if completing the capstone seminar (CJ 650) or 12 if completing the thesis (CJ 695)):

CJ 600 - Qualitative Methodology (3 credits)

CJ 619 - Legal Issues in Criminal Justice (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CJ 620 - Policing and Society (3 credits)

CJ 621 - Corrections and Punishment (3 credits)

CJ 622 - Juvenile Justice Systems and Issues (3 credits)

CJ 640 - Graduate Internship (3 credits)

CJ 680 - Special Topics in Criminal Justice Credits: 3

CJ 699 - Directed Readings (1 to 3 credits)

### **Capstone Seminar**

The Capstone Seminar option requires students to complete 33 hours of coursework. The three credit Capstone Seminar serves as a culminating experience within the graduate program in lieu of the six-credit-hour thesis option. Students must complete a minimum of 18 credits before registering for the Capstone course. This class should normally be taken in the students final semester of study.

CJ 650 - Master's Capstone in Criminal Justice (3 credits)

CJ 695 - Criminal Justice Thesis (1 to 6 credits)

## **Cybersecurity (Graduate)**

For additional information about opportunities your college offers, please refer to the Seymour and Esther Padnos College of Engineering and Computing section in this catalog.

**Website:** [gvsu.edu/grad/cybersecurity](https://gvsu.edu/grad/cybersecurity)

The master's degree in cybersecurity is a blend of theory and applications to deliver a cutting-edge program. The curriculum is designed to provide students with the knowledge and skills needed to successfully evaluate information security needs, identify appropriate countermeasures, and implement security solutions. Moreover, the program introduces students to various cybersecurity areas such as secure coding, network security, and digital forensics, as well as having students practice with different tools and techniques to identify potential threats to the network infrastructure and computer systems.

### **Admission to the Master of Science in Cybersecurity Program**

In addition to the university requirements of admission, all students seeking a degree for the M.S. in cybersecurity must also meet the following requirements:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

**Grade point average of 3.0 (B)** from all undergraduate coursework or a satisfactory score on the GRE or GMAT test

**Resume** detailing work experiences and accomplishments

**Personal statement** of career goals and background experiences, including an explanation of how this program will help achieve educational and professional objectives

**Recommendations:** Two professional or academic recommendations received online, addressing the candidate's potential for graduate study completion. You will provide the emails of two references in your account at [gvsu.edu/gradapply](https://gvsu.edu/gradapply), and they will be sent a link to fill out for their online recommendation

Admission to the M.S. in cybersecurity status may be full or conditional; conditional admission may be granted to applicants with deficiencies in their background. Candidates without sufficient relevant background experience may satisfy any deficiency with appropriate graduate or undergraduate courses, as recommended by a faculty advisor in the program and approved by the cybersecurity program director.

### **Minimum Number of Hours for Graduation**

11 three-credit courses (33 credit hours) comprise the Master of Science in cybersecurity degree.

### **Program Location**

Courses are normally scheduled in the evenings from 6 p.m. to 9 p.m. downtown at the Pew Grand Rapids Campus.

## **Master of Science in Cybersecurity**

### **Requirements for the M.S. in Cybersecurity**

All candidates for the degree must complete a total of 33 credits, indicated as follows:

Foundation courses (6 credits)

Core (21 credits)

Electives (0 or 3 credits)

Capstone (3 or 6 credits)

### **Foundation Courses**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

All candidates are expected to complete the two foundation courses, CIS 500 and CIS 501, for a total of six credits. However, a placement exam can be taken to demonstrate proficiency in the topics covered by the foundation courses. A successful score on the placement exam will result in waiving the requirement of the foundation courses (33 credits are still required for the degree and may be achieved through taking additional electives).

CIS 500 - Fundamentals of Software Practice (3 credits)

CIS 501 - Fundamentals of Modern Computer Systems (3 credits)

### **Core Courses**

Students are required to complete the following courses for a total of 21 credits:

CIS 518 - Secure Software Engineering (3 credits)

CIS 555 - Applied Cryptography (3 credits)

CIS 615 - Information Security Principles (3 credits)

CIS 616 - Data Security and Privacy (3 credits)

CIS 617 - Digital Forensics and Investigations (3 credits)

CIS 619 - Data Analytics for Cybersecurity (3 credits)

CIS 654 - Computer Networking (3 credits)

### **Elective Courses**

Students must complete three elective credits; Any 500- or 600-level CIS course (other than foundations courses) can be used as an elective toward the M.S. in cybersecurity degree.

### **Capstone**

Each candidate must complete either the project course or the thesis sequence for a total of three or six credits. Please contact the graduate program director one semester prior to starting any of these.

CIS 690 - Thesis Research Preparation (3 credits)

CIS 693 - Master's Project (3 credits)

CIS 695 - Master's Thesis (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

# Cybersecurity (Undergraduate)

For additional information about opportunities your college offers, please refer to the Seymour and Esther Padnos College of Engineering and Computing section in this catalog.

**Website:** [cis.gvsu.edu/cybersecurity-major](http://cis.gvsu.edu/cybersecurity-major)

## Degrees Offered

Undergraduate and graduate computing programs at Grand Valley are offered by the School of Computing. Computing programs prepare students for a rewarding career that is in high-demand.

One of the strengths of the computing programs at Grand Valley is flexibility. We offer B.S. degrees in computer science, cybersecurity, information systems, and information technology. All programs share faculty, courses, and laboratory resources. Also, by choosing electives and minors in related subject areas, students can further tailor their degrees to fit their individual needs and career goals. We offer minors in computer engineering, computer science, data science, health care information systems, information security systems, information systems, and information technology.

The cybersecurity degree will prepare students to design and implement defenses for a wide variety of cybersecurity threats. Students will be prepared to identify threats and vulnerabilities, identify and implement appropriate controls, and recover from security breaches. A wide range of cybersecurity application areas are covered including software security, network security, data security, and system security, as well as human and organizational issues, in order to prepare students broadly to address a variety of threats.

GVSU's cybersecurity program contains hands-on lab activities throughout the program to prepare students with the practical skills to deal with today's cybersecurity issues. Cybersecurity theory is also emphasized, to prepare students to recognize and address the security problems of tomorrow. Cognate courses emphasize analytical reasoning and legal issues.

## Mission

The mission of the School of Computing is to provide the GVSU student community with the intellectual foundations and experiences necessary to use information technology effectively in their chosen careers.

To enable students to attain this goal, the School of Computing faculty have two primary responsibilities. First, we offer a solid conceptual foundation required for a career in computing. Second, we provide direct, experiential knowledge of technology necessary to be a productive user/producer of information technology.

To achieve these goals, we

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

work continuously to keep our curriculum relevant to our mission;

ensure that work-relevant experience is part of every class;

establish and nurture industrial contacts;

establish an integrated, supported co-op experience for computing majors; and

provide all students, regardless of their major interests, fundamental knowledge of computers and information processing.

### **Cybersecurity Program Goals**

By the time of graduation, cybersecurity students will demonstrate the ability to perform the following:

- Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
- Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
- Communicate effectively in a variety of professional contexts.
- Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
- Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
- Apply security principles and practices to maintain operations in the presence of risks and threats.

Three years after graduation, our typical alumni are expected to be computing professionals who:

- use technical, communication, and teamwork skills to apply cybersecurity principles and to protect systems and data from a variety of threats.
- continue to develop their professional knowledge and skills.
- behave ethically while contributing to their profession and to society.

### **Advisory Board**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

The School of Computing Advisory Board (CISAB) is composed of the school's director and leading computing experts in West Michigan. The board meets twice each year and advises the school on curriculum development and continuing education. It serves as an important interface between the school and the computing community.

## **Admission**

Admission to major standing in cybersecurity (CBS) is competitive and requires an application for admittance into the major. Applicants must meet the following criteria:

Overall GPA of 2.5 or above in all Grand Valley State University coursework.

Completion of each course in the CBS foundation with a grade of C or above (C- is not sufficient).

GPA of 2.5 or above in the CBS foundation.

The CBS foundation includes CIS 162 and CIS 258; MTH 225; STA 215 or STA 312; and COM 201. Completing the CBS foundation courses require programming, analytical reasoning, and communication skills. These skills are important to excel in the computing field.

The CBS foundation GPA is calculated on no more than one repeat per course. Achievement of the minimum requirements does not guarantee admission to the major. The School of Computing will also consider internship availability and the applicant's suitability for internships before granting admission. Transfer students must complete at least six hours of CIS coursework before applying, but should consult with a School of Computing advisor before scheduling their first semester.

Note: While admission to major standing in cybersecurity may be achieved with completion of the computer science foundation, information systems foundation or information technology instead of the CBS foundation, it is still necessary to complete all the required courses in the cybersecurity major.

# **Bachelor of Science in Cybersecurity**

## **Requirements for a Major in Cybersecurity**

### **Degree Requirements**

Students must complete the university degree requirements as identified in the General Academic Regulations section of the catalog.

### **Admission**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Admission to major standing in cybersecurity is competitive and requires an application for admittance into the major. See the cybersecurity program description for more information regarding admission to the major.

## **Cybersecurity Major**

### **Required Courses**

Cybersecurity majors must complete the following CIS courses with a minimum 2.0 GPA.

CIS 162 - Computer Science I (4 credits)

CIS 163 - Computer Science II (4 credits)

CIS 241 - System-level Programming and Utilities (3 credits)

CIS 258 - Introduction to Cybersecurity (3 credits)

CIS 290 - Professional Responsibilities and Practices (3 credits)

CIS 331 - Data Analysis Tools and Techniques (3 credits)

CIS 337 - Network Systems Management (3 credits)

CIS 350 - Introduction to Software Engineering (3 credits)

CIS 351 - Computer Organization and Assembly Language (4 credits)

CIS 353 - Database (3 credits)

CIS 358 - Information Assurance (3 credits)

CIS 375 - Wireless Networks and Security (3 credits)

CIS 418 - Secure Software Engineering (3 credits)

CIS 430 - Computer and Cyber Forensics (3 credits)

CIS 437 - Distributed Computing (4 credits)

CIS 455 - Applied Cryptography (3 credits)

CIS 456 - Reverse Engineering and Malware Analysis (3 credits)

CIS 458 - System Security (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CIS 468 - Cybersecurity Project (3 credits)

CIS 490 - Internship (2 to 5 credits)

### **Elective Courses**

Cybersecurity majors must select six or more credits of elective courses from the following:

CIS 310 - Introduction to the Structure and Mechanics of Social Networks (3 credits)

CIS 335 - Data Mining (3 credits)

CIS 338 - Wide Area Network Engineering (3 credits)

CIS 357 - Mobile Application Development (3 credits)

CIS 365 - Artificial Intelligence (3 credits)

CIS 368 - Usability Design and Evaluation (3 credits)

CIS 371 - Web Application Programming (3 credits)

CIS 373 - Pervasive Computing (3 credits)

CIS 380 - Special Topics in Computer Information Systems (1 to 4 credits)

CIS 451 - Computer Architecture (3 credits)

CIS 452 - Operating Systems Concepts (4 credits)

CIS 480 - Special Topics in Computer Information Systems (1 to 4 credits)

CJ 408 - White-Collar and Corporate Crime (3 credits)

MTH 312 - Cryptography and Privacy (3 credits)

### **Cognate Courses**

Cybersecurity majors must complete the following cognate courses:

CJ 315 - Principles of Security (3 credits)

CJ 335 - Digital Crime, Media and Culture (3 credits)

COM 201 - Speech (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MTH 122 - College Algebra (3 credits) **OR** MTH 124 - Precalculus: Functions and Models (5 credits) **OR** MTH 201 - Calculus I (4 credits)

MTH 225 - Discrete Structures: Computer Science (3 credits)

STA 215 - Introductory Applied Statistics (3 credits) **OR** STA 312 - Probability and Statistics (3 credits)

WRT 350 - Business Communication (3 credits)

## **Suggested Order of Coursework**

This suggested order of coursework for a major in cybersecurity assumes that students will complete the cybersecurity foundation and general education courses with the help of their advisor and apply for admission at the end of the winter semester of their first year.

### **Year One**

CIS 162 - Computer Science I (4 credits)

CIS 163 - Computer Science II (4 credits)

CIS 258 - Introduction to Cybersecurity (3 credits)

COM 201 - Speech (3 credits)

MTH 201 - Calculus I (4 credits)

MTH 225 - Discrete Structures: Computer Science (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

WRT 150 - Strategies in Writing (4 credits)

Appropriate general education coursework

### **Year Two**

CIS 241 - System-level Programming and Utilities (3 credits)

CIS 290 - Professional Responsibilities and Practices (3 credits)

CIS 337 - Network Systems Management (3 credits)

CIS 350 - Introduction to Software Engineering (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CIS 351 - Computer Organization and Assembly Language (4 credits)

CIS 375 - Wireless Networks and Security (3 credits)

CJ 315 - Principles of Security (3 credits)

Appropriate general education coursework

### **Year Three**

CIS 331 - Data Analysis Tools and Techniques (3 credits)

CIS 353 - Database (3 credits)

CIS 358 - Information Assurance (3 credits)

CIS 437 - Distributed Computing (4 credits)

CIS 456 - Reverse Engineering and Malware Analysis (3 credits)

CIS 458 - System Security (3 credits)

CJ 335 - Digital Crime, Media and Culture (3 credits)

Cybersecurity elective

Appropriate general education coursework

### **Year Four**

CIS 418 - Secure Software Engineering (3 credits)

CIS 430 - Computer and Cyber Forensics (3 credits)

CIS 455 - Applied Cryptography (3 credits)

CIS 468 - Cybersecurity Project (3 credits)

CIS 490 - Internship (2 to 5 credits)

WRT 350 - Business Communication (3 credits)

Cybersecurity elective

Appropriate general education coursework

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

# Badge in Cybersecurity

The School of Computing's cybersecurity badge (not a degree or certificate) is designed to prepare students in the following areas:

Analyzing risk, using a variety of risk evaluation techniques.

Discussing legal and ethical issues related to information security.

Securing a network against attack.

Applying principles of ethical hacking to harden an Operating System.

Applying tools and techniques to cyber forensic investigations and examinations

Describing software vulnerabilities.

## Program Format

The cybersecurity badge is comprised of three courses (nine credits).

## Admission

Completion of a bachelor's degree and evidence of object-oriented programming skills are required for admission.

## Program Location

The cybersecurity badge is offered on the Pew Grand Rapids Campus in downtown Grand Rapids, MI.

## Requirements

CIS 615 - Information Security Principles (3 credits)

And two of the following:

CIS 555 - Applied Cryptography (3 credits)

CIS 616 - Data Security and Privacy (3 credits)

CIS 617 - Digital Forensics and Investigations (3 credits)

CIS 518 - Secure Software Engineering (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Combined Bachelor of Science in Cybersecurity and Master of Science in Cybersecurity**

Qualified undergraduates may be admitted to a combined bachelor's/master's program and obtain both a B.S. in cybersecurity and an M.S. in cybersecurity within an accelerated time frame. Students admitted to this program will count up to 12 credits of graduate work in partial satisfaction of the requirements for the undergraduate. After completing 120 credits and all requirements for the bachelor's degree, students are awarded a bachelor's degree. A minimum of 21 graduate credits must be completed after the 120 credits of the bachelor's degree. All other master's degree requirements must be met.

### **Admission**

We encourage cybersecurity students to apply for the combined B.S./M.S. program in cybersecurity and cybersecurity in their second year. It is also possible to apply in the third year but students in their fourth year typically do not receive the benefits of the combined program. Application requirements include:

Overall GPA of 3.25 or greater

Student must have been admitted to the cybersecurity program

60 hours of academic credit have been completed or are in progress

Two letters of recommendation

Academic transcripts (unofficial transcripts are allowable)

Admission decisions will be made by the school admissions committee based on the student's previous academic success in cybersecurity, as indicated by GPA and grades in the foundation cybersecurity courses, as well as potential success in the graduate program, as indicated by the letters of recommendation. Decisions will typically be communicated to students within four weeks of submitting a complete application to the combined degree program.

### **Requirements**

#### **During Undergraduate Studies**

All university requirements, including general education courses, must be completed before the final (graduate) year of the combined B.S./M.S. program. In the final undergraduate year, students typically take 12 credits of graduate-level courses. If any courses are dual-listed, students in the combined B.S./M.S. program must complete all assignments expected of graduate students and they will be evaluated in the same way as graduate students.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

The school has identified the following courses that students may dual-count toward the B.S. and M.S. degrees. Up to 12 credits can be dual-counted. Students are strongly encouraged to work with the graduate program director in cybersecurity to ensure all undergraduate and graduate requirements are met.

CIS 518 in lieu of CIS 418

CIS 555 in lieu of CIS 455

CIS 616 in lieu of CIS 458

CIS 617 in lieu of CIS 430

### **During Graduate Studies**

A student shall be considered a graduate student for all purposes upon either of the following events: the award of a baccalaureate degree, or the completion of 12 graduate credit hours.

### **Graduation Without Completion of the Program**

If a student decides at some point to pursue only the undergraduate portion of the combined degree, the school will still recognize the graduate courses taken in lieu of undergraduate courses. Credit from the undergraduate degree cannot be used toward a graduate degree at a later date.

The student will still be responsible for completing all of their other undergraduate cybersecurity degree requirements.

### **Sample Order of Coursework**

This sample order of coursework assumes that students will complete the cybersecurity foundation and general education courses with the help of their advisor and apply for graduate admission at the end of the winter semester of their second year. The following course sequence also assumes a strong mathematics background for the entering student. If mathematics deficiencies exist, completing the mathematics prerequisites should be the student's top priority.

Notes: This is only one of many possible sequences of courses. Students are strongly encouraged to work with the graduate program director in cybersecurity to ensure all undergraduate and graduate requirements are met, and to customize the combined program to their areas of interest. The following sequence makes no attempt to minimize credits. For example, the sequence assumes that all general education courses are distinct, and no "double dipping" is done.

### **Year One**

CIS 162 - Computer Science I (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CIS 163 - Computer Science II (4 credits)

CIS 258 - Introduction to Cybersecurity (3 credits)

COM 201 - Speech (3 credits)

MTH 201 - Calculus I (4 credits)

MTH 225 - Discrete Structures: Computer Science (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

WRT 150 - Strategies in Writing (4 credits)

Appropriate general education coursework

## **Year Two**

CIS 241 - System-level Programming and Utilities (3 credits)

CIS 290 - Professional Responsibilities and Practices (3 credits)

CIS 337 - Network Systems Management (3 credits)

CIS 351 - Computer Organization and Assembly Language (4 credits)

CIS 375 - Wireless Networks and Security (3 credits)

CJ 315 - Principles of Security (3 credits)

Appropriate general education coursework

Appropriate general education coursework

Appropriate general education coursework

Appropriate general education coursework

## **Year Three**

CIS 331 - Data Analysis Tools and Techniques (3 credits)

CIS 350 - Introduction to Software Engineering (3 credits)

CIS 353 - Database (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

CIS 358 - Information Assurance (3 credits)  
CIS 437 - Distributed Computing (4 credits)  
CIS 456 - Reverse Engineering and Malware Analysis (3 credits)  
CIS 490 - Internship (2 to 5 credits)  
CIS 617 - Digital Forensics and Investigations (3 credits)  
CJ 335 - Digital Crime, Media and Culture (3 credits)  
Appropriate general education coursework  
Cybersecurity elective

#### **Year Four**

CIS 468 - Cybersecurity Project (3 credits)  
CIS 518 - Secure Software Engineering (3 credits)  
CIS 555 - Applied Cryptography (3 credits)  
CIS 616 - Data Security and Privacy (3 credits)  
WRT 350 - Business Communication (3 credits)  
Cybersecurity elective  
Graduate elective  
Appropriate general education coursework  
Appropriate general education coursework

#### **Year Five**

CIS 615 - Information Security Principles (3 credits)  
CIS 619 - Data Analytics for Cybersecurity (3 credits)  
CIS 693 - Master's Project (3 credits)  
Graduate elective

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Graduate elective

Graduate elective

## Dance

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

In addition to the full-time faculty, several distinguished dance educators with extensive professional experience teach classes on a part-time basis.

**Website:** [gvsu.edu/dance](http://gvsu.edu/dance)

### Degrees Offered

The Department of Music, Theatre, and Dance offers curricula leading to the Bachelor of Arts in music, Bachelor of Music, Bachelor of Music Education, certificate in piano pedagogy, Bachelor of Arts in theatre, Bachelor of Science in theatre, and the Bachelor of Arts in dance. Minors in music, theatre and dance are also offered. These degree programs provide personalized attention, career building opportunities, and professional and extensive training in the various idioms of music, theatre, and dance. In the context of a broad liberal education that fosters critical thinking, creative problem solving, and cultural understanding, these degree programs prepare students well to answer the call of rewarding careers in music, theatre, and dance.

The B.A. in dance provides students extensive training to develop and refine techniques in various idioms of dance. Students develop their abilities through a wide range of courses combining practical and theoretical skills that emphasize critical thought and growth as an artist. The department encourages collaboration across disciplines and provides opportunities to explore innovative areas in dance history, theory, dance and technology, choreography, pedagogy, anatomy and physiology, and production. We highlight performance opportunities in the work of world-renowned guest artists, maintain currency in the dance community at large, and graduate informed members of the dance community. Class sizes are small and offer each student individual attention from dance faculty.

### Admission

Participation in the dance program is by audition only. An audition schedule and application form can be found at [gvsu.edu/dance](http://gvsu.edu/dance). When considerable geographical distance prevents a personal audition, the applicant may, with the permission of the program, submit a DVD or link to online video containing ballet barre and center classroom work and modern or jazz center classroom work along with a resume. Scholarships are awarded on the basis of individual talent and potential, and are renewable annually if performance and academic standards are maintained. Auditions will consist of a ballet technique class, a modern technique class, performance of a short solo, and meeting with the faculty.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

# **Bachelor of Arts in Dance**

## **Requirements for a Major in Dance**

Students in the dance major must complete a minimum of 47 credit hours in dance.

### **Dance Core**

Students must complete 42 core credit hours as follows:

DAN 241 **OR** DAN 341 **OR** DAN 441 - Ballet technique (Eight credits from a combination of DAN 241, DAN 341, and DAN 441, which are two credits each.)

DAN 251 **OR** DAN 351 **OR** DAN 451 - Modern technique (Eight credits from a combination of DAN 251, DAN 351, and DAN 451, which are two credits each.)

DAN 281 **OR** DAN 381 **OR** DAN 481 - Jazz technique (2 credits)

DAN 175 - Freshman Company (1 credit)

DAN 275 - Dance Company (1 credit)

The preceding courses must be repeated for credit.

DAN 211 - Choreography and Improvisation (3 credits)

DAN 245 - Dance History: Evolving Traditions (3 credits)

DAN 311 - Choreography and Production (3 credits)

DAN 333 - Dance Costuming (2 credits)

DAN 345 - Dance History: Expanding Performance (3 credits)

DAN 420 - Dance Pedagogy (3 credits)

DAN 495 - Senior Project (3 credits)

### **Dance Theory**

Choose one course from the following (three credit hours):

DAN 393 - Dance Conditioning (3 credits)

DAN 394 - Dance on Camera (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

## **Dance Electives**

Students must complete two credit hours of electives:

Two credits can be taken as any currently listed dance course except DAN 200. For technique courses, this would be any course taken beyond the required eight credits.

## **Suggested General Education Courses**

The following seven credit hours of general education courses are suggested:

BMS 202 - Anatomy and Physiology (4 credits)

MUS 100 - Introduction to Music Literature (3 credits)

## **Mid-program Review**

At the end of the sophomore year, students enrolled in the dance major program will sign-up for a Mid-program Review to determine if they can proceed to upper-division courses. The Mid-program Review is reviewed and adjudicated by the dance faculty.

The following courses must be successfully completed by the end of the semester the student completes the Mid-program Review: two semesters in ballet (DAN 241, DAN 341, or DAN 441); two semesters in modern dance (DAN 251, DAN 351, or DAN 451); DAN 175, DAN 275, DAN 211, and DAN 245.

## **Suggested Order of Coursework**

### **Year One**

DAN 175 - Freshman Company (1 credit)

DAN 241 - Ballet Technique 2 (2 credits) Two semesters for a total of four credits.

DAN 251 - Modern Technique 2 (2 credits) Two semesters for a total of four credits.

MTH 110 - Algebra (4 credits)

WRT 150 - Strategies in Writing (4 credits)

General education courses (13 credits)

Total: 30 credits

### **Year Two**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

BMS 202 - Anatomy and Physiology (4 credits)

DAN 211 - Choreography and Improvisation (3 credits)

DAN 245 - Dance History: Evolving Traditions (3 credits)

DAN 275 - Dance Company (1 credit)

DAN 281 or DAN 381 or DAN 481 Jazz Technique (2 credits)

DAN 341 - Ballet Technique 3 (2 credits)

DAN 351 - Modern Technique 3 (2 credits)

Dance theory (3 credits)

General education courses in addition to BMS 202 (2 credits)

Foreign language (8 credits)

Total: 30 credits

### **Year Three**

DAN 275 - Dance Company (1 credit)

DAN 311 - Choreography and Production (3 credits)

DAN 333 - Dance Costuming (2 credits)

DAN 345 - Dance History: Expanding Performance (3 credits)

DAN 441 - Ballet Technique 4 (2 credits)

DAN 451 - Modern Technique 4 (2 credits)

General education courses (13 credits)

Foreign language (4 credits)

Total: 30 credits

### **Year Four**

DAN 420 - Dance Pedagogy (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

DAN 441 - Ballet Technique 4 (2 credits)

DAN 451 - Modern Technique 4 (2 credits)

DAN 495 - Senior Project (3 credits)

MUS 100 - Introduction to Music Literature (3 credits)

General education courses in addition to MUS 100 (16 credits)

Total: 29 credits

## **Dance Minor**

### **Requirements for a Minor in Dance**

A student choosing to minor in dance must complete a minimum of 23 credit hours in dance:

DAN 175 - Freshman Company (1 credit) Repeat for two credits total.

DAN 211 - Choreography and Improvisation (3 credits)

DAN 241 or DAN 341 or DAN 441 - Ballet Technique (4 credits)

DAN 251 or DAN 351 or DAN 451 - Modern Dance (4 credits)

DAN 281 or DAN 381 or DAN 481 - Jazz Technique (2 credits)

DAN 245 - Dance History: Evolving Traditions (3 credits)

DAN 345 - Dance History: Expanding Performance (3 credits)

Dance electives (2 credits) All dance courses count as dance electives.

Total: 23 credits

## **Data Science and Analytics**

**Website:** [gvsu.edu/grad/dsa](http://gvsu.edu/grad/dsa)

This Professional Science Master's degree in data science and analytics provides students from various disciplines with the fundamental analytics background and tools necessary to understand and work with big and complex data sets in any discipline. It is designed to allow a statistics or computing student to gain additional cross-disciplinary background, or for a student of any

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

discipline to develop the necessary skills and knowledge to solve complex data intensive problems. Students take courses in both computer science and statistics, leading to a Capstone that applies skills in both disciplines to interdisciplinary problems.

## **Admission**

In addition to the university requirements of admission, all students seeking a degree for the M.S. in data science and analytics must also meet the following requirements:

**Grade point average:** 3.0 (B) from all undergraduate coursework or a satisfactory score on the GRE or GMAT test.

**Resume:** Include detailed work experiences and accomplishments.

**Personal statement:** Include career goals and background experiences, along with an explanation of how this program will help achieve educational and professional objectives.

**Recommendations:** Two professional or academic recommendations received online, addressing the candidate's potential for graduate study completion. You provide two email addresses of references in your account at [gvsu.edu/gradapply](https://gvsu.edu/gradapply) and they will be sent a link to complete their online recommendation.

Applicants for the Professional Science Master's in data science and analytics must have an underlying base of knowledge relevant to graduate studies in the statistics and computing fields. This knowledge can be demonstrated by previous academic study or work experience. Consultation with a program faculty advisor will be necessary to verify appropriateness of work experience as a substitute for academic preparation.

## **Minimum Number of Hours for Graduation**

12 courses (36 credit hours) comprise the Master of Science in data science and analytics degree.

## **Badge in Data Analytics**

The School of Computing's data analytics badge (not a degree or certificate) is designed to prepare students to accomplish the following tasks:

Utilize computational methods for knowledge discovery.

Create visualizations for complex data sets.

Design parallel and high-performance computing algorithms.

Develop machine learning algorithms.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Program Format**

The data analytics badge is comprised of three courses (9 credits).

## **Admission**

Completion of a bachelor's degree, and evidence of object-oriented programming skills are required for admission.

## **Program Location**

The data analytics badge is offered on the Pew Grand Rapids Campus in downtown Grand Rapids, MI.

## **Requirements for the Data Analytics Badge**

CIS 635 - Knowledge Discovery and Data Mining (3 credits)

CIS 671 - Information Visualization (3 credits)

**AND** one of the following:

CIS 677 - High-performance Computing (3 credits)

CIS 678 - Machine Learning (3 credits)

## **Applied Data Analytics, Undergraduate Certificate**

The applied data analytics certificate focuses on understanding how to interpret, use, and apply data and statistics in the workplace. Students learn foundational computing and statistical skills like visualization, predictive analytics tools, and computer coding in Python and R. Certificates demonstrate the skills necessary to pursue a career path. Earning this undergraduate certificate in applied data analytics will enhance student's career skills by using data to

improve decision-making;

enhance productivity; and

predict and define emerging trends.

## **Requirements for the Certificate (18 credits)**

### **Required Courses (18 credits)**

CIS 160 - Learn to Code in Python (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CIS 320 - Visualization of Data and Information (3 credits)

CIS 331 - Data Analysis Tools and Techniques (3 credits) **OR** MGT 477 - Applied Business Intelligence (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

STA 323 - Predictive Analytics (3 credits)

STA 340 - Statistics in the Media (3 credits) **OR** ECO 300 - Data Analytics for Economics and Business (3 credits)

## **Master of Science in Data Science and Analytics**

The M.S. in data science and analytics is one of five synergistic professional science master's (PSM) degree programs at Grand Valley State University. The five programs (applied statistics, biostatistics, cell and molecular biology (biotechnology), data science and analytics, and health informatics and bioinformatics) are interdisciplinary and involve both the university and its industry partners. All five programs emphasize teamwork, problem-solving, communication, scientific knowledge, and technical skills. Each program is designed to integrate university coursework with business/industrial internships to better prepare students for the variety of career pathways associated with the life science and health science industries. The overall objectives and interactions of these five programs are described in the PSM section of the Grand Valley State University Undergraduate and Graduate Catalog.

The data science and analytics (M.S.) program requires a minimum of 36 credits. Prerequisite courses from statistics, computer science, and professional science provide students with a strong foundation in data science. This is an applied program for the working professional.

The program features the following:

- Four courses in computer information systems

- Four courses in statistics

- One elective

- Three professional science courses (including an internship)

Students are expected to complete field experiences and collaborative assignments and projects.

### **Admission**

In addition to Grand Valley's admission requirements, all students seeking the M.S. degree in data science and analytics must also meet the following requirements:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Grade point average of 3.0 (B) from all undergraduate coursework or a satisfactory score on the GRE or GMAT test

Resume detailing work experiences and accomplishments

Personal statement of career goals and background experiences, including an explanation of how this program will help achieve educational and professional objectives

Recommendations from two professional or academic references received online, addressing the candidate's potential for graduate study completion. You will provide the emails of two references in your account at [gvsu.edu/gradapply](https://gvsu.edu/gradapply) and they will be sent a link to fill out for their online recommendation

Prerequisite courses: CIS 500 or equivalent, STA 216 or equivalent

## **Requirements**

### **CIS Courses**

A total of four courses (12 credits) are required, including:

CIS 635 - Knowledge Discovery and Data Mining (3 credits)

CIS 660 - Information Management and Science (3 credits)

CIS 671 - Information Visualization (3 credits)

**PLUS** one of the following:

CIS 677 - High-performance Computing (3 credits)

CIS 678 - Machine Learning (3 credits)

### **Statistics Courses**

A total of four courses (12 credits) are required, including:

STA 518 - Statistical Computing and Graphics with R (3 credits)

STA 616 - Statistical Programming (3 credits)

STA 631 - Statistical Modeling and Regression (3 credits)

**PLUS** one of the following:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

STA 526 - Multivariate Data Analysis (3 credits)

STA 623 - Categorical Data Analysis (3 credits)

### **Electives Course**

One elective course approved by an advisor for a total of three credits is required.

### **PSM Courses**

The following courses are required:

PSM 650 - Ethics and Professionalism in Applied Science (3 credits)

PSM 662 - Seminar in Professional Science Practice (2 credits)

PSM 691 - Internship (1 to 9 credits)

# **Diagnostic Medical Sonography**

**Program Director:** Tatyana Beaves, MD, RDMS, RDCS

**Clinical Coordinator/Instructor:** Miriam, Teft M.B.A., RDMS, RVT

**Website:** [gvsu.edu/dms](http://gvsu.edu/dms)

Diagnostic medical sonography is a medical procedure that uses an ultrasound to produce visual images of organs, tissues, or blood flow inside the body through high frequency sound waves (ultrasound) that create dynamic images. A diagnostic medical sonographer is a highly skilled professional who uses specialized equipment to create sonograms or ultrasound scans of structures inside the human body and collaboratively works with radiologists or other specialized physicians verbally and in writing to assist effectively toward a medical diagnosis.

Grand Valley offers a program to students who wish to complete a bachelor's degree in diagnostic medical sonography that is specific for clinical practice in abdominal and obstetrics-gynecology. Vascular sonography and breast sonography are additional courses that are taken concurrently to broaden the knowledge and experiences and prepare students for the variety of examinations in the field of diagnostic medical sonography.

### **Skills Required for Diagnostic Medical Sonography - General**

Comprehensive understanding of anatomy and physiology

Effective communication and interpersonal skills with patients and other health care professionals

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Critical thinking

Time management

Ability to master new fine-motor-based physical skills

Compassion and effective interaction with the sick or injured

## **Career Opportunities**

Sonography is a dynamic profession that has grown significantly over the past 20 years. With rapidly developing new technologies and increased use of diagnostic ultrasound procedures, growth is projected to continue in the future with employment opportunities for qualified sonographers in both urban and rural areas nationwide. Sonographers and vascular technologists can choose to work in clinics, hospitals, private practice physician offices, public health facilities, laboratories, and other medical settings performing examinations in their areas of specialization. Career advancement opportunities exist in education, administration, research, and in commercial companies as education/application specialists, sales representatives, technical advisors, etc.

## **Program Content**

Students will study anatomy, physiology, and pathophysiology of scanned organ systems (for example: liver, gallbladder spleen, breast thyroid, female reproductive tract), recognize the sonographic patterns of the organs, learn protocols for a logical and thorough survey of the organs, and provide accurate and technical findings to the interpreting physician. Students receive didactic, laboratory, and clinical experiences in both existing and emerging diagnostic medical sonography practices in the university's state-of-the-art laboratories and through a clinical education system that requires students to attend full days of clinical practice under the supervision of registered sonographers at clinical education sites located up to three hours from GVSU (although most clinical assignments are within one hour from campus). Students must have reliable transportation available for their clinical rotations.

## **Program Accreditation**

This diagnostic medical sonography program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) in association with the Joint Review Committee on Education in Diagnostic Medical Sonography (JRC-DMS). The program adheres to the JRC-DMS standards. Individuals and students have the right to notify the JRC-DMS if they believe the university is not adhering to those standards. The JRC-DMS is at 6021 University Boulevard, Suite 500, Ellicott City, MD 21043. Phone: (443)-973-3251. Fax (866)-738-3444. Web: [jrcdms.org](http://jrcdms.org).

Students working toward a B.S. degree in diagnostic medical sonography from GVSU become eligible for the American Registry of Diagnostic Medical Sonographers (ARDMS) examinations specific to the specialties. Eligibility for ARDMS examinations is achieved upon completion of

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

1,680 contact hours (which occurs in November or December of the senior year before graduation the following April). Granting of the baccalaureate is not contingent upon passing ARDMS examinations. Students must complete all coursework for the baccalaureate degree for the ARDMS certifications awarded to hold under the requirements of prerequisites 3B application for taking the ARDMS certification examination(s). Failure to complete the baccalaureate degree will be reported by the university and will result in removal of the certification(s) by the ARDMS.

Students should be aware that prior to the beginning of their clinical courses, they must complete comprehensive health compliance obligations including but not limited to a criminal background check, fingerprinting, and drug screening. It is the responsibility of the student to comply. If there is an illegal activity in the background check/fingerprinting, or if there is evidence of one or more prohibited substances in the drug test, the clinical sites have the right to refuse a student's placement, a factor which may negatively impact a student's ability to progress in the diagnostic medical sonography program.

In addition, individuals who have been charged with or convicted of a crime may not be eligible for national certification by the American Registry for Diagnostic Medical Sonography (ARDMS). Students to whom this may apply are strongly advised to work with the ARDMS for preapplication review of eligibility for certification from their website at [ardms.org](http://ardms.org). Contact the ARDMS by phone at (301) 738-8401 or (800) 541-9754 or by fax at (301) 738-0312.

## **Admission**

### **Selection Factors**

Admission to the diagnostic medical sonography program is a competitive process that requires a secondary application. Please contact the College of Health Professions for the secondary application package, which can also be found at [gvsu.edu/dms](http://gvsu.edu/dms). Applications are due February 1 of the year the student starts the program (August). Applicants are invited to apply based on the following criteria:

**40 percent:** Academic grade point average from completed prerequisite courses.

AHS 100 - Medical Terminology (3 credits)

BMS 250 - Anatomy and Physiology I (4 credits)

BMS 251 - Anatomy and Physiology II (4 credits)

MTH 122 - College Algebra (3 credits)

PHY 220 - General Physics I (5 credits)

PSY 101 - Introductory Psychology (3 credits)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

SOC 105 - Social Problems (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

One research methods course:

AHS 301 - Introduction to Health Care Research (3 credits) (recommended)

BMS 301 - Introduction to Research in the Biomedical Sciences (3 credits)

PSY 300 - Research Methods in Psychology (3 credits) \*

\*Fulfills one Supplemental Writing Skills course

**10 percent:** Academic grade point average from the most recent 45 credit hours completed.

**30 percent:** Interview and/or writing assessment completed on-site at the College of Health Professions.

**5 percent:** Completion of 16 hours of documented work or volunteer time in a health field.

**5 percent:** Two letters of recommendation on university forms.

**10 percent:** Educational, leadership, scholarly, or work experience and/or volunteer activities are valued and may impact selection decisions.

## **Bachelor of Science in Diagnostic Medical Sonography**

### **Requirements for a Major in Diagnostic Medical Sonography**

#### **Prerequisite Courses**

Consists of 42 credits; includes MTH 110, BIO 120, MTH 123. Admission to the program requires a minimum grade of C in each prerequisite course.

AHS 100 - Medical Terminology (3 credits)

\*BMS 250 - Anatomy and Physiology I (4 credits) BIO 120 is the prerequisite.

BMS 251 - Anatomy and Physiology II (4 credits)

MTH 122 - College Algebra (3 credits) \*\*MTH 110 is the prerequisite.

PHY 220 - General Physics I (5 credits) \*MTH 123 is the prerequisite.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

\*PSY 101 - Introductory Psychology (3 credits)

\*SOC 105 - Social Problems (3 credits)

\*STA 215 - Introductory Applied Statistics (3 credits)

**AND** one of the following:

AHS 301 - Introduction to Health Care Research (3 credits)

BMS 301 - Introduction to Research in the Biomedical Sciences (3 credits)

PSY 300 - Research Methods in Psychology (3 credits)

\*Also fulfills general education requirement. \*\*Math 110 may not be required based upon placement at time of admission

### **General Education Requirements**

Foundations and Cultures requirements total 22 credits. Remaining general education courses not covered in the major coursework or major prerequisites:

General education Art (3 credits)

General education Philosophy (3 credits)

General education History (3 credits)

General education Global Perspectives (3 credits)

Issues (6 credits) Two courses that can be taken when student has 55+ credits.

WRT 150 - Strategies in Writing (4 credits)

### **B.S. Program Requirements**

STA 215 - Introductory Applied Statistics (3 credits)

BMS 250 - Anatomy and Physiology I (4 credits)

**AND** one of the following:

PSY 300 - Research Methods in Psychology (3 credits)

AHS 301 - Introduction to Health Care Research (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

BMS 301 - Introduction to Research in the Biomedical Sciences (3 credits)

Note: STA 215 is a prerequisite for the three previously listed research courses.

Students are strongly encouraged to meet periodically with their academic advisor to determine their progress toward and eligibility for admission into the diagnostic medical sonography program: [gvsu.edu/chpss](http://gvsu.edu/chpss). Students are assigned to a College of Health Professions Student Services academic advisor prior to program admission.

Upon admission into the program students are assigned to a DMS faculty advisor.

## **Diagnostic Medical Sonography**

General (abdomen and obstetrics-gynecology) courses total 68 credits.

The diagnostic medical sonography general prepares students for clinical practice in abdominal and obstetrics-gynecology. Vascular sonography and breast sonography are additional courses that are taken concurrently to prepare students to the variety of examinations in the field of diagnostic medical sonography.

General (abdominal and obstetrics-gynecology) sonographers work collaboratively with radiologists or other specialized physicians to diagnose a diverse range of conditions using invasive and noninvasive procedures utilizing complex computerized high frequency sound wave and Doppler signal equipment. The sonographer must acquire excellent knowledge of sectional anatomy, clinical medicine, pathology, and the use of sonographic instrumentation.

## **Major Coursework**

Issues (3 credits) Students are responsible for completing the second Issues course.

AHS 340 - Health Care Management (3 credits) Fulfills one of two Issues courses.

RIU 301 - DMS Image Evaluation I (1 credit)

RIU 302 - DMS Image Evaluation II (1 credit)

RIU 320 - Applied Ultrasound Physics Instruction I (2 credits)

RIU 321 - Applied Ultrasound Physics Instruction I Lab (1 credit)

RIU 322 - Principles of Radiologic Imaging Sciences (3 credits)

RIU 324 - Applied Doppler Ultrasound Physics (2 credits)

RIU 330 - Abdominal Sonography I (4 credits)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

RIU 331 - Abdominal Sonography I Lab (2 credits)

RIU 332 - Obstetrics-Gynecology Sonography I (3 credits)

RIU 333 - Obstetrics-Gynecology Sonography Lab (1 credit)

RIU 360 - Introduction to Clinical Ultrasound (2 credits)

RIU 361 - Clinical Ultrasound Education I (2 credits)

RIU 362 - Clinical Ultrasound Education II (4 credits)

RIU 420 - Applied Ultrasound Physics Instruction II (2 credits)

RIU 430 - Abdominal Sonography II (2 credits)

RIU 431 - Abdominal Sonography II Lab (1 credit)

RIU 434 - Breast Sonography Procedures (2 credits)

RIU 435 - Obstetrics-Gynecology Sonography II (2 credits)

RIU 436 - Vascular Technology Procedures I For General Ultrasound (2 credits)

RIU 437 - Vascular Technology Procedures I For General Ultrasound Lab (1 credit)

RIU 438 - Vascular Technology Procedures II for General Ultrasound (2 credits)

RIU 439 - Vascular Technology Procedures II for General Ultrasound Lab (1 credit)

RIT 441 - Gross Human Sectional Anatomy (4 credits)

RIU 454 - Advanced Obstetric-Gynecologic Sonography (3 credits)

RIT 458 - Neoplasms (3 credits)

RIU 460 - Clinical Ultrasound Education III (3 credits)

RIU 461 - Clinical Ultrasound Education IV (3 credits)

RIU 495 - Advanced Clinical Problems in Ultrasound (3 credits)

## **Suggested Order of Coursework**

### **Year One**

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

Fall Semester (15 credits):

BIO 120 - General Biology I (4 credits)

MTH 110 - Algebra (4 credits)

PSY 101 - Introductory Psychology (3 credits)

WRT 150 - Strategies in Writing (4 credits)

Winter Semester (16 credits):

AHS 100 - Medical Terminology (3 credits)

BMS 250 - Anatomy and Physiology I (4 credits)

MTH 122 - College Algebra (3 credits)

MTH 123 - Trigonometry (3 credits)

SOC 105 - Social Problems (3 credits)

## **Year Two**

Fall Semester (15 credits):

BMS 251 - Anatomy and Physiology II (4 credits)

PHY 220 - General Physics I (5 credits)

STA 215 - Introductory Applied Statistics (3 credits)

General education History (3 credits)

Winter Semester (12 to 15 credits):

Applications for the program are due February 1. Choose one of the following:

AHS 301 - Introduction to Health Care Research (3 credits)

BMS 301 - Introduction to Research in the Biomedical Sciences (3 credits)

PSY 300 - Research Methods in Psychology (3 credits) SWS

**AND** the following:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

General education Arts (3 credits)

General education Philosophy (3 credits)

General education Global Perspectives (3 credits)

### **Year Three**

Fall Semester (16 credits):

Students admitted to diagnostic medical sonography program (general). Courses include:

RIU 320 - Applied Ultrasound Physics Instruction I (2 credits)

RIU 321 - Applied Ultrasound Physics Instruction I Lab (1 credit)

RIU 330 - Abdominal Sonography I (4 credits)

RIU 331 - Abdominal Sonography I Lab (2 credits)

RIU 360 - Introduction to Clinical Ultrasound (2 credits)

RIU 434 - Breast Sonography Procedures (2 credits)

RIU 322 - Principles of Radiologic Imaging Sciences (3 credits)

Winter Semester (16 credits):

RIT 441 - Gross Human Sectional Anatomy (4 credits)

RIU 301 - DMS Image Evaluation I (1 credit)

RIU 324 - Applied Doppler Ultrasound Physics (2 credits)

RIU 332 - Obstetrics-Gynecology Sonography I (3 credits)

RIU 333 - Obstetrics-Gynecology Sonography Lab (1 credit)

RIU 361 - Clinical Ultrasound Education I (2 credits)

RIU 420 - Applied Ultrasound Physics Instruction II (2 credits)

Spring/Summer Semester (7 credits):

RIU 362 - Clinical Ultrasound Education II (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

AHS 340 - Health Care Management (3 credits)

## **Year Four**

Fall Semester (15 credits):

RIU 302 - DMS Image Evaluation II (1 credit)

RIU 420 - Applied Ultrasound Physics Instruction II (2 credits)

RIU 430 - Abdominal Sonography II (2 credits)

RIU 431 - Abdominal Sonography II Lab (1 credit)

RIU 435 - Obstetrics-Gynecology Sonography II (2 credits)

RIU 436 - Vascular Technology Procedures I For General Ultrasound (2 credits)

RIU 437 - Vascular Technology Procedures I For General Ultrasound Lab (1 credit)

RIU 460 - Clinical Ultrasound Education III (3 credits)

Winter Semester (12 credits):

RIU 438 - Vascular Technology Procedures II for General Ultrasound (2 credits)

RIU 439 - Vascular Technology Procedures II for General Ultrasound Lab (1 credit)

RIU 454 - Advanced Obstetric-Gynecologic Sonography (3 credits)

RIU 461 - Clinical Ultrasound Education IV (3 credits)

RIU 495 - Advanced Clinical Problems in Ultrasound (3 credits) SWS

## **Summary of Coursework**

Diagnostic medical sonography (general prerequisites): 42 credits

Remaining general education courses: 22 credits

Diagnostic medical sonography (general): 62 credits

Total: 126 credits

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

# East Asian Studies

For additional information about opportunities your college offers, please refer to the Brooks College of Interdisciplinary Studies section in this catalog.

**Website:** [gvsu.edu/eas](http://gvsu.edu/eas)

The East Asian studies program at Grand Valley State University explores languages, cultures, histories, politics, and economics of China and Japan. The program recognizes the complex traditions and historical contributions of these countries, while acknowledging the essential roles they play in the world today.

China, with 5,000 years of civilization, more than a billion people, and a fast-growing economy, and Japan, with its unparalleled economic success and its unique geopolitical position, command the attention of the world. The East Asian studies curriculum provides students with a balanced liberal arts and professional perspective on the study of the rich cultural resources, economic potentials, and comparative politics of these two countries. Students gain intercultural knowledge and competence that benefit them in this increasingly globalized world.

Students who minor in East Asian studies can participate in the study abroad programs at East China Normal University in Shanghai, Nanjing University in Nanjing, National Taiwan Normal University in Taipei, Japanese studies program at International Christian University (ICU), or the Japan Center for Michigan Universities (JCMU). Consult the Padnos International Center or the director of the East Asian studies program for more information.

Completion of the minor in East Asian studies requires a total of 21 to 22 credit hours. Normally this includes nine credits of core courses, four credits of either Chinese or Japanese above the 201 level, and nine credits of electives, for a total of 22 credits.

Students who enter the university competent in Japanese or Chinese at the 202 level or higher will take one extra elective course for a total of 21 credits. No more than two courses from any department other than EAS may be counted toward the minor. There is no limit on the courses designated EAS that may apply to the minor.

## Participating Programs

Grand Valley students majoring in areas such as business, communications, English, history, international relations, philosophy, and political science, among others, will find that this program provides a unique perspective on these two dynamic countries and a valued complement to their major programs. Students studying Chinese or Japanese at the primary or secondary level, transfer students who began studying these languages at other two- and four-year institutions, and study abroad participants may also choose to minor in East Asian studies.

## East Asian Studies Minor

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Requirements**

### **Core Courses**

Students must complete all three:

EAS 201 - East Asia in the Contemporary World (3 credits)

EAS 301 - Masterpieces of East Asian Literature (3 credits)

PHI 210 - Eastern Philosophy (3 credits)

### **Additional Required Courses**

In addition to the three required courses, students will choose nine credit hours of elective courses from the following list:

CHI 321 - Ancient Chinese Culture (3 credits)

CHI 322 - Classical Chinese Culture (3 credits)

CHI 323 - Late Imperial Chinese Culture (3 credits)

CHI 380 - Special Topics in Chinese (3 credits)

EAS 180 - Special Topics in East Asian Studies (1 to 4 credits)

EAS 280 - Special Topics in East Asian Studies (1 to 4 credits)

EAS 333 - Study Abroad - East Asian Studies (1 to 6 credits)

EAS 351 - Asian American Experiences (3 credits)

EAS 380 - Special Topics in East Asian Studies (1 to 4 credits)

EAS 399 - Independent Studies (1 to 3 credits)

EAS 480 - Special Topics in East Asian Studies (1 to 4 credits)

ENG 204 - World Mythology (3 credits) when taught by EAS faculty.

GPY 354 - Geography and Globalization of Asia (3 credits)

HST 240 - A History of East Asia to 1800 (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

HST 241 - A History of East Asia since 1800 (3 credits)

HST 310 - Cultural and Social Topics in Nonwestern History (3 credits)

HST 333 - Modern China (3 credits)

HST 342 - History of Buddhism and East Asian Religions (3 credits)

PHI 400 - Wisdom of the East: Advanced Topics in Asian Philosophy (3 credits)

PLS 283 - Chinese Politics and U.S.-China Relations (3 credits)

### **Additional Information**

Current and potential special topics include classical Chinese poetry, classical Chinese prose, Japanese theater and cinema, Chinese theater and cinema, women in Chinese/Japanese literature, Japanese management and corporations, and strategic Japanese communications.

Current and past study abroad courses that are also acceptable for electives include Contemporary Chinese Culture and Society, Advanced Readings in Japanese, Modern Japanese Literature in English Translation, Modern Japanese International Relations, Introduction to Asian Religions, Japanese Linguistics, and Strategic Japanese Communications.

Students may choose one course for their elective requirement from comparative international courses taught at Grand Valley. These comparative courses must have a minimum of 25 percent of their content devoted to East Asia. Following are examples of some courses that may qualify. Check with the director of the East Asian studies program for a current list of acceptable courses.

ANT 204 - Peoples and Cultures of the World (3 credits)

ECO 365 - Comparative Economic Systems (3 credits)

SOC 350 - Family and Gender in the Developing World (3 credits) Cross-listed with WGS 351.

### **Transfer Credits**

Credits transferred from study abroad programs will be evaluated and applied where appropriate to the EAS minor. However, of the 21 to 22 credits required, a minimum of six credits must be taken in residence at Grand Valley.

## **Economics**

For additional information about opportunities your college offers, please refer to the Seidman College of Business section in this catalog.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

**Website:** [gvsu.edu/economics](http://gvsu.edu/economics)

The economics program, part of the Seidman College of Business, is designed to give students an understanding of the structure and operations of the United States and international economies and an opportunity to develop a specialty within economics or in a related field, such as finance, mathematics, or political science.

## **Bachelor of Arts or Bachelor of Science in Economics**

### **Requirements for a Major in Economics**

Economics majors may earn a B.S. or B.A., while business economic majors may earn a B.B.A. degree. Completion of the B.A. degree requires demonstrated third-semester proficiency in a foreign language. Students who wish to earn a B.B.A. in business economics should consult the business section of the Grand Valley State University Undergraduate and Graduate Catalog. Majors earning a B.S. or B.A. must complete 30 hours of economics, including ECO 210, ECO 211, ECO 300, ECO 312, ECO 313, and ECO 495. All B.A. and B.S. economics majors are required to take STA 215 - Introductory Applied Statistics as a degree requirement. In addition, students must take either PHI 103 - Logic, MTH 122 - College Algebra, MTH 125 - Survey of Calculus, or MTH 201 - Calculus I.

Because economics is a department in the Seidman College of Business, students must achieve a 2.5 or higher cumulative GPA, have completed 55 semester hours, and achieved a 2.5 or higher combined GPA in ECO 210, ECO 211, and STA 215 to be admitted to the economics program. To graduate, upper-division economics majors must achieve a 2.5 minimum cumulative GPA and a 2.5 minimum GPA in all economics courses. A student whose cumulative GPA falls below 2.5 will not be permitted to take additional 300- and 400-level economics or business courses. However, such students may repeat 300- and 400-level economics and business courses for which they received a low grade. Students may repeat up to three different economics and business courses in their undergraduate career, but no single economics or business course can be repeated more than once. Exceptions are made only with the approval of the associate dean of the Seidman College of Business. Economics majors are eligible to participate in the business internship program.

Students who plan to enter a graduate program in economics or a related field are highly encouraged to take the following courses: MTH 201, MTH 202, MTH 203, and MTH 204. These students should also consider a mathematics or statistics minor and consult with their advisors at an early date to explore alternatives and plan their coursework.

Social studies group majors who choose an emphasis area in economics should make their economics course selections with the advice of an economics faculty member.

### **Requirements for an Honors Emphasis in Economics**

The undergraduate honors emphasis in economics is for students pursuing a B.S., B.A., or B.B.A. degree in economics. Students must achieve a minimum 3.2 GPA in their economics

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

courses and a 3.2 GPA overall to receive the honors emphasis designation. Courses cannot be taken on a credit/no-credit basis. Students are required to complete the following classes, with an honors section of either ECO 210, ECO 211, or both (honors-designated sections require good standing with the Meijer Honors College or a 3.5 GPA overall):

ECO 210 - Introductory Macroeconomics (3 credits)

ECO 211 - Introductory Microeconomics (3 credits)

ECO 300 - Data Analytics for Economics and Business (3 credits)

ECO 312 - Applied Microeconomics (3 credits)

ECO 313 - Business Cycles and Growth (3 credits)

ECO 450 - Advanced Economic Policy and Analysis (3 credits)

ECO 495 - Senior Economic Project (Capstone) (3 credits)

## **Economics Minor**

Eligible business majors who elect to complete one of the business minors may be required to extend their degree programs beyond the minimum 120-semester hour university degree requirement. Students seeking to complete an economics minor are required to complete at least 21 hours in economics, including ECO 210 and ECO 211. Students must achieve a minimum 2.5 grade point average in these courses to receive the economics minor designation. Courses may not be taken on a credit/no-credit basis.

### **Requirements for a Minor in Economics**

The undergraduate minor program in economics is for both business and nonbusiness students with the exception of those majoring in business economics or economics. Students must achieve a minimum 2.5 GPA in these courses to receive the economics minor designation. Courses cannot be taken on a credit/no-credit basis. Students are required to complete at least 21 hours in economics, including:

ECO 210 - Introductory Macroeconomics (3 credits)

ECO 211 - Introductory Microeconomics (3 credits)

Completion of ECO 300 is highly recommended.

### **Requirements for an Honors Minor in Economics**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

The undergraduate honors minor program in economics is for both business and nonbusiness students with the exception of those majoring in business economics or economics. Students must achieve a minimum 3.2 GPA in these courses and a 3.2 GPA overall to receive the economics honors minor designation. Courses cannot be taken on a credit/no-credit basis. Students are required to complete at least 21 hours in economics, including the following:

ECO 210 - Introductory Macroeconomics (3 credits)

ECO 211 - Introductory Microeconomics (3 credits)

ECO 300 - Data Analytics for Economics and Business (3 credits)

ECO 312 - Applied Microeconomics (3 credits)

ECO 313 - Business Cycles and Growth (3 credits)

ECO 450 - Advanced Economic Policy and Analysis (3 credits)

ECO 495 - Senior Economic Project (Capstone) (3 credits)

## **Real Estate Undergraduate Certificate**

The certificate in real estate is designed for Bachelor of Business Administration (B.B.A.) and business minor students seeking knowledge and skills related to career opportunities in the real estate industry. Students in this program may find careers in real estate development, appraisal, sales, property management, loan origination, credit analysis, investment analysis, financial consultancy, portfolio management, city government, title examination, and location analysis. The certificate can also strengthen studies in business, finance, economics, resource management, urban planning, public policy, insurance, and construction management.

### **Required Courses**

Students who seek a certificate in real estate must earn a Bachelor of Business Administration (B.B.A.) degree or a business minor designation and are required to complete the following courses:

ECO 300 - Data Analytics for Economics and Business (3 credits) **OR** ECO 495 - Senior Economic Project (Capstone) (3 credits)

ECO 336 - Urban and Real Estate Economics (3 credits)

FIN 350 - Real Estate Principles (3 credits)

**AND** two of the following courses:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

ECO 414 - Money and Banking (3 credits)

ECO 490 - Economics Internship (1 to 6 credits)\*

FIN 321 - Investments (3 credits)

FIN 331 - Risk and Insurance (3 credits)

GPY 307 - Introduction to Geographic Information Systems (3 credits)

GPY 209 - Introduction to Urban and Regional Planning (3 credits)

GPY 310 - Land Use Planning (3 credits)

GPY 312 - Urban and Regional Environmental Planning (3 credits)

GPY 314 - Land Use and Planning Law (3 credits)

GPY 385/ECO 385 - GIS in Urban and Regional Analysis (3 credits)

HTM 333 - Hospitality Facilities Management (3 credits)

MKT 353 - Marketing Negotiations (3 credits)

MKT 356 - Professional Selling (3 credits)

MKT 360 - Digital Marketing (3 credits)

MKT 365/GPY 365 - GIS for Economic and Business Decision-Making (3 credits)

MKT 456 - Sales Management (3 credits)

\*Internship must be in work related to real estate.

## **Teacher Certification in Economics**

### **Requirements for the Teacher Certification in Economics**

Students seeking teacher certification in economics should note that besides economics, the new standards established by the Michigan State Board of Education require basic knowledge of geography, history, and political science. Students can qualify for certification by taking the following coursework.

### **Economics Minor with Teacher Certification**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

ECO 210 - Introductory Macroeconomics (3 credits)

ECO 211 - Introductory Microeconomics (3 credits)

ECO 312 - Applied Microeconomics (3 credits)

ECO 313 - Business Cycles and Growth (3 credits)

ECO 349 - Emerging Markets Issues (3 credits) **OR** ECO 369 - International Economic Issues (3 credits)

### **Additional Courses**

In addition, students must take the following or equivalent to obtain basic knowledge in political science, history, and geography:

GPY 235 - Geography for a Changing World (3 credits)

HST 206 - American History since 1877 (3 credits)

PLS 102 - American Government and Politics (3 credits)

### **Michigan Test for Teacher Certification**

Besides coursework, students are required to obtain a satisfactory score in the Michigan Test for Teacher Certification (MTTC) in economics. For further details, please contact the chair of the department.

## **Educational Studies**

The educational studies major is designed for students seeking certification at the elementary level. The Michigan State Board of Education sets standards for the preparation of teachers of lower and upper elementary education. Students in the educational studies program can earn certification for teaching pre-kindergarten through 3rd grade (PK-3) and/or 3rd grade through 6th grade (3-6). Students in either the PK-3 or 3-6 program also have the option of adding courses that will earn them an endorsement in special education (K-12), teaching English as a second language, or elementary Spanish.

Regardless of emphasis area, the educational studies major is designed to ensure that novice teachers are prepared to address the needs of the whole child; use relevant, research-based criteria to establish a supportive, engaging environment that fosters learning; and use practices that meet individual children's needs. Students complete several structured field experiences embedded throughout the program.

### **ASSOCIATED PROGRAMS**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Pedagogical Content Knowledge for Elementary Teaching Major**

In order to achieve elementary level certification, all students must also complete the pedagogical content knowledge for elementary teaching major through the College of Liberal Arts and Sciences. Together with the educational studies major, this major offers courses that meet Michigan Department of Education Standards for the Preparation of Teachers of Early and Upper Elementary Education.

## **Special Education Major**

Students seeking special education teaching certification complete the PCKET major as well as an additional major in special education through the College of Education and Community Innovation. Successful completion of both the PCKET major and the special education major certifies the student to teach all subjects kindergarten through grade five, special education endorsement areas Kindergarten through 12<sup>th</sup> grade, and special education programs for adults with disabilities up to age 26. This major offers courses that meet the Michigan Administrative Rules for Special Education teacher preparation.

## **Spanish Elementary Education**

Students seeking an endorsement in Spanish elementary education complete the PCKET major for PK-3 and/or 3-6, the educational studies major, and the Spanish elementary minor. Completion of these programs certifies the student to teach Spanish and other content areas in a self-contained classroom in PK-3 and/or 3-6 (as either a specialist or in a Spanish immersion classroom).

## **Applied Linguistics-English as a Second Language (ESL)**

The ESL track of the applied linguistics minor is designed for students seeking PK-3 and/or 3-6 certification. Completion of the PCKET major, the educational studies major, and the ESL minor leads to teacher certification and an endorsement in ESL.

## **Educational Studies Major - Elementary Teacher Certification: PK-3 and 3-6 Emphases (General Education)**

### **Requirements for Educational Studies Major - Elementary Teacher Certification: PK-3 and 3-6 Emphases (General Education)**

Students in the educational studies program at Grand Valley State University must follow all general education requirements as defined in the Grand Valley State University Undergraduate and Graduate Catalog. Students seeking a Bachelor of Science or Bachelor of Arts in either PK-3 or 3-6 must complete the following courses to satisfy program requirements:

### **BA Course Requirements**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Students seeking a Bachelor of Arts in the educational studies major will have additional requirements. B.A. students must demonstrate third-semester proficiency in a foreign language by successfully completing a 201-level language course, passing a proficiency exam in the language chosen, or through AP credit.

### **Education Studies Major Requirements for PK-3 Emphasis (55 credits)**

A Michigan PK-3 standard teaching certification allows the holder to teach any subject Prekindergarten through third grade. Required coursework for the PK-3 emphasis includes all of the following:

EDF 115 - Introduction to Education: An Exploration of Schooling in America (3 credits)

EDF 215 - Introduction to Philosophies of Early Childhood (3 credits)

EDF 260 - Educational Research and Assessment: Foundations of Practice (3 credits)

EDF 315 - Diverse Perspectives on Education (3 credits)

EDI 312 - Child Guidance (3 credits)

EDI 317 - Collaborating with Families and Professionals (3 credits)

EDR 320 - Emergent Literacy and the Development of Reading, Writing, and Language (3 credits)

EDS 318 - Teaching Students with Learning and Behavior Difficulties (3 credits)

EDS 323/EDR 323 - Teaching Students with Language and Literacy Learning Difficulties (3 credits)

EDT 476 - Teaching with Technology (3 credits)

PSY 301 - Child Development (3 credits)

#### **Clinical Apprenticeship Semester**

EDI 310 - Building and Sustaining Positive Learning Environments (3 credits)

EDI 330 - Elementary Apprenticeship PK-6 (6 credits) (application required)

#### **Clinical Internship Semester**

EDI 430 - Student Teaching, Elementary (10 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

EDF 495 - Capstone: Reflective Inquiry and Practice (3 credits) (may be taken after EDI 430 but before certification) (application required)

Teacher candidates will be placed in academically, culturally, linguistically, and economically diverse settings.

### **Education Studies Major Requirements for 3-6 Emphasis (49 credits)**

A Michigan 3-6 standard teaching certification allows the holder to teach any subject third through sixth grade. Required coursework for the 3-6 emphasis includes all of the following:

EDF 115 - Introduction to Education: An Exploration of Schooling in America (3 credits)

EDF 260 - Educational Research and Assessment: Foundations of Practice (3 credits)

EDF 315 - Diverse Perspectives on Education (3 credits)

EDI 317 - Collaborating with Families and Professionals (3 credits)

EDR 320 - Emergent Literacy and the Development of Reading, Writing, and Language (3 credits)

EDS 318 - Teaching Students with Learning and Behavior Difficulties (3 credits)

EDS 323/EDR 323 - Teaching Students with Language and Literacy Learning Difficulties (3 credits)

EDT 476 - Teaching with Technology (3 credits)

PSY 301 - Child Development (3 credits)

### **Clinical Apprenticeship Semester**

EDI 310 - Building and Sustaining Positive Learning Environments (3 credits)

EDI 330 - Elementary Apprenticeship PK-6 (6 credits) (application required)

### **Clinical Internship Semester**

EDI 430 - Student Teaching, Elementary (10 credits)

EDF 495 - Capstone: Reflective Inquiry and Practice (3 credits) (may be taken after EDI 430 but before certification) (application required)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Teacher candidates will be placed in academically, culturally, linguistically, and economically diverse settings.

### **Education Studies Major Requirements for Combined PK-3 and 3-6 Certification**

Students with a PK-3 emphasis who would like to also obtain the 3-6 emphasis are not required to take any additional educational studies major courses to obtain a 3-6 emphasis. There is a minimum of an additional 50 hours of clinical fieldwork required in the second area of licensure. There are additional courses in the pedagogical content knowledge for elementary teachers major required to combine the PK-3 and 3-6 emphases. See the pedagogical content knowledge for elementary teachers major for additional information on combining emphases.

Students with a 3-6 emphasis who would like to also obtain the PK-3 emphasis are required to take six additional Educational Studies major credits. The courses are as follows;

EDF 215 - Introduction to Philosophies of Early Childhood (3 credits)

EDI 312 - Child Guidance (3 credits)

There is a minimum of an additional 50 hours of clinical fieldwork required in the second area of licensure.

There are additional courses in the pedagogical content knowledge for elementary teachers major required to combine the PK-3 and 3-6 emphases. See the pedagogical content knowledge for elementary teachers major for additional information on combining emphases.

## **Engineering**

For additional information about opportunities your college offers, please refer to the Seymour and Esther Padnos College of Engineering and Computing section in this catalog.

**Website:** [gvsu.edu/engineering](http://gvsu.edu/engineering)

### **Vision**

GVSU's School of Engineering aspires to be a premier education-oriented engineering school focused on applied engineering practice that is informed by research and scholarship.

### **Mission**

Our mission is to prepare students to meet the challenges of the modern world as engineering professionals who have the potential to become innovative leaders.

We fulfill our mission with a curriculum that is firmly based in the theoretical foundation of science and mathematics in application to real-world problems. The curriculum also provides for

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

experiences in engineering design, analysis, and professional practice. Students develop technical competency through course and laboratory work, project work, and the co-operative education experience in industry or in research.

Our mission is realized by a shared commitment to continual improvement, scholarship and research, and refinement through critical review. Such review requires both close contact with current engineering practice and a commitment to liberal education that enhances the practice of engineering in global societies through a deep understanding of the human condition and the relationship of engineering practice to the natural environment.

## **Undergraduate Engineering Degree Programs**

The School of Engineering offers four-year programs leading to the degree of Bachelor of Science in engineering (B.S.E.) with majors in computer, electrical, interdisciplinary, mechanical, and product design and manufacturing engineering. During the first two years, students take fundamental courses in engineering in preparation for admission to the B.S.E. degree in their major area and cooperative education experience in the industry. Integrated cooperative engineering education allows students the opportunity to gain industrial experience before graduation. During the last two years of the program, students alternate periods of cooperative education in industry with academic study. The interdisciplinary engineering program transcends traditional engineering and allows students to tailor their engineering education to their specific educational interests. All engineering majors are capped by a multidisciplinary two-semester senior design project requiring initiative, planning, and design to solve engineering problems for local companies.

### **B.S.E. Degree Goal and Objectives**

The goal of the B.S.E. degree is to prepare students to assume engineering positions in industry with the potential to advance to leadership positions. In pursuing this goal, students may major in one or more engineering disciplines: computer, electrical, product design and manufacturing, or mechanical engineering; or they may pursue an interdisciplinary major tailored to their specific interest.

The program educational objectives are that a student graduating from the B.S.E. program must

- demonstrate technical competency in their careers;
- function effectively in an industrial or academic environment;
- engage in professional development; and
- shape their professions and societies.

### **Engineering Design**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Design is central to the practice of engineering. The curriculum has been developed to integrate design education throughout all four years of the program. The student's experience begins in the freshman year with instruction and practice in computer-aided design and product realization, the design of computer software, and engineering problem-solving using current computer software and hardware tools. Design instruction continues in the sophomore year through activities such as design projects, materials selection exercises, electronics design, and quality assurance methods. Building upon the fundamental engineering science and design knowledge developed in the first two years and the experience gained in the integrated cooperative education program, students are then prepared to tackle substantially more mature design experiences beginning in the junior year. The cooperative education program, which continues through the junior and senior years, also contributes substantially to student preparation for the two-semester Capstone senior design experience. The majority of the senior design projects each year are performed for companies in west Michigan. Exercises that address environmentally responsible design are integrated throughout the curriculum.

### **Industry Involvement**

Grand Valley's B.S.E. degree programs have wide community and industrial support. Michigan residents and industries have contributed to the development of these programs by providing both financial support and opportunities for cooperative engineering education for students. Each program is served by an Industrial Advisory Board composed of engineering leaders and other professionals. Additional interaction between the engineering program and industry is effectively provided by Grand Valley's Career Center.

### **Student Preparation and Guidance**

The B.S.E. degree programs are highly structured. Careful planning by students, in consultation with their engineering advisor, is essential. Students considering an engineering career should consult an engineering advisor at the earliest possible opportunity, preferably before registering for their first semester. A consultation meeting with an advisor can be arranged by contacting the Padnos College of Engineering and Computing student services office. A student who has declared an engineering major is assigned an academic advisor from the professional advising staff in student services for the first two years and then from the faculty of the School of Engineering after secondary admission.

High school students considering an engineering career are urged to take a college preparatory program consisting of at least three years of laboratory science, including one year of physics and one year of chemistry; four years of mathematics, including two years of algebra, one year of geometry, and one half year of trigonometry; one half year of computer programming; four years of English, including composition; two years of a single foreign language; and three years of social studies.

Properly prepared students can complete the B.S.E. degree in four calendar years. Students who are not prepared to begin the B.S.E. degree with Mathematics 201 (Calculus I), or who prefer to not carry the average course load of 16 credit hours per semester, will need a longer period of study to complete their engineering degree. Students who wish to pursue the B.S.E. degree after

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

transferring from a two-year school should normally enroll in a pre-engineering program before transferring to Grand Valley and contact student services for advising as soon as possible.

## **Admission**

Students with no previous college credit, or those who have not completed the 64-semester-hour engineering foundations course sequence, are premajors. The engineering foundations course sequence spans the freshman and sophomore years and develops the fundamental knowledge on which an engineering program is built.

Students who intend to pursue the B.S.E. degree are urged to declare an engineering major as soon as possible, preferably before they first register for courses at Grand Valley. Students must formally declare an engineering major before the end of the drop-add period of the fall semester of the academic year in which they are seeking admission to major standing.

The School of Engineering admits students directly to major standing as freshmen. This honor is reserved for students who have both a 29 or higher composite score and a 32 or higher mathematics score on the ACT and a 3.6 or higher high school GPA. In order to continue direct-admit status, students must maintain an overall GPA of 2.7 and earn at least a C (2.0) in each course. Students whose GPA falls below 2.7 no longer have direct-admit status and will need to apply to the School of Engineering via the normal admission process to gain admission to major standing.

Admission to major standing in the B.S.E. program requires a secondary application. Applicants must meet at least the following: (1) a GPA of 2.7 or above in the engineering foundations course sequence, (2) completion of each course in the engineering foundations course sequence with a grade of C (2.0) or above with not more than one repeat in each foundation course, and (3) completion of EGR 289 in preparation for placement in cooperative engineering education. Transfer students must also complete at least eight semester hours of engineering courses at Grand Valley before they can be admitted to major standing.

Once admitted to major standing in the B.S.E. degree, students are expected to devote sufficient time to complete the work assigned in each course. Students are expected to maintain the highest ethical standards at all times. Students may be dismissed from the program for violations of ethical standards or unsatisfactory academic progress.

Students must apply directly to the School of Engineering before the last day of classes of the fall semester of the academic year in which they are seeking admission to major standing. Application forms are available on the School of Engineering website (within Forms under the Co-op Education link). Notification letters are promptly issued to students after the processing of their applications is complete.

## **Accreditation**

The following majors are accredited by the Engineering Accreditation Commission of ABET (available online at [abet.org](http://abet.org)):

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Computer engineering

Electrical engineering

Interdisciplinary engineering

Mechanical engineering

Product design and manufacturing engineering

### **Cooperative Education**

Cooperative education is a university and industry partnership program that provides a student with engineering work experience that complements and supplements engineering education at GVSU. Cooperative education is an integral component of the curriculum normally consisting of three semesters of work within an applied engineering environment. The program is designed to provide the student with a depth of experience with one host/employer (optimally) for all three co-op semesters. The student will have the opportunity to apply the knowledge and skills learned in the academic environment and needed to be a successful practicing engineer, including technical hands-on engineering problem solving, professional self-management, interpersonal skills (verbal and written communication, working in teams, customer/client relations, etc.), and leadership.

Students must enroll in EGR 289 during the fall semester prior to their first cooperative education experience in the following spring/summer semester. The Career Services office helps students find cooperative education positions in industry. Grand Valley will make a concerted effort to offer every student admitted to major standing a number of invitations for interviews for cooperative education positions with various potential employers. Students who are not accepted for employment through the prescribed cooperative education interview process, do not obtain positive evaluations during their cooperative education experiences, or do not maintain satisfactory progress toward the B.S.E. degree cannot meet the graduation requirements of the program and must withdraw from the B.S.E. program. Such students do have numerous other options to complete a bachelor's degree in one of Grand Valley's other programs.

### **Honors Organization**

Grand Valley State University hosts the Michigan Lambda Chapter of Tau Beta Pi, the National Engineering Honors Society.

### **Scholarships**

For more information visit [gvsu.edu/engineering](http://gvsu.edu/engineering).

Robert Bosch Fuel Systems Engineering Scholarship

Scott M. Dykstra/Oliver Products Company Engineering Scholarship

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

FIRST Robotics Engineering Scholarship

General Dynamics Land Systems Engineering Scholarships

Fred M. and Bernedine Keller Engineering Diversity Scholarship

Kirchhof Engineering Scholarship

Seymour and Esther Padnos Engineering Scholarship

Lt. James W. Parmelee Memorial Scholarship

Price-Heneveld Engineering Scholarship

Progressive A & E Engineering Scholarship

GVSU/Padnos/MSPE Engineering Scholarship

GVSU/Padnos/SAE Engineering Scholarship

The Joseph Spruit Engineering Scholarship

Whitney Young Outreach Engineering Scholarship

## **Bachelor of Science in Engineering**

### **Requirements for a Major in Engineering**

To graduate with a B.S.E. degree, students must meet the following course requirements: general education, engineering foundations courses, cooperative engineering education, engineering design Capstone, major specific courses, and engineering electives. These course requirements involve a minimum of 138 to 143 credit hours depending on the chosen engineering program. All required and elective courses in the engineering majors must be taken for a letter grade; students are not permitted to take these courses as credit/no-credit. The program requirements are listed with the information on the individual program. A minimum of 24 credit hours in engineering courses must be completed at Grand Valley at the 300-level or above. These courses must include EGR 485 and EGR 486.

### **General Education**

As identified in the General Academic Regulations section of the Grand Valley State University Undergraduate and Graduate Catalog, with the exception that the General Education Program for engineering students includes the following courses:

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

ECO 210 - Introductory Macroeconomics (3 credits) **OR** ECO 211 - Introductory Microeconomics (3 credits).

PHI 102 - Ethics (3 credits) **OR** one course from the following: BIO 328, BIO 338, COM 438, EGR 302, MGT 340, MGT 438, MKT 375, PHI 325, or PLS 338.

### **Engineering Foundation**

The following courses (engineering, science, mathematics, and communications) prepare students for further work in engineering. Students must complete the following courses with a minimum grade of C (2.0) with not more than one repeat in each course:

CHM 115 - Principles of Chemistry I (4 credits)

EGR 100 - Introduction to Engineering (1 credit)

EGR 111 - Introduction to Engineering Graphics (1 credit)

EGR 112 - Applied Programming for Engineers (2 credits)

EGR 113 - Introduction to CAD/CAM (1 credit)

EGR 185 - First-year Engineering Design (2 credits)

EGR 214 - Circuit Analysis I (3 credits)

EGR 215 - Circuit Analysis I Lab (1 credit)

EGR 220 - Engineering Measurement and Data Analysis (1 credit)

EGR 226 - Microcontroller Programming and Applications (3 credits)

EGR 227 - Microcontroller Programming and Applications Lab (1 credit)

EGR 289 - Engineering Professionalism (1 credit)

MTH 201 - Calculus I (4 credits)

MTH 202 - Calculus II (4 credits)

MTH 203 - Calculus III (4 credits)

MTH 302 - Linear Algebra and Differential Equations (4 credits)

PHY 230 - Principles of Physics I (5 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

PHY 231 - Principles of Physics II (5 credits) **OR** PHY 234 - Engineering Physics (4 credits)

STA 220 - Statistical Modeling for Engineers (2 credits)

WRT 150 - Strategies in Writing (4 credits) **OR BOTH** WRT 120 - Strategies in Writing - Stretch I (3 credits) **AND** WRT 130 - Strategies in Writing - Stretch II (3 credits)

**Additional Required Biomedical Engineering Major Foundations Courses:**

EE emphasis:

EGR 223 - Probability and Signal Analysis (3 credits)

EGR 224 - Introduction to Digital System Design (3 credits)

EGR 257 - Electronic Materials and Devices (4 credits)

ME emphasis:

EGR 209 - Mechanics and Machines (4 credits)

EGR 309 - Machine Design I (3 credits)

EGR 310 - Machine Design I Laboratory (1 credit)

EGR 312 - Dynamics (3 credits)

PDM emphasis:

EGR 209 - Mechanics and Machines (4 credits)

EGR 250 - Materials Science and Engineering (3 credits)

EGR 251 - Materials Laboratory (1 credit)

EGR 309 - Machine Design I (3 credits)

EGR 310 - Machine Design I Laboratory (1 credit)

**Additional Required Computer Engineering Major Foundations Courses:**

CIS 159 - Java Programming for Engineers (1 credit)

CIS 163 - Computer Science II (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

EGR 223 - Probability and Signal Analysis (3 credits)

EGR 224 - Introduction to Digital System Design (3 credits)

**Additional Required Electrical Engineering Major Foundations Courses:**

EGR 223 - Probability and Signal Analysis (3 credits)

EGR 224 - Introduction to Digital System Design (3 credits)

EGR 257 - Electronic Materials and Devices (4 credits)

**Additional Required Interdisciplinary Engineering Major Foundations Courses:**

EGR 209 - Mechanics and Machines (4 credits)

EGR 223 - Probability and Signal Analysis (3 credits) **OR BOTH** EGR 309 - Machine Design I (3 credits) **AND** EGR 310 - Machine Design I Laboratory (1 credit)

**BOTH** EGR 250 - Materials Science and Engineering (3 credits) **AND** EGR 251 - Materials Laboratory (1 credit) **OR** EGR 257 - Electronic Materials and Devices (4 credits)

**Additional Required Mechanical Engineering Major Foundations Courses:**

EGR 209 - Mechanics and Machines (4 credits)

EGR 309 - Machine Design I (3 credits)

EGR 310 - Machine Design I Laboratory (1 credit)

EGR 312 - Dynamics (3 credits)

**Additional Required Product Design and Manufacturing Engineering Major Foundations Courses:**

EGR 209 - Mechanics and Machines (4 credits)

EGR 309 - Machine Design I (3 credits)

EGR 310 - Machine Design I Laboratory (1 credit)

EGR 250 - Materials Science and Engineering (3 credits)

EGR 251 - Materials Laboratory (1 credit)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Admission**

Admission to major standing in the B.S.E. program requires a secondary application. Applicants must meet at least the following:

A GPA of 2.7 or above in the engineering foundation courses

Completion of each course in the engineering foundation with a grade of C (2.0) or above with not more than one repeat in each foundation course

Completion of preparation for placement in cooperative engineering education: EGR 289

Transfer students must also complete at least eight credit hours in engineering courses taken at Grand Valley before they can be admitted to major standing

## **Completion of Cooperative Engineering Education**

The cooperative education program begins with EGR 289 - Engineering Professionalism, a course designed to prepare students to enter the culture of professional work as an engineer. This is followed by 1,500 to 2,000 hours of co-op work consisting of three semester-long work experiences, preferably with the same host company/organization. Students must enroll in EGR 290, EGR 390, and EGR 490 during the co-op work semesters. This is the expected path to be followed by all students and, after secondary admission, is the only path that does not require prior approval from faculty. Students with a GPA of at least 2.7 may be considered for an international co-op experience.

## **Capstone**

Students must complete the required senior design project course sequence with a minimum grade of C (2.0) in each course:

\*EGR 485 - Senior Engineering Project I (Capstone) (1 credit)

EGR 486 - Senior Engineering Project II (Capstone) (2 credits)

\*The prerequisites for EGR 485 are acceptance into the B.S.E. degree program and completion of the prerequisite courses listed under the student's engineering major. These courses are listed for each major in the corresponding section of this catalog.

## **Engineering Electives**

In addition to the required courses, a student must select engineering electives in his/her chosen program to form a coherent plan of study. The approval of the student's academic advisor is required to ensure the course choices meet the requirements of the program. No more than two courses with a grade of less than C (2.0) may be counted toward the major.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Suggested Order of Coursework**

A sample curriculum for the foundations of engineering course sequence completed during freshman and sophomore years is presented as follows. A sample curriculum for the junior and senior years in each program is presented in the section addressing that program.

The following course sequence assumes an appropriate mathematics background for the entering student.

### **Year One**

Fall Semester:

CHM 115 - Principles of Chemistry I (4 credits)

EGR 100 - Introduction to Engineering (1 credit)

EGR 111 - Introduction to Engineering Graphics (1 credit)

EGR 112 - Applied Programming for Engineers (2 credits)

MTH 201 - Calculus I (4 credits)

WRT 150 - Strategies in Writing (4 credits)

Winter Semester:

EGR 113 - Introduction to CAD/CAM (1 credit)

EGR 185 - First-year Engineering Design (2 credits)

EGR 220 - Engineering Measurement and Data Analysis (1 credit)

MTH 202 - Calculus II (4 credits)

PHY 230 - Principles of Physics I (5 credits)

STA 220 - Statistical Modeling for Engineers (2 credits)

### **Year Two**

Fall Semester:

Computer Engineering Major

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CIS 159 - Java Programming for Engineers (1 credit)

EGR 224 - Introduction to Digital System Design (3 credits)

#### Electrical Engineering Major

EGR 224 - Introduction to Digital System Design (3 credits)

#### Mechanical or Product Design and Manufacturing Engineering Major

EGR 209 - Mechanics and Machines (4 credits)

EGR 226 - Microcontroller Programming and Applications (3 credits)

EGR 227 - Microcontroller Programming and Applications Lab (1 credit)

EGR 289 - Engineering Professionalism (1 credit)

MTH 203 - Calculus III (4 credits)

PHY 231 - Principles of Physics II (5 credits) **OR** PHY 234 - Engineering Physics (4 credits)

#### Winter Semester:

Apply for admission to major standing in the B.S.E. program at this time.

EGR 214 - Circuit Analysis I (3 credits)

EGR 215 - Circuit Analysis I Lab (1 credit)

MTH 302 - Linear Algebra and Differential Equations (4 credits)

#### Computer Engineering Major

CIS 163 - Computer Science II (4 credits)

EGR 223 - Probability and Signal Analysis (3 credits)

#### Electrical Engineering Major

EGR 223 - Probability and Signal Analysis (3 credits)

EGR 257 - Electronic Materials and Devices (4 credits)

#### Mechanical Engineering Major

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

EGR 309 - Machine Design I (3 credits)

EGR 310 - Machine Design I Laboratory (1 credit)

EGR 312 - Dynamics (3 credits)

Product Design and Mechanical Engineering Major

EGR 250 - Materials Science and Engineering (3 credits)

EGR 251 - Materials Laboratory (1 credit)

EGR 309 - Machine Design I (3 credits)

EGR 310 - Machine Design I Laboratory (1 credit)

## **Bachelor of Science in Engineering, Biomedical Engineering**

By applying engineering methods to solve medical and biological problems, biomedical engineers aim to improve our quality of life. The National Institute of Health's working definition of biomedical engineering adopted on July 24, 1997, states:

"Biomedical engineering integrates physical, chemical, mathematical, and computational sciences and engineering principles to study biology, medicine, behavior, and health. It advances fundamental concepts; creates knowledge from the molecular to the organ systems level; and develops innovative biologics, materials, processes, implants, devices and informatics approaches for the prevention, diagnosis, and treatment of disease for patient rehabilitation and for improving health."

A biomedical engineer applies the design, analytical, and problem-solving skills acquired in engineering training to improve health and quality of human life. Biomedical engineers are able to collaborate with health care professionals such as physicians and nurses to apply advanced technological solutions to clinical problems. Their abilities to apply mathematical models and computational simulation to the study of complex physiologic systems are invaluable to the medical science and research community.

Biomedical engineering is a broad discipline with many areas of specialization. Grand Valley offers programming in three emphasis areas:

**Electrical Emphasis:** Students who elect this emphasis will be prepared to apply fundamental electrical engineering principles to health care. Examples include modeling cardiac physiology to understand arrhythmogenesis, or developing better measurement and diagnostic devices like cardioverter-defibrillators and MRI scanning systems.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

**Mechanical Emphasis:** Students who elect this emphasis will be prepared to apply fundamental engineering mechanics to understanding musculoskeletal systems and transport phenomena in vasculature. Biomechanical engineers help develop better rehabilitation and therapeutic devices like prosthetic limbs, artificial hips, and wheelchairs.

**Product Design and Manufacturing Emphasis:** Students who elect this emphasis will research and develop ideas and processes for new medical products, improve the performance and design of existing medical products, plan production, and manage production facilities.

Integral to all four years of the program is a "design and build" educational philosophy incorporated through extensive laboratory and project activities as preparation for professional practice. Students engage in design at all levels of the curriculum. At each level, they must realize their designs and proceed with testing, validation, and redesign. This approach allows students to experience many real-world constraints, such as project economics, project planning and scheduling, environmental considerations, manufacturability/producibility of the designs, laboratory and product safety, and product reliability.

### **Program Educational Objectives**

Graduates of the biomedical engineering program are expected within a few years of graduation to

- demonstrate technical competency in their careers;
- function effectively in an industrial or academic environment;
- engage in professional development; and
- shape their professions and societies.

### **Student Outcomes and Assessment**

Graduates will demonstrate an ability to

- identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics;
- apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors;
- communicate effectively with a range of audiences;

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts;

function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives;

develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions; and

acquire and apply new knowledge as needed, using appropriate learning strategies.

## **Degree Requirements**

Biomedical engineering students must complete all requirements for the B.S.E. degree including the general education requirements, the foundations of engineering courses, cooperative education, the engineering design Capstone, and the following courses.

Required courses for all biomedical engineering emphases:

BMS 202 - Anatomy and Physiology (4 credits)

CHM 230 - Introduction to Organic and Biochemistry (4 credits)

EGR 403 - Medical Device Design (3 credits)

EGR 435 - Mathematical Modeling of Physiologic Systems (3 credits)

Students must also complete an emphasis from the three options outlined as follows.

## **Emphases**

Three emphases to choose from include: electrical, mechanical, and product design and manufacturing. Each emphasis has required courses and elective courses that are chosen from an approved list.

### **Electrical Emphasis**

Students choosing the electrical emphasis should complete the foundations course for the electrical engineering major.

Required Courses:

EGR 314 - Circuit Analysis II (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

EGR 315 - Electronic Circuits I (4 credits)

EGR 323 - Signals and Systems Analysis (3 credits)

EGR 326 - Embedded System Design (4 credits)

EGR 434 - Bioelectric Potentials (3 credits)

Elective Courses (choose three):

EGR 343 - Applied Electromagnetics (4 credits)

EGR 418 - Radio Frequency Systems (4 credits)

EGR 432 - Biomedical Imaging and Image Processing (3 credits)

EGR 433 - Electronic Instrumentation for Biomedical Applications (3 credits)

EGR 436 - Embedded Systems Interface (4 credits)

EGR 455 - Automatic Control (4 credits)

EGR 457 - Fundamentals of Nanotechnology (4 credits)

### **Mechanical Emphasis**

Students choosing the mechanical emphasis should complete the foundations course for the mechanical engineering major.

Required Courses:

EGR 250 - Materials Science and Engineering (3 credits)

EGR 251 - Materials Laboratory (1 credit)

EGR 346 - Mechatronic Systems Dynamics and Control (4 credits)

EGR 362 - Thermal and Fluid Systems (4 credits)

EGR 447 - Engineering Mechanics of Human Motion (3 credits)

EGR 453 - Biomedical Materials (3 credits)

Elective Courses (choose two):

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

EGR 329 - Introduction to Finite Element Analysis (3 credits)

EGR 409 - Machine Design II (4 credits)

EGR 445 - Robotic Systems Engineering (4 credits)

EGR 465 - Computational Fluid Dynamics (CFD) (4 credits)

EGR 468 - Heat Transfer (4 credits)

### **Product Design and Manufacturing Emphasis**

Students choosing the product design and manufacturing emphasis should complete the foundations course for the product design and manufacturing engineering major.

Required Courses:

EGR 301 - Analytical Tools for Product Design (4 credits)

EGR 345 - Dynamic System Modeling and Control (4 credits)

EGR 362 - Thermal and Fluid Systems (4 credits)

EGR 367 - Manufacturing Processes (3 credits)

EGR 453 - Biomedical Materials (3 credits)

Elective Courses (choose two):

EGR 440 - Introduction to Production (3 credits)

EGR 445 - Robotic Systems Engineering (4 credits)

EGR 450 - Manufacturing Control Systems (4 credits)

EGR 465 - Computational Fluid Dynamics (CFD) (4 credits)

### **Suggested Order of Coursework for the Biomedical Engineering Major - Electrical Emphasis**

**Junior and Senior Years**

**First Co-op Semester**

Spring/Summer:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

General education World Perspectives (3 credits)

EGR 290 - Engineering Co-op 1 (3 credits)

### **Fifth Academic Semester**

Fall:

CHM 230 - Introduction to Organic and Biochemistry (4 credits)

EGR 314 - Circuit Analysis II (4 credits)

EGR 315 - Electronic Circuits I (4 credits)

EGR 326 - Embedded System Design (4 credits)

### **Second Co-op Semester**

Winter:

General education Issues (3 credits)

EGR 390 - Engineering Co-op 2 (3 credits)

### **Sixth Academic Semester**

Spring/Summer:

General education History (3 credits)

General education Philosophy and Literature (3 credits) PHI 102 is recommended.

General education Issues (3 credits)

BMS 202 - Anatomy and Physiology (4 credits)

EGR 323 - Signals and Systems Analysis (3 credits)

### **Third Co-op Semester**

Fall:

EGR 434 - Bioelectric Potentials (3 credits)

EGR 490 - Engineering Co-op 3 (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Seventh Academic Semester**

Winter:

Electrical emphasis elective

Electrical emphasis elective

EGR 403 - Medical Device Design (3 credits)

EGR 435 - Mathematical Modeling of Physiologic Systems (3 credits)

EGR 485 - Senior Engineering Project I (Capstone) (1 credit)

The prerequisites for EGR 485 are acceptance into the B.S.E. degree program and completion of the prerequisite courses listed under the student's engineering major. For the biomedical engineering major with electrical emphasis, the prerequisite courses are: EGR 315, EGR 323, EGR 326, EGR 434, and EGR 390.

## **Eighth Academic Semester**

Spring/Summer:

Electrical emphasis elective

General education Social and Behavioral Sciences (3 credits)

ECO 210 - Introductory Macroeconomics (3 credits) **OR** ECO 211 - Introductory Microeconomics (3 credits)

EGR 486 - Senior Engineering Project II (Capstone) (2 credits)

# **Bachelor of Science in Engineering, Computer Engineering Major**

Computer engineers are innovators whose designs enhance people's lives. They integrate electrical engineering with computer science to analyze and solve problems involving computers. They can design, build, and test versatile computer equipment such as computer chips, the next smart phone, tablet, and embedded systems to control myriad machines from sophisticated vehicles to jet aircraft.

Integral to all four years of the program is a "design and build" educational philosophy incorporated through extensive laboratory and project activities as preparation for professional practice. Students engage in design at all levels of the curriculum. At each level, they must realize their designs and proceed with testing, validation, and redesign. This approach allows

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

students to experience many real-world constraints such as project economics, project planning and scheduling, environmental considerations, manufacturability/producibility of the designs, laboratory and product safety, and product reliability.

The junior and senior years of the computer engineering program build upon the foundation courses to provide greater depth in engineering science, engineering design, and the program areas of computer engineering. Students complete seven required courses and three computer engineering elective courses distributed in electric circuits, embedded systems, algorithms, and software engineering. Computer engineering students also fulfill the educational requirements for taking the Fundamentals of Engineering professional examinations before graduation.

### **Accreditation**

The computer engineering major is accredited by the Engineering Accreditation Commission of ABET, [abet.org](http://abet.org).

### **Program Educational Objectives**

Graduates of the computer engineering program are expected within a few years of graduation to

- demonstrate technical competency in their careers;
- function effectively in an industrial or academic environment;
- engage in professional development; and
- shape their professions and societies.

### **Student Outcomes and Assessment**

The graduate will demonstrate an ability to

- identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics;
- apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors;
- communicate effectively with a range of audiences;
- recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts;

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives;

develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions; and

acquire and apply new knowledge as needed, using appropriate learning strategies.

## **Degree Requirements**

Computer engineering students must complete all requirements for the B.S.E. degree including the general education requirements, foundations of engineering courses, cooperative education, engineering design Capstone and the following computer and electrical engineering courses.

### **Required Courses**

CIS 241 - System-level Programming and Utilities (3 credits)

CIS 263 - Data Structures and Algorithms (3 credits)

CIS 350 - Introduction to Software Engineering (3 credits)

CIS 452 - Operating Systems Concepts (4 credits)

EGR 314 - Circuit Analysis II (4 credits)

EGR 315 - Electronic Circuits I (4 credits)

EGR 326 - Embedded System Design (4 credits)

### **Elective Courses**

Choose three of the following:

CIS 451 - Computer Architecture (3 credits)

CIS 457 - Data Communications (4 credits)

EGR 323 - Signals and Systems Analysis (3 credits)

EGR 423 - Digital Signal Processing Systems (4 credits)

EGR 424 - Design of Microcontroller Applications (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

EGR 426 - Integrated Circuit Systems Design (4 credits)

EGR 432 - Biomedical Imaging and Image Processing (3 credits)

EGR 436 - Embedded Systems Interface (4 credits)

## **Suggested Order of Coursework**

### **Junior and Senior Years**

#### **First Co-op Semester**

Spring/Summer:

General education Social and Behavioral Sciences

EGR 290 - Engineering Co-op 1 (3 credits)

#### **Fifth Academic Semester**

Fall:

EGR 314 - Circuit Analysis II (4 credits)

EGR 315 - Electronic Circuits I (4 credits)

EGR 326 - Embedded System Design (4 credits)

General education Global Perspectives

#### **Second Co-op Semester**

Winter:

General education Issues

EGR 390 - Engineering Co-op 2 (3 credits)

#### **Sixth Academic Semester**

Spring/Summer:

CIS 241 - System-level Programming and Utilities (3 credits)

CIS 263 - Data Structures and Algorithms (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

CIS 350 - Introduction to Software Engineering (3 credits)

General education Arts

ECO 200 - Business Economics (3 credits) **OR** ECO 211 - Introductory Microeconomics (3 credits)

### **Third Co-op Semester**

Fall:

EGR 490 - Engineering Co-op 3 (3 credits)

General education Issues

### **Seventh Academic Semester**

Winter:

Computer engineering elective

Computer engineering elective

CIS 452 - Operating Systems Concepts (4 credits)

EGR 485 - Senior Engineering Project I (Capstone) (1 credit) \*

PHI 102 - Ethics (3 credits) General education Philosophy and Literature

\*The prerequisites for EGR 485 are acceptance into the B.S.E. degree program and completion of the prerequisite courses listed under the student's engineering major. For the computer engineering major, these prerequisite courses are: EGR 315, EGR 326, CIS 350, and EGR 390.

### **Eighth Academic Semester**

Spring/Summer:

Computer engineering elective

General education Life Sciences

EGR 486 - Senior Engineering Project II (Capstone) (2 credits)

General education U.S. Diversity (Can be double dipped with SBS.)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Bachelor of Science in Engineering, Electrical Engineering Major**

Electrical engineering encompasses the development, design, and testing of a wide range of electrical and electronic technologies. Applications of these designs include consumer electronics, power generation and delivery, telecommunications, aviation and aerospace systems, and electric vehicles. Students who elect the electrical engineering program may prepare themselves for a variety of electrical engineering careers and fulfill the educational requirements for taking the Fundamentals of Engineering professional examination before graduation.

The junior and senior years of the electrical engineering program build upon the foundations courses to provide greater depth in engineering science, engineering design, and the program areas of electrical engineering. Students complete six required courses and four electrical engineering elective courses distributed in electrical and electronic circuits, digital and embedded systems, applied electromagnetics, power systems, solid state devices and nanotechnology, and signals and systems.

Integral to all four years of the program is a "design and build" educational philosophy incorporated through extensive laboratory and project activities as preparation for professional practice. Students engage in design at all levels of the curriculum. At each level, they must realize their designs and proceed with testing, validation, and redesign. This approach allows students to experience many real-world constraints such as project economics, project planning and scheduling, environmental considerations, manufacturability/producibility of the designs, laboratory and product safety, and product reliability.

### **Accreditation**

The electrical engineering major is accredited by the Engineering Accreditation Commission of ABET, [abet.org](http://abet.org).

### **Program Educational Objectives**

Graduates of the electrical engineering program are expected within a few years of graduation to

- demonstrate technical competency in their careers;
- function effectively in an industrial or academic environment;
- engage in professional development; and
- shape their professions and societies.

### **Student Outcomes and Assessment**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

The graduate will demonstrate an ability to

identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics;

apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors;

communicate effectively with a range of audiences;

recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts;

function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives;

develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions; and

acquire and apply new knowledge as needed, using appropriate learning strategies.

## **Degree Requirements**

Electrical engineering students must complete all requirements for the B.S.E. degree including the general education requirements, the foundations of engineering courses, cooperative education, the engineering design Capstone and the following electrical engineering courses:

### **Required Courses**

EGR 314 - Circuit Analysis II (4 credits)

EGR 315 - Electronic Circuits I (4 credits)

EGR 323 - Signals and Systems Analysis (3 credits)

EGR 326 - Embedded System Design (4 credits)

EGR 330 - Power Systems Analysis (4 credits)

EGR 343 - Applied Electromagnetics (4 credits)

### **Elective Courses**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Choose four courses from the following:

EGR 415 - Communication Systems (4 credits)

EGR 418 - Radio Frequency Systems (4 credits)

EGR 423 - Digital Signal Processing Systems (4 credits)

EGR 424 - Design of Microcontroller Applications (4 credits)

EGR 426 - Integrated Circuit Systems Design (4 credits)

EGR 430 - Electromechanics (4 credits)

EGR 432 - Biomedical Imaging and Image Processing (3 credits)

EGR 433 - Electronic Instrumentation for Biomedical Applications (3 credits)

EGR 434 - Bioelectric Potentials (3 credits)

EGR 436 - Embedded Systems Interface (4 credits)

EGR 443 - Electromagnetic Compatibility (4 credits)

EGR 450 - Manufacturing Control Systems (4 credits)

EGR 455 - Automatic Control (4 credits)

EGR 457 - Fundamentals of Nanotechnology (4 credits)

EGR 458 - Introduction to Fiber Optics (4 credits)

EGR 477 - Hybrid Electric Battery Systems (3 credits)

## **Suggested Order of Coursework for the Electrical Engineering Major**

### **Junior and Senior Years**

#### **First Co-op Semester**

Spring/Summer:

General education Global Perspectives

EGR 290 - Engineering Co-op 1 (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Fifth Academic Semester**

Fall:

EGR 314 - Circuit Analysis II (4 credits)

EGR 315 - Electronic Circuits I (4 credits)

EGR 326 - Embedded System Design (4 credits)

General education Social and Behavioral Sciences (3 credits)

## **Second Co-op Semester**

Winter:

General education Issues (3 credits)

EGR 390 - Engineering Co-op 2 (3 credits)

## **Sixth Academic Semester**

Spring/Summer:

General education Arts (3 credits)

ECO 210 - Introductory Macroeconomics (3 credits) **OR** ECO 211 - Introductory Microeconomics (3 credits)

EGR 323 - Signals and Systems Analysis (3 credits)

EGR 330 - Power Systems Analysis (4 credits)

EGR 343 - Applied Electromagnetics (4 credits)

## **Third Co-op Semester**

Fall:

General education Issues (3 credits)

EGR 490 - Engineering Co-op 3 (3 credits)

## **Seventh Academic Semester**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Winter:

Electrical engineering elective

Electrical engineering elective

Electrical engineering elective

EGR 485 - Senior Engineering Project I (Capstone) (1 credit)

The prerequisites for EGR 485 are acceptance into the B.S.E. degree program and completion of the prerequisite courses listed under the student's engineering major.

The prerequisites for the electrical engineering major are: EGR 315, EGR 323, EGR 326, EGR 330, EGR 343, and EGR 390.

### **Eighth Academic Semester**

Spring/Summer:

Electrical engineering elective

General education Historical Perspectives (3 credits)

General education Life Sciences (3 credits)

EGR 486 - Senior Engineering Project II (Capstone) (2 credits)

## **Bachelor of Science in Engineering, Interdisciplinary Engineering Major**

The interdisciplinary engineering program allows the student to focus his/her studies in a disciplinary area that may transcend traditional disciplines. The interdisciplinary engineering areas often encompass emerging technologies. Plans of study for such students often include coursework outside of engineering.

The interdisciplinary program maintains the educational philosophy of all B.S.E. degree programs at Grand Valley to provide the student with a broad engineering background first and then an area of specialization later in the program. This provides students with the diversity of preparation to work in the interdisciplinary environment that is prevalent today.

Integral to all four years of the program is a "design and build" educational philosophy incorporated through extensive laboratory and project activities as preparation for professional practice. Students engage in design at all levels of the curriculum. At each level, they must realize their designs and proceed with testing, validation, and redesign. This approach allows

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students to experience many real-world constraints such as project economics, project planning and scheduling, environmental considerations, manufacturability/producibility of the designs, laboratory and product safety, and product reliability.

The interdisciplinary program provides the student with the broad foundation common to all of the engineering programs at Grand Valley, followed in the junior and senior years by required courses that provide preparation in each of the following areas:

Energy

Engineering design

Systems and control

This core is then complemented by an interdisciplinary engineering emphasis consisting of 29 minimum credits of elective courses. The proposed electives must ensure that the entire program includes:

32 credits of engineering science content

16 credits of engineering design content

Ensure that the elective courses include not less than 14 credits in STEM subjects, of which 11 must be upper-division engineering credits.

Together, the student and the interdisciplinary engineering chair develop a cohesive plan of study meeting the requirements of the interdisciplinary engineering program. If the plan includes coursework to be taken from outside the School of Engineering, then the chair of the appropriate unit is consulted. The plan must be approved by the Interdisciplinary Engineering Curriculum Committee.

### **Accreditation**

The interdisciplinary engineering major is accredited by the Engineering Accreditation Commission of ABET at [abet.org](http://abet.org).

### **Program Educational Objectives**

Graduates of the interdisciplinary engineering program are expected within a few years of graduation to

demonstrate technical competency in their careers;

function effectively in an industrial or academic environment;

engage in professional development; and

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

shape their professions and societies.

## **Student Outcomes and Assessment**

Graduates will demonstrate an ability to

identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics;

apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors;

communicate effectively with a range of audiences;

recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts;

function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives;

develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions; and

acquire and apply new knowledge as needed, using appropriate learning strategies.

## **Degree Requirements**

Interdisciplinary engineering students must complete all requirements for the B.S.E. degree including the general education requirements, the foundations of engineering courses, an interdisciplinary emphasis, cooperative education, the engineering design Capstone and the following engineering courses:

### **Required Courses**

EGR 314 - Circuit Analysis II (4 credits) **OR** EGR 360 - Thermodynamics (4 credits) **OR** EGR 362 - Thermal and Fluid Systems (4 credits)

EGR 326 - Embedded System Design (4 credits) **OR** EGR 345 - Dynamic System Modeling and Control (4 credits) **OR** EGR 346 - Mechatronic Systems Dynamics and Control (4 credits)

## **Emphasis Areas**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Must complete a minimum of 29 credits.

### **Data Science Emphasis**

Students choosing this emphasis will take EGR 250, EGR 251, EGR 309 and EGR 310 in their foundations and EGR 345 and EGR 362 as their interdisciplinary engineering required courses.

CIS 161 - Computational Science (3 credits) **OR** CIS 162 - Computer Science I (4 credits)

CIS 335 - Data Mining (3 credits)

CIS 360 - Information Management and Science (3 credits)

EGR 367 - Manufacturing Processes (3 credits)

EGR 368 - Manufacturing Processes Laboratory (1 credit)

EGR 440 - Introduction to Production (3 credits)

EGR 441 - Engineering Economics, Quality Control, and Manufacturing Operations (4 credits)

STA 216 - Intermediate Applied Statistics (3 credits)

STA 314 - Statistical Quality Methods (3 credits) **OR** EGR 641 - Applied Optimization (3 credits) **OR** EGR 642 - Materials Handling and Flow Control (3 credits)

STA 321 - Applied Regression Analysis (3 credits) **OR** EGR 435 - Mathematical Modeling of Physiologic Systems (3 credits)

STA 426 - Multivariate Data Analysis (3 credits)

### **Design and Innovation Emphasis**

Delivered in cooperation with Cornerstone University. Courses taken at Cornerstone University are indicated (Cornerstone) as follows. Students choosing this emphasis will take EGR 250, EGR 251, EGR 309 and EGR 310 in their foundations and EGR 345 and EGR 362 as their interdisciplinary engineering required courses.

EGR 301 - Analytical Tools for Product Design (4 credits)

EGR 367 - Manufacturing Processes (3 credits)

IDS 101 (Cornerstone) Creativity, Innovation, and Problem Solving (2 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

IDS 312 (Cornerstone) Science of Human Innovation (3 credits)

IDS 313 (Cornerstone) Design Thinking and Innovation II (3 credits)

IDS 413 (Cornerstone) Design Thinking III (3 credits)

INT 310 - Creativity and Innovative Problem-Solving (3 credits)

INT 323 - Design Thinking to Meet Real-World Needs (3 credits)

MDA 112 (Cornerstone) Design Drawing I (3 credits)

Interdisciplinary engineering elective (3 or 4 credits) Must be an upper-division engineering course.

### **Engineering Management Emphasis**

Students choosing this emphasis will take EGR 250, EGR 251, EGR 309 and EGR 310 in their foundations and EGR 345 and EGR 362 as their interdisciplinary engineering required courses.

ACC 212 - Principles of Financial Accounting (3 credits)

ACC 213 - Principles of Managerial Accounting (3 credits)

BUS 201 - Legal Environment for Business (3 credits)

EGR 367 - Manufacturing Processes (3 credits)

EGR 440 - Introduction to Production (3 credits)

EGR 441 - Engineering Economics, Quality Control, and Manufacturing Operations (4 credits)

FIN 320 - Managerial Finance (3 credits)

MGT 331 - Managing People and Organizations (3 credits)

MKT 350 - Marketing Management (3 credits)

### **Environmental Engineering Emphasis**

Delivered in cooperation with Cornerstone University. Courses taken at Cornerstone University are indicated (Cornerstone) as follows. Students choosing this emphasis will take EGR 250, EGR 251, EGR 309 and EGR 310 in their foundations and EGR 345 and EGR 362 as their interdisciplinary engineering required courses.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

BIO 105 - Environmental Science (3 credits)

BIO 120 - General Biology I (4 credits)

BIO 215 - Ecology (4 credits)

CHM 230 - Introduction to Organic and Biochemistry (4 credits)

EGR 365 - Fluid Mechanics (4 credits)

EGR 437 - Environmental Engineering (Cornerstone) (4 credits)

EGR 463 - Alternative Energy Systems and Applications (4 credits)

GEO 360 - Earth Resources in Transition: Conventional to Sustainable (3 credits)

### **Interdisciplinary Emphasis**

The student and the interdisciplinary engineering chair will jointly develop a cohesive plan of electives that addresses the intent of the field of interest. This plan must

be cohesive and have demonstrable employment opportunities;

contain a minimum of 29 credit hours of courses;

be approved by the Interdisciplinary Engineering Curriculum Committee;

ensure that the program includes not less than 16 credits of engineering design;

ensure that the program includes not less than 32 credits of engineering science; and

ensure that the elective courses include not less than 14 credits in STEM subjects, of which 11 must be upper-division engineering credits.

### **Mechatronics Engineering Emphasis**

All mechatronics engineering emphasis students are required to complete the following courses:

EGR 312 - Dynamics (3 credits)

EGR 315 - Electronic Circuits I (4 credits)

EGR 445 - Robotic Systems Engineering (4 credits)

EGR 455 - Automatic Control (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

**AND** one of the following tracks:

mechanical or sensors and controls

### **Mechanical Track**

Students choosing this emphasis will take EGR 250, EGR 251, EGR 309 and EGR 310 in their foundations and EGR 345 and EGR 362 as their interdisciplinary engineering required courses.

EGR 224 - Introduction to Digital System Design (3 credits) **OR** EGR 436 - Embedded Systems Interface (4 credits) **OR** EGR 424 - Design of Microcontroller Applications (4 credits) **OR** EGR 350 - Vibration (4 credits)

EGR 352 - Kinematics and Dynamics of Machinery (4 credits)

EGR 409 - Machine Design II (4 credits)

EGR 450 - Manufacturing Control Systems (4 credits)

### **Sensors and Controls Track**

Students choosing this emphasis will take EGR 250, EGR 251, EGR 309 and EGR 310 in their foundations and EGR 345 and EGR 362 as their interdisciplinary engineering required courses.

EGR 224 - Introduction to Digital System Design (3 credits)

EGR 309 - Machine Design I (3 credits)

EGR 310 - Machine Design I Laboratory (1 credit)

EGR 409 - Machine Design II (4 credits) **OR** EGR 450 - Manufacturing Control Systems (4 credits) **OR** EGR 352 - Kinematics and Dynamics of Machinery (4 credits) **OR** EGR 424 - Design of Microcontroller Applications (4 credits)

EGR 436 - Embedded Systems Interface (4 credits)

### **Renewable Energy Engineering Emphasis**

Foundation and required course selections for this emphasis should be made in cooperation with the IE chairperson as the plan of study is developed and approved.

BIO 105 - Environmental Science (3 credits)

EGR 406 - Renewable Energy Systems: Structure, Policy, and Analysis (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

EGR 413 - Materials for Energy Storage (3 credits)

EGR 463 - Alternative Energy Systems and Applications (4 credits)

GEO 360 - Earth Resources in Transition: Conventional to Sustainable (3 credits)

**AND** four electives from the following:

EGR 314 - Circuit Analysis II (4 credits)

EGR 315 - Electronic Circuits I (4 credits)

EGR 326 - Embedded System Design (4 credits)

EGR 345 - Dynamic System Modeling and Control (4 credits) **OR** EGR 346 - Mechatronic Systems Dynamics and Control (4 credits) Only if not taken to fulfill required courses; no double dipping allowed.

EGR 352 - Kinematics and Dynamics of Machinery (4 credits)

EGR 405 - Materials Failure Analysis and Selection (3 credits)

EGR 430 - Electromechanics (4 credits)

EGR 435 - Mathematical Modeling of Physiologic Systems (3 credits)

EGR 450 - Manufacturing Control Systems (4 credits)

EGR 455 - Automatic Control (4 credits)

EGR 465 - Computational Fluid Dynamics (CFD) (4 credits)

## **Suggested Order of Coursework for the Interdisciplinary Engineering Major**

### **Junior and Senior Years**

#### **First Co-op Semester**

Spring/Summer:

General education Global Perspectives **OR** EGR 312 - Dynamics (3 credits)

EGR 290 - Engineering Co-op 1 (3 credits)

#### **Fifth Academic Semester**

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

Fall:

Interdisciplinary engineering elective

ECO 210 - Introductory Macroeconomics (3 credits) **OR** ECO 211 - Introductory Microeconomics (3 credits)

EGR 326 - Embedded System Design (4 credits) **OR** EGR 345 - Dynamic System Modeling and Control (4 credits) **OR** EGR 346 - Mechatronic Systems Dynamics and Control (4 credits)

EGR 314 - Circuit Analysis II (4 credits) **OR** EGR 360 - Thermodynamics (4 credits) **OR** Interdisciplinary elective

SOC 105 - Social Problems (3 credits)

General education Social Sciences

### **Second Co-op Semester**

Winter:

General education Issues

EGR 390 - Engineering Co-op 2 (3 credits)

### **Sixth Academic Semester**

Spring/Summer:

General education Arts

Interdisciplinary engineering elective

Interdisciplinary engineering elective

Interdisciplinary engineering elective **OR** EGR 362 - Thermal and Fluid Systems (4 credits)

### **Third Co-op Semester**

Fall:

General education Issues

EGR 490 - Engineering Co-op 3 (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Seventh Academic Semester**

Winter:

Interdisciplinary engineering elective

Interdisciplinary engineering elective

Interdisciplinary engineering elective

EGR 485 - Senior Engineering Project I (Capstone) (1 credit)

The prerequisites for EGR 485 are acceptance into the B.S.E. degree program and completion of the prerequisite courses listed under the student's engineering major.

For the interdisciplinary engineering major, these prerequisites are the interdisciplinary engineering required courses plus a minimum of nine credits of the student's interdisciplinary engineering electives. Students must also have a plan to graduate no later than the fall semester following their enrollment in EGR 485 with a maximum of one interdisciplinary elective being taken in the terminal semester. Interdisciplinary engineering students may register in EGR 485 by permit only to allow consultation with the interdisciplinary engineering chairperson to ensure they meet these prerequisites.

## **Eighth Academic Semester**

Spring/Summer:

Interdisciplinary engineering elective

Interdisciplinary engineering elective

General education Historical Perspectives

BIO 105 - Environmental Science (3 credits) Life Sciences

EGR 486 - Senior Engineering Project II (Capstone) (2 credits)

## **Bachelor of Science in Engineering, Mechanical Engineering Major**

Mechanical engineering encompasses the analysis, development, design, and testing of a wide range of mechanical systems including machines that involve mechanics, motion, and energy: alternative energy systems, biomedical devices, robotic systems, vehicles, aircraft, engines, HVAC systems, and industrial equipment.

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

Integral to all four years of the program is a "design and build" educational philosophy incorporated through extensive laboratory and project activities as preparation for professional practice. Students engage in design at all levels of the curriculum. At each level, they must realize their designs and proceed with testing, validation, and redesign. This approach allows students to experience many real-world constraints such as project economics, project planning and scheduling, environmental considerations, manufacturability/producibility of the designs, laboratory and product safety, and product reliability.

The junior and senior years of the mechanical engineering program build upon the freshman and sophomore courses to provide greater depth in mechanical design, and dynamic systems as well as additional background in thermal-fluid sciences and engineering. Students complete required courses in these areas and select from electives in the same areas, and/or manufacturing, and emerging fields including biomedical engineering, and alternative energy systems.

Students who elect the mechanical engineering program may prepare themselves for a wide range of engineering careers and fulfill the educational requirements for taking the Fundamentals of Engineering examination before graduation.

### **Accreditation**

The mechanical engineering major is accredited by the Engineering Accreditation Commission of ABET, [abet.org](http://abet.org).

### **Program Educational Objectives**

Graduates of the mechanical engineering program are expected within a few years of graduation to

- demonstrate technical competency in their careers;
- function effectively in an industrial or academic environment;
- engage in professional development; and
- shape their professions and societies.

### **Student Outcomes and Assessment**

The graduate will demonstrate an ability to

- identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics;
- apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

communicate effectively with a range of audiences;

recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts;

function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives;

develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions; and

acquire and apply new knowledge as needed, using appropriate learning strategies.

## **Degree Requirements**

Mechanical engineering students must complete all requirements for the B.S.E. degree including the general education requirements, the foundations of engineering courses, cooperative education, the engineering design Capstone, and the following mechanical engineering courses.

### **Required Courses**

EGR 250 - Materials Science and Engineering (3 credits)

EGR 251 - Materials Laboratory (1 credit)

EGR 329 - Introduction to Finite Element Analysis (3 credits)

EGR 346 - Mechatronic Systems Dynamics and Control (4 credits)

EGR 360 - Thermodynamics (4 credits)

EGR 365 - Fluid Mechanics (4 credits)

EGR 409 - Machine Design II (4 credits)

EGR 468 - Heat Transfer (4 credits)

### **Electives Courses**

Choose a total of three elective courses from the lists as follows: core ME electives, manufacturing engineering electives, and biomedical engineering electives. No more than two courses from the manufacturing engineering electives may be used toward the three.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Core ME Electives**

Choose three:

EGR 350 - Vibration (4 credits)

EGR 352 - Kinematics and Dynamics of Machinery (4 credits)

EGR 445 - Robotic Systems Engineering (4 credits)

EGR 463 - Alternative Energy Systems and Applications (4 credits)

EGR 465 - Computational Fluid Dynamics (CFD) (4 credits)

EGR 475 - Design of HVAC Systems (4 credits)

EGR 311 - Intermediate Computer Aided Design and Manufacturing (3 credits)

## **Manufacturing Engineering Electives**

No more than two of the following courses may be applied toward fulfilling the elective requirements of the ME major.

EGR 367 - Manufacturing Processes (3 credits) and EGR 368 - Manufacturing Processes Laboratory (1 credit)

EGR 405 - Materials Failure Analysis and Selection (3 credits)

EGR 450 - Manufacturing Control Systems (4 credits)

## **Biomedical Engineering Electives**

EGR 447 - Engineering Mechanics of Human Motion (3 credits)

## **Suggested Order of Coursework**

### **Junior and Senior Years**

#### **First Co-op Semester**

Spring/Summer:

General education Global Perspectives

EGR 290 - Engineering Co-op 1 (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Fifth Academic Semester**

Fall:

ECO 211 - Introductory Microeconomics (3 credits)

EGR 250 - Materials Science and Engineering (3 credits)

EGR 251 - Materials Laboratory (1 credit)

EGR 346 - Mechatronic Systems Dynamics and Control (4 credits)

EGR 360 - Thermodynamics (4 credits)

## **Second Co-op Semester**

Winter:

General education Issues

EGR 390 - Engineering Co-op 2 (3 credits)

## **Sixth Academic Semester**

Spring/Summer:

General education Arts

EGR 329 - Introduction to Finite Element Analysis (3 credits)

EGR 365 - Fluid Mechanics (4 credits)

EGR 409 - Machine Design II (4 credits)

## **Third Co-op Semester**

Fall:

General education Issues

EGR 490 - Engineering Co-op 3 (3 credits)

## **Seventh Academic Semester**

Winter:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Mechanical engineering elective

Mechanical engineering elective

EGR 468 - Heat Transfer (4 credits)

EGR 485 - Senior Engineering Project I (Capstone) (1 credit)

The prerequisites for EGR 485 are acceptance into the B.S.E. degree program and completion of the prerequisite courses listed under the student's engineering major.

For the mechanical engineering major, prerequisite courses are: EGR 250, EGR 251, EGR 329, EGR 346, EGR 365, EGR 390, and EGR 409. Corequisite: EGR 468.

### **Eighth Academic Semester**

Spring/Summer:

Mechanical engineering elective

General education Historical Perspectives

BIO 105 - Environmental Science (3 credits) Life Sciences

EGR 486 - Senior Engineering Project II (Capstone) (2 credits)

## **Bachelor of Science in Engineering, Product Design and Manufacturing Engineering Major**

Product design and manufacturing engineering focuses on all the processes needed to develop products, from design and planning to production and delivery of finished products. To this end, this branch of engineering involves a wide range of topics, such as ergonomics, needs identification, manufacturing processes, robotic systems, materials selection, programmable controllers, industrial engineering, and vision systems.

Students who select the product design and manufacturing engineering major prepare themselves for a variety of engineering careers and fulfill the educational requirements for taking the Fundamentals of Engineering professional examination before graduation.

The junior and senior years of the product design and manufacturing engineering program build upon the foundation courses to provide greater depth in engineering science, engineering design, and the focused areas of product design and manufacturing engineering. Students complete required and elective courses distributed in product design materials and manufacturing processes; process, assembly, and product engineering; manufacturing competitiveness and manufacturing systems design.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Integral to all four years of the program is a "design and build" educational philosophy incorporated through extensive laboratory and project activities as preparation for professional practice. Students engage in design at all levels of the curriculum. At each level, they must realize their designs and proceed with testing, validation, and redesign. This approach allows students to experience many real-world constraints such as project economics, project planning and scheduling, environmental considerations, manufacturability/producibility of the designs, laboratory and product safety, and product reliability.

### **Accreditation**

The product design and manufacturing engineering major is accredited by the Engineering Accreditation Commission of ABET, [abet.org](http://abet.org).

### **Program Educational Objectives**

Graduates of the product design and manufacturing engineering program are expected within a few years of graduation to

- demonstrate technical competency in their careers;
- function effectively in an industrial or academic environment;
- engage in professional development; and
- shape their professions and societies.

### **Student Outcomes and Assessment**

The graduate will demonstrate an ability to

- identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics;
- apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors;
- communicate effectively with a range of audiences;
- recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts;

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function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives;

develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions; and

acquire and apply new knowledge as needed, using appropriate learning strategies.

## **Degree Requirements**

Product design and manufacturing (PDM) engineering program students must complete all requirements for the B.S.E. degree including the general education requirements, the foundations of engineering courses, cooperative education, the engineering design Capstone, and the following manufacturing engineering courses.

PDM majors must complete an emphasis. Four emphases are offered, general, design, manufacturing systems, and robotics and controls. Each emphasis has required courses and elective courses that are chosen from an approved list. The design, manufacturing systems, and robotics and controls emphases have three required emphasis classes.

## **Emphases**

Product design engineers are responsible for the process of creating and developing new products. They research and develop ideas and processes for new products, improve the performance and design of existing products, and plan production and manage production facilities.

### **Required For All Emphases**

EGR 301 - Analytical Tools for Product Design (4 credits)

EGR 345 - Dynamic System Modeling and Control (4 credits)

EGR 362 - Thermal and Fluid Systems (4 credits)

EGR 367 - Manufacturing Processes (3 credits)

EGR 368 - Manufacturing Processes Laboratory (1 credit)

EGR 440 - Introduction to Production (3 credits)

## **Design Emphasis**

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The design emphasis allows students to focus on combining their engineering skills and knowledge with their creativity to create innovative products that will succeed in the global marketplace. Students learn how to integrate design methods such as gathering customer requirements, establishing specifications, generating alternative concepts, estimating feasibility, concept selection, embodiment design, design refinement, prototyping, and project planning into a coherent product development strategy.

Required Courses:

EGR 329 - Introduction to Finite Element Analysis (3 credits)

EGR 401 - Advanced Product Design (4 credits)

EGR 405 - Materials Failure Analysis and Selection (3 credits)

Electives (choose two):

EGR 311 - Intermediate Computer Aided Design and Manufacturing (3 credits)

EGR 326 - Embedded System Design (4 credits)

EGR 403 - Medical Device Design (3 credits)

EGR 404 - Polymer Science and Processing (4 credits)

EGR 409 - Machine Design II (4 credits)

EGR 441 - Engineering Economics, Quality Control, and Manufacturing Operations (4 credits)

EGR 453 - Biomedical Materials (3 credits)

STA 315 - Design of Experiments (3 credits)

### **General Emphasis**

The general emphasis provides a student with an overview of knowledge and skills required to transform a societal need into a finished product for a price that people in the intended market are willing to pay.

Required Courses:

EGR 401 - Advanced Product Design (4 credits)

EGR 450 - Manufacturing Control Systems (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Electives (choose three):

EGR 403 - Medical Device Design (3 credits)

EGR 405 - Materials Failure Analysis and Selection (3 credits)

EGR 409 - Machine Design II (4 credits)

EGR 413 - Materials for Energy Storage (3 credits)

EGR 441 - Engineering Economics, Quality Control, and Manufacturing Operations (4 credits)

EGR 445 - Robotic Systems Engineering (4 credits)

EGR 447 - Engineering Mechanics of Human Motion (3 credits)

EGR 453 - Biomedical Materials (3 credits)

EGR 463 - Alternative Energy Systems and Applications (4 credits)

STA 315 - Design of Experiments (3 credits)

### **Manufacturing Systems Emphasis**

The manufacturing systems emphasis allows students to focus on the design, operation, and integration of systems for the production of high-quality, economically competitive products. These systems include computer networks, robots, machine tools, and materials-handling equipment. Students will learn engineering economics, strategic decision making based on principles of operations management, quality control concepts, method engineering, and process improvement techniques to accomplish the goal of designing and managing world-class manufacturing systems.

Required Courses:

EGR 404 - Polymer Science and Processing (4 credits)

EGR 441 - Engineering Economics, Quality Control, and Manufacturing Operations (4 credits)

EGR 450 - Manufacturing Control Systems (4 credits)

Electives (choose two):

EGR 413 - Materials for Energy Storage (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

EGR 445 - Robotic Systems Engineering (4 credits)

MGT 337 - Supply Chain Management (3 credits)

STA 314 - Statistical Quality Methods (3 credits) **OR** STA 315 - Design of Experiments (3 credits)

### **Robotics and Controls Emphasis**

The robotics and controls emphasis allows students to focus on the design and development of modern, automated systems to manufacture products as well as to perform tasks that are dangerous, repetitive or time consuming for humans. Students learn how to integrate many types of sensors, actuators, and computer control techniques to design and build these systems.

Required Courses:

EGR 409 - Machine Design II (4 credits)

EGR 445 - Robotic Systems Engineering (4 credits)

EGR 450 - Manufacturing Control Systems (4 credits)

Electives (choose two):

EGR 312 - Dynamics (3 credits)

EGR 352 - Kinematics and Dynamics of Machinery (4 credits)

EGR 405 - Materials Failure Analysis and Selection (3 credits)

EGR 441 - Engineering Economics, Quality Control, and Manufacturing Operations (4 credits)

### **Suggested Order of Coursework**

#### **Junior and Senior Years**

#### **First Co-op Semester**

Spring/Summer:

General education Global Perspectives

EGR 290 - Engineering Co-op 1 (3 credits)

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## **Fifth Academic Semester**

Fall:

EGR 301 - Analytical Tools for Product Design (4 credits)

EGR 345 - Dynamic System Modeling and Control (4 credits)

EGR 367 - Manufacturing Processes (3 credits)

EGR 368 - Manufacturing Processes Laboratory (1 credit)

General education Social and Behavioral Sciences

## **Second Co-op Semester**

Winter:

General education Issues

EGR 390 - Engineering Co-op 2 (3 credits)

## **Sixth Academic Semester**

Spring/Summer:

General education Arts

ECO 210 - Introductory Macroeconomics (3 credits) **OR** ECO 211 - Introductory Microeconomics (3 credits)

EGR 362 - Thermal and Fluid Systems (4 credits)

EGR 440 - Introduction to Production (3 credits)

Product design and manufacturing engineering elective

## **Third Co-op Semester**

Fall:

General education Issues

EGR 490 - Engineering Co-op 3 (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Seventh Academic Semester**

Winter:

Product design and manufacturing engineering elective

EGR 401 - Advanced Product Design (4 credits)

EGR 450 - Manufacturing Control Systems (4 credits)

EGR 485 - Senior Engineering Project I (Capstone) (1 credit)

The prerequisites for EGR 485 are acceptance into the B.S.E. degree program and completion of the prerequisite courses listed under the student's engineering major.

For the product design and manufacturing engineering major, these prerequisite courses are: EGR 301, EGR 345, EGR 367, and EGR 368.

## **Eighth Academic Semester**

Spring/Summer:

Product design and manufacturing engineering elective

General education Historical Perspectives

General education Life Sciences

EGR 486 - Senior Engineering Project II (Capstone) (2 credits)

## **Biomedical Engineering Minor**

A biomedical engineer applies the design, analytical, and problem-solving skills acquired in engineering training to improve health and quality of human life. Biomedical engineers are able to collaborate with health care professionals, such as physicians and nurses, and to apply advanced technological solutions to clinical problems. Their ability to apply mathematical models and computational simulation to the study of complex physiologic systems are invaluable to the medical science and research community.

The areas of specialization in biomedical engineering include bioelectrical and bioinstrumentation, biomechanics, biomaterials, and biocomputing. Bioelectrical and bioinstrumentation involve the application of fundamental electrical engineering and measurement principles to develop better measurement and diagnostic devices. Biomechanical engineering applies fundamental engineering mechanics to understanding musculoskeletal systems, blood rheology, and transport phenomena for drug delivery. Biomaterial engineering

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involves the study of synthetic and natural materials that are used to replace, augment, or restore function to body tissues. These materials need to be in constant intimate contact with living tissues without adversely affecting the living organism and its components. These include materials used in implants, heart valves, and prosthetic applications.

## **Requirements for a Minor in Biomedical Engineering**

The requirements for the minor in biomedical engineering are fulfilled as follows.

### **Courses**

BMS 202 - Anatomy and Physiology (4 credits)

CHM 115 - Principles of Chemistry I (4 credits)

CHM 230 - Introduction to Organic and Biochemistry (4 credits)

EGR 435 - Mathematical Modeling of Physiologic Systems (3 credits)

### **Electives**

Choose any two of the following:

EGR 403 - Medical Device Design (3 credits)

EGR 432 - Biomedical Imaging and Image Processing (3 credits)

EGR 433 - Electronic Instrumentation for Biomedical Applications (3 credits)

EGR 434 - Bioelectric Potentials (3 credits)

EGR 447 - Engineering Mechanics of Human Motion (3 credits)

EGR 453 - Biomedical Materials (3 credits)

EGR 465 - Computational Fluid Dynamics (CFD) (4 credits)

## **Combined Bachelor of Science and Master of Science in Engineering**

The School of Engineering offers a combined B.S.E. and M.S.E degree program for high achieving students, allowing students to efficiently complete both the B.S.E and M.S.E. in a timely manner.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

The combined program allows the use of two courses from the graduate program to fulfill the requirements for two undergraduate electives, while also applying these courses to the graduate program. Similarly, the combined program utilizes an integrated culminating experience that fulfills the requirements of both the B.S.E. and M.S.E. programs. Through this articulation, the student completes both programs through a reduction of nine to 11 credit hours.

The study plans for the combined B.S.E./M.S.E. program are very aggressive and academically demanding. Undergraduate students who maintain a GPA of 3.3 through their junior year are encouraged to apply for the program. For more information, please contact the graduate program director.

## **Combined Bachelor of Science in Computer Engineering and Master of Science in Applied Computer Science**

Qualified undergraduates may be admitted to a combined bachelor's/master's program and obtain both a B.S.E. in computer engineering and an M.S. in applied computer science within an accelerated time frame. Students admitted to this program will count up to 12 credits of graduate work in partial satisfaction of both undergraduate and graduate degree requirements. After completing 120 credits and all requirements for the bachelor's degree, students are awarded a bachelor's degree. A minimum of 21 graduate credits must be completed after the 120 credits of the bachelor's degree. All other master's degree requirements must be met, including a graduate Capstone.

### **Admission**

Students will normally apply directly to the School of Computing for the combined B.S.E./M.S. program during their second academic year. Application requirements include:

- Overall GPA of 3.25 or greater

- Student must have been admitted to the computer engineering program

- 60 hours of academic credit have been completed or are in progress

- Two letters of recommendation

- Academic transcripts (unofficial transcripts are allowable)

Admission decisions will be made by the school admissions committee based on the student's previous academic success in computer engineering, as indicated by GPA and grades in the foundation computer engineering courses, as well as potential success in the graduate program, as indicated by the letters of recommendation, and the student's letter of intent. Decisions will normally be communicated to students within four weeks of submitting a complete application to the combined degree program.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Requirements**

### **During Undergraduate Studies**

All university requirements, including general education courses, must be completed before the final (graduate) year of the combined B.S.E./M.S. program. In the final undergraduate year, students will normally take nine credits of graduate-level courses. If any courses are dual-listed, students in the combined B.S.E./M.S. program must complete all assignments expected of graduate students and they will be evaluated in the same way as graduate students.

Students will be considered undergraduates for tuition, academic requirements, and financial aid purposes until all requirements for the undergraduate degree are completed. Following this, they will be considered graduate students, will pay graduate tuition, and will be eligible for graduate financial aid.

The school has identified the following courses that students may dual-count toward the B.S.E. and M.S. degrees. Up to 12 credits can be dual counted. Students are strongly encouraged to work with the graduate program director in ACS to ensure all undergraduate and graduate requirements are met.

CIS 611 in lieu of CIS 350

CIS 654 in lieu of CIS 457

CIS 656 in lieu of CIS 452

CIS 672 in lieu of CIS 451

CIS 693 in lieu of EGR 485/EGR 486

### **During Graduate Studies**

A student shall be considered a graduate student for all purposes upon either of the following events: the award of a baccalaureate degree or the completion of 120 credit hours.

### **Graduation Without Completion of the Program**

If a student decides at some point to pursue only the undergraduate portion of the combined degree, the school will still recognize the graduate courses taken in lieu of undergraduate courses. Credit from the undergraduate degree cannot be used toward a graduate degree at a later date.

Please note that awarding of the B.S.E. in computer engineering requires a Capstone course, either EGR 485 and EGR 486, or CIS 693, or both CIS 690 and CIS 695. Awarding of the M.S.

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in applied computer science requires a graduate Capstone course: CIS 693, or both CIS 690 and CIS 695.

## **Suggested Order of Coursework**

This sample order of coursework assumes that students will complete the CE core and general education courses with the help of their advisor and apply for undergraduate admission at the end of the winter semester of their second year. The following course sequence also assumes a strong mathematics background for the entering student. If mathematics deficiencies exist, completing the mathematics prerequisites should be the student's top priority.

Please note: This is only one of many possible sequences of courses. Students are strongly encouraged to work with the graduate program director in ACS to ensure all undergraduate and graduate requirements are met, and to customize the combined program to their areas of interest.

The following sequence makes no attempt to minimize credit load. For example, the sequence assumes that all general education courses are distinct and no double dipping is done.

### **Year One**

No change from CE sample curriculum (31 credits).

CHM 115 - Principles of Chemistry I (4 credits)

EGR 100 - Introduction to Engineering (1 credit)

EGR 111 - Introduction to Engineering Graphics (1 credit)

EGR 112 - Applied Programming for Engineers (2 credits)

EGR 113 - Introduction to CAD/CAM (1 credit)

EGR 185 - First-year Engineering Design (2 credits)

EGR 220 - Engineering Measurement and Data Analysis (1 credit)

MTH 201 - Calculus I (4 credits)

MTH 202 - Calculus II (4 credits)

PHY 230 - Principles of Physics I (5 credits)

STA 220 - Statistical Modeling for Engineers (2 credits)

WRT 150 - Strategies in Writing (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Year Two**

No change from CE sample curriculum (46 to 47 credits).

CIS 162 - Computer Science I (4 credits) **OR** CIS 159 - Java Programming for Engineers (1 credit)

CIS 163 - Computer Science II (4 credits)

EGR 214 - Circuit Analysis I (3 credits)

EGR 215 - Circuit Analysis I Lab (1 credit)

EGR 224 - Introduction to Digital System Design (3 credits)

EGR 226 - Microcontroller Programming and Applications (3 credits)

EGR 227 - Microcontroller Programming and Applications Lab (1 credit)

EGR 289 - Engineering Professionalism (1 credit)

EGR 290 - Engineering Co-op 1 (3 credits)

EGR 223 - Probability and Signal Analysis (3 credits)

MTH 203 - Calculus III (4 credits)

MTH 302 - Linear Algebra and Differential Equations (4 credits)

PHY 231 - Principles of Physics II (5 credits) **OR** PHY 234 - Engineering Physics (4 credits)

PHY 234 - Engineering Physics (4 credits)

Generation education Social and Behavioral Sciences Credits: 3

## **Year Three**

Includes 33 undergraduate credits plus three graduate credits (36 credits).

CIS 241 - System-level Programming and Utilities (3 credits)

CIS 263 - Data Structures and Algorithms (3 credits)

CIS 611 - Introduction to Software Engineering (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

ECO 210 - Introductory Macroeconomics (3 credits)

ECO 211 - Introductory Microeconomics (3 credits)

EGR 314 - Circuit Analysis II (4 credits)

EGR 315 - Electronic Circuits I (4 credits)

EGR 326 - Embedded System Design (4 credits)

EGR 390 - Engineering Co-op 2 (3 credits)

General education Arts (3 credits)

General education Issues (3 credits)

General education Global Perspectives (3 credits)

#### **Year Four**

Includes 21 to 22 undergraduate credits plus six graduate credits (27 to 28 credits).

CIS 452 - Operating Systems Concepts (4 credits)

CIS 654 - Computer Networking (3 credits)

CIS 672 - Computer Systems Architecture (3 credits)

EGR 490 - Engineering Co-op 3 (3 credits)

CE elective (3 or 4 credits)

General education History (3 credits)

General education Issues (3 credits)

General education Life Sciences (3 credits)

General education Philosophy and Literature (3 credits)

#### **Year Five**

Includes 24 graduate credits.

CIS 656 - Distributed Systems (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CIS 658 - Web Architectures (3 credits)

CIS 673 - Principles of Database Design (3 credits)

CIS 693 - Master's Project (3 credits)

Graduate electives (12 credits)

## **Computer Engineering Minor**

### **Requirements for a Minor in Computer Engineering**

Students must achieve a minimum GPA of 2.0 in the following courses (26-30 hours):

CIS 159 - Java Programming for Engineers (1 credit) **OR** CIS 162 - Computer Science I (4 credits)

CIS 163 - Computer Science II (4 credits)

CIS 241 - System-level Programming and Utilities (3 credits)

EGR 100 - Introduction to Engineering (1 credit)

EGR 111 - Introduction to Engineering Graphics (1 credit)

EGR 112 - Applied Programming for Engineers (2 credits)

EGR 113 - Introduction to CAD/CAM (1 credit)

EGR 185 - First-year Engineering Design (2 credits)

EGR 214 - Circuit Analysis I (3 credits)

EGR 215 - Circuit Analysis I Lab (1 credit)

EGR 224 - Introduction to Digital System Design (3 credits)

EGR 226 - Microcontroller Programming and Applications (3 credits)

EGR 227 - Microcontroller Programming and Applications Lab (1 credit)

Select two of the following electives:

CIS 263 - Data Structures and Algorithms (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CIS 351 - Computer Organization and Assembly Language (4 credits)

CIS 451 - Computer Architecture (3 credits)

CIS 452 - Operating Systems Concepts (4 credits)

CIS 457 - Data Communications (4 credits)

EGR 326 - Embedded System Design (4 credits)

EGR 424 - Design of Microcontroller Applications (4 credits)

EGR 426 - Integrated Circuit Systems Design (4 credits)

## **Badge in Electromagnetic Compatibility (Graduate)**

This badge certifies that its wearer has learned the electromagnetic compatibility (EMC) principles necessary to design or redesign electronic products that can be successfully tested for EMC compliance.

Successful completion of:

EGR 543 - Electromagnetic Compatibility (4 credits) (B or better)

EGR 643 - PCB Design and EMC (3 credits) (B or better)

## **Badge in Electromagnetic Compatibility (Undergraduate)**

This badge certifies that its wearer has learned the electromagnetic fundamentals and electromagnetic compatibility (EMC) principles to design and test electronic products for EMC compliance.

Successful completion of:

EGR 343 - Applied Electromagnetics (4 credits) passing three exams and the laboratory part with a C or better.

EGR 443 - Electromagnetic Compatibility (4 credits) successful completion of the laboratory assignments and the design project with a C or better.

## **Badge in Embedded Systems**

### **Requirements**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

EGR 524 - Design of Microcontroller Applications (4 credits)

EGR 536 - Embedded Systems Interface (4 credits)

## **Engineering Science Minor**

### **Requirements for a Minor in Engineering Science**

The minor in engineering science requires a minimum GPA of 2.0 in eight courses (24-26 credit hours) as follows.

#### **Required Courses**

EGR 100 - Introduction to Engineering (1 credit)

EGR 111 - Introduction to Engineering Graphics (1 credit)

EGR 112 - Applied Programming for Engineers (2 credits)

EGR 113 - Introduction to CAD/CAM (1 credit)

EGR 185 - First-year Engineering Design (2 credits)

EGR 209 - Mechanics and Machines (4 credits) **OR** EGR 224 - Introduction to Digital System Design (3 credits)

EGR 214 - Circuit Analysis I (3 credits)

EGR 215 - Circuit Analysis I Lab (1 credit)

EGR 220 - Engineering Measurement and Data Analysis (1 credit)

EGR 226 - Microcontroller Programming and Applications (3 credits)

EGR 227 - Microcontroller Programming and Applications Lab (1 credit)

STA 220 - Statistical Modeling for Engineers (2 credits)

#### **Elective Courses**

Choose one of the following:

CIS 163 - Computer Science II (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

EGR 209 - Mechanics and Machines (4 credits) **IF** EGR 224 - Introduction to Digital System Design (3 credits) was taken as the required course

EGR 223 - Probability and Signal Analysis (3 credits)

EGR 224 - Introduction to Digital System Design (3 credits) **IF** EGR 209 - Mechanics and Machines (4 credits) was taken as the required course

EGR 250 - Materials Science and Engineering (3 credits) **AND** EGR 251 - Materials Laboratory (1 credit)

EGR 257 - Electronic Materials and Devices (4 credits)

EGR 309 - Machine Design I (3 credits) **AND** EGR 310 - Machine Design I Laboratory (1 credit)

EGR 312 - Dynamics (3 credits)

## Master of Science in Engineering

**Website:** [gvsu.edu/grad/mse](http://gvsu.edu/grad/mse)

The Master of Science in engineering (M.S.E.) degree program graduates engineers with the sophisticated education needed to design complex engineered systems. These engineers drive innovations, explain the value of high-technology systems, and sustain their employer's global competitiveness. This degree program is available with the following emphases:

Biomedical engineering

Electrical and computer engineering

Manufacturing operations

Mechanical engineering

Product design and manufacturing

Offered by the School of Engineering in the Seymour and Esther Padnos College of Engineering and Computing, the M.S.E. program is designed to meet the technical and professional development needs of practicing engineers, as well as of students interested in applied research and in preparation for advanced study. The program focuses on engineering design, development, and manufacturing, as well as production, and capitalizes on the industrial experiences of the students. Plans of study, as well as course and culminating projects, can be tailored to the needs of each student to provide a richer, personalized educational experience.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Many courses are offered in a one-night-per-week format during the fall, winter, and spring/summer semesters; some courses are offered on Saturday or in the late afternoon. Students completing two courses per semester can complete the degree in two calendar years of part-time study. Full-time students can complete the M.S.E. degree in as little as four semesters. For additional information about opportunities your college offers, please refer to the Seymour and Esther Padnos College of Engineering and Computing in this catalog.

### **Program Location**

The M.S.E. is offered on the Pew Grand Rapids Campus in the John C. Kennedy Hall of Engineering located in downtown Grand Rapids, MI.

### **Admission**

The School of Engineering seeks motivated and intellectually inquisitive graduate students who desire to deepen their professional education in engineering. The School of Engineering expects candidates to make effective use of opportunities to obtain academic and program advice from the faculty and to make maximum use of program flexibility in selecting options that further their professional objectives. Candidates can be admitted to the program in any semester; no application deadline is imposed. Applications are reviewed just as soon as they are complete.

Application requirements and admission standards:

A Bachelor of Science degree from a four-year undergraduate program in engineering or closely related field. For students graduating from a program in the United States, the program must be accredited by the EAC of ABET Inc. Applications must include official, original academic transcripts and degree certificates from all secondary schools or universities previously attended.

U.S. students must have a cumulative grade point average of at least 3.0 on a 4.0 scale in all undergraduate coursework. At their discretion, they may elect to present additional evidence of academic achievement through high GRE scores.

International students must have a cumulative grade point average (GPA) that is equivalent to at least 3.0, when linearly scaled on a 0.0 - 4.0 scale, in all undergraduate coursework. They must also submit GRE scores, which must be satisfactory, independent of their cumulative undergraduate GPA.

International students must also show evidence of proficiency in the English language. GVSU recognizes the following English proficiency tests:

TOEFL: 80 or better

International English Language Test System (IELTS): 6.5 or better

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Three confidential letters of recommendation from informed sources such as current and/or former professors and employers. The letters should address the applicant's academic skills, analytical and problem-solving abilities, professionalism, maturity, integrity, and potential for success in graduate studies.

An essay, not exceeding two pages in length, detailing an applicant's career plans and academic goals. International applicants are requested to add an essay, not exceeding two pages in length, on the following topic: "What will I do to bring cultural and international perspectives to Grand Valley that will enhance the learning environment for the entire GVSU community?"

Candidates should have a base of underlying knowledge relevant to graduate study in the chosen area. This can be demonstrated by previous academic records or relevant work experience. Consultation with the graduate program director may be necessary to verify the appropriateness of technical work training as a substitute for academic preparation.

Once admitted to the M.S.E. program, students are expected to demonstrate initiative as well as effective teamwork, and to devote sufficient time to complete the work assigned in each course. They must be willing to imaginatively and creatively engage academic challenges. Although the demands are rigorous, the results can be exciting and rewarding. Students are expected to maintain the highest ethical standards at all times.

### **Academic Advising**

Candidates seeking the M.S.E. degree can meet with the graduate program director to discuss career interests, professional objectives, and program plans.

### **Transfer Credit**

A maximum of nine semester hours of transfer credit may be given for appropriate graduate courses completed with a grade of B (3.0) or above at another college or university.

### **Good Standing**

A cumulative grade point average of 3.0 or higher is required in all graduate-level courses. A candidate must receive a grade of C or better in all courses used to fulfill graduation requirements for the M.S.E. degree. If a student earns a grade lower than a C in any such course, the student must take remedial action depending on whether the course is required or elective. If the course is required, the student must repeat that course until an acceptable grade is earned. If the course is an elective, the student may repeat that course or take another approved graduate elective and earn a grade of at least C in the course.

### **Graduate Assistantships**

Graduate assistantships are available. In return for their assistantships, graduate assistants work with the School of Engineering faculty and staff to provide quality education, research, and

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

service. Qualified full-time candidates are selected for the available graduate assistantships on the basis of aptitude, interest, and background.

## **Requirements**

The M.S.E. program requires a minimum of 33 semester hours of graduate coursework for each of the available M.S.E. emphases. Every semester, an appropriate set of courses is scheduled to allow students to complete their M.S.E degree programs in the stated number of semesters or calendar years. In each emphasis, the coursework is distributed in the following clusters.

### **Professional Practice**

The courses in this cluster transcend specific majors.

### **Emphasis-specific Courses**

Students select five graduate courses from a list of emphasis-specific courses. Within these courses in the M.S.E. emphases on biomedical engineering, electrical and computer engineering, manufacturing operations, mechanical engineering, and product design and manufacturing engineering, students may also select special topics courses with approval of the graduate program director. The emphasis-specific courses are chosen by students in consultation with their respective advisors to achieve a coherent selection.

### **Elective Graduate Courses**

The elective graduate courses may be chosen from any of the available graduate engineering courses, including the emphasis-specific courses, or other graduate courses from different disciplines. The graduate electives from disciplines other than engineering must be preapproved by the graduate program director of the School of Engineering.

### **Culminating Experience**

The culminating experience requires one of three routes:

A culminating design project, EGR 690, for three academic credits.

A culminating M.S.E. project for six academic credits.

A culminating M.S.E. thesis for six academic credits.

The culminating experience route for each student must be approved by the graduate program director. From among the three routes, students typically select either the culminating M.S.E. project or the culminating M.S.E. thesis, which are equivalent culminating experiences. Students will select the master's project route if they work on proprietary industry projects; they will select the master's thesis route if they work on nonproprietary projects. Students continuously register for either EGR 693 - Master's Project or EGR 695 - Master's Thesis, in either case, for a total of

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

six credits. If after completing these six credits, students need additional time to finish their culminating work, they must continuously register for a continuation course, EGR 696, of which the credits, following university policies, do not count toward the required minimum of 33 M.S.E. credits.

The courses in these clusters are at the 500- and 600-level and depend on the specific M.S.E. emphasis. In any M.S.E. emphasis, students may take up to three 500-level courses and no more than nine credits from dual-listed courses may be applied toward the M.S.E. degree, in consonance with university standards. Students should follow the sequence of courses recommended for each emphasis, yet substitutions are possible depending on students' backgrounds and specific interests. Students may apply for such substitutions with the graduate program director. Students select one of the following emphases for their M.S.E. program.

## **Emphases**

### **Biomedical Engineering Emphasis**

In this emphasis, students should complete the following courses.

Professional Practice (6 credits):

EGR 604 - Implementation and Measurement (3 credits)

PSM 650 - Ethics and Professionalism in Applied Science (3 credits) **OR** EGR 602 - Professional Aspects of Engineering (3 credits)

Emphasis-specific Courses (21 credits):

In the biomedical engineering emphasis, students take the focus courses specified as follows, which consist of five required courses and two elective courses.

Required Courses:

EGR 503 - Medical Device Design (3 credits)

EGR 614 - Opportunity Identification for Medical Devices (3 credits)

EGR 635 - Biomedical Signal Modeling (3 credits)

EGR 670 - Systems Physiology for Engineers (3 credits)

STA 615 - Design of Experiments for Engineers (3 credits)

Elective Courses in the Biomechanical Stream (choose two):

EGR 547 - Engineering Mechanics of Human Motion (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

EGR 553 - Biomedical Materials (3 credits)

EGR 565 - Computational Fluid Dynamics (CFD) (4 credits)

Elective Courses in the Bioelectrical Stream (choose two):

EGR 532 - Biomedical Imaging and Image Processing (3 credits)

EGR 534 - Bioelectric Potentials (3 credits)

EGR 533 - Electronic Instrumentation for Biomedical Applications (3 credits)

Culminating Experience (three to six credits)

The culminating experience route for each student must be approved by the graduate program director. From among the three culminating experience routes, students typically select the Capstone M.S.E. project route for six credits or the culminating M.S.E. thesis route for six credits. The project and thesis routes are equivalent: the master's project is reserved for proprietary work, whereas the master's thesis is reserved for nonproprietary work. The culminating experience requires the following courses:

EGR 690 - Capstone Design Project (3 credits) **OR** EGR 693 - Master's Project (1 to 6 credits) Maximum of six. **OR** EGR 695 - Master's Thesis (1 to 6 credits) Maximum of six.

Students may register for EGR 693 more than once, for a combined total of six credits.

Students may register for EGR 695 more than once, for a combined total of six credits. Students who need to complete their culminating thesis after finishing the six credits of EGR 695 must continuously register for EGR 696 - Continuation of Master's Project or Thesis Research (1 credit)

### **Electrical and Computer Engineering Emphasis**

In this emphasis, students should complete the following courses.

Professional Practice (nine credits):

EGR 600 - Advanced Engineering Analysis (3 credits)

EGR 602 - Professional Aspects of Engineering (3 credits)

EGR 604 - Implementation and Measurement (3 credits)

Emphasis Area Courses (five courses):

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Students select five required emphasis-specific courses from the following list in any coherent combination. These courses are typically offered in a two-year rotation to allow students to complete their M.S.E. program in the stated number of semesters or calendar years.

EGR 518 - Radio Frequency Systems (4 credits)

EGR 523 - Digital Signal Processing Systems (4 credits)

EGR 526 - Integrated Circuit System Design (4 credits)

EGR 530 - Electromechanics (4 credits)

EGR 536 - Embedded Systems Interface (4 credits)

EGR 543 - Electromagnetic Compatibility (4 credits)

EGR 557 - Fundamentals of Nanotechnology (4 credits)

EGR 558 - Introduction to Fiber Optics (4 credits)

EGR 577 - Hybrid Electric Battery Systems (3 credits)

EGR 627 - Advanced FPGA Implementation (3 credits)

EGR 636 - Electronic Prototyping (3 credits)

EGR 643 - PCB Design and EMC (3 credits)

EGR 653 - Digital and Adaptive Systems (3 credits)

EGR 655 - Power Electronics (3 credits)

EGR 657 - Photovoltaic Systems (3 credits)

EGR 580 - Special Topics in Engineering (1 to 4 credits)

EGR 677 - Hybrid Electric Vehicles (3 credits)

EGR 680 - Special Topics in Engineering (1 to 4 credits)

EGR 699 - Independent Study in Engineering (1 to 3 credits)

Elective Graduate Courses:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

The elective graduate courses may be chosen from any of the available graduate engineering courses, including the emphasis-specific courses, or other graduate courses from different disciplines. The graduate electives from disciplines other than engineering must be preapproved by the graduate program director of the School of Engineering.

Culminating Experience (3 to 6 credits):

The culminating experience route for each student must be approved by the graduate program director. From among the three culminating experience routes, students typically select the Capstone M.S.E. project route for six credits or the culminating M.S.E. thesis route for six credits. The project and thesis routes are equivalent: the master's project is reserved for proprietary work, whereas the master's thesis is reserved for nonproprietary work. The culminating experience requires the following courses:

EGR 690 - Capstone Design Project (3 credits) **OR** EGR 693 - Master's Project (1 to 6 credits) Maximum of six. **OR** EGR 695 - Master's Thesis (1 to 6 credits) Maximum of six.

Students may register for EGR 693 more than once for a combined total of six credits.

Students may register for EGR 695 more than once for a combined total of six credits. Students who need to complete their culminating thesis after finishing the six credits of EGR 695 must continuously register for

EGR 696 - Continuation of Master's Project or Thesis Research (1 credit)

### **Manufacturing Operations Emphasis**

In this emphasis, students should complete the following courses.

Professional Practice (9 credits):

EGR 600 - Advanced Engineering Analysis (3 credits)

EGR 602 - Professional Aspects of Engineering (3 credits)

EGR 604 - Implementation and Measurement (3 credits)

Emphasis Area (five courses):

Students select five required emphasis-specific courses from the following list in any coherent combination. These courses are typically offered in a two-year rotation to allow students to complete their M.S.E. program in the stated number of semesters or calendar years.

EGR 541 - Engineering Economics, Quality Control, and Manufacturing Operations (4 credits)

EGR 580 - Special Topics in Engineering (1 to 4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

EGR 640 - Production Operation Models (3 credits)

EGR 641 - Applied Optimization (3 credits)

EGR 642 - Materials Handling and Flow Control (3 credits)

EGR 680 - Special Topics in Engineering (1 to 4 credits)

EGR 699 - Independent Study in Engineering (1 to 3 credits)

STA 615 - Design of Experiments for Engineers (3 credits)

#### Elective Graduate Courses:

The elective graduate courses may be chosen from any of the available graduate engineering courses, including the emphasis-specific courses, or other graduate courses from different disciplines. The graduate electives from disciplines other than engineering must be preapproved by the graduate program director of the School of Engineering.

#### Culminating Experience (3 to 6 credits):

The culminating experience route for each student must be approved by the graduate program director. From among the three culminating experience routes, students typically select the culminating M.S.E. project route for six credits or the culminating M.S.E. thesis route for six credits. The project and thesis routes are equivalent: the master's project is reserved for proprietary work, whereas the master's thesis is reserved for nonproprietary work. The culminating experience requires the following courses:

EGR 690 - Capstone Design Project (3 credits) **OR** EGR 693 - Master's Project (1 to 6 credits) maximum of six. **OR** EGR 695 - Master's Thesis (1 to 6 credits) maximum of six.

Students may register for EGR 693 more than once for a combined total of six credits.

Students may register for EGR 695 more than once for a combined total of six credits. Students who need to complete their culminating thesis after finishing the six credits of EGR 695 must continuously register for

EGR 696 - Continuation of Master's Project or Thesis Research (1 credit)

#### **Mechanical Engineering Emphasis**

In this emphasis, students should complete the following courses.

#### Professional Practice (nine credits):

EGR 600 - Advanced Engineering Analysis (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

EGR 602 - Professional Aspects of Engineering (3 credits)

EGR 604 - Implementation and Measurement (3 credits)

Emphasis Area (five courses):

Students select five required emphasis-specific courses from the following list in any coherent combination. These courses are typically offered in a two-year rotation to allow students to complete their M.S.E. program in the stated number of semesters or calendar years.

EGR 547 - Engineering Mechanics of Human Motion (3 credits)

EGR 550 - Manufacturing Control Systems (4 credits)

EGR 580 - Special Topics in Engineering (1 to 4 credits)

EGR 610 - Engineering Design (3 credits)

EGR 611 - Computer-Aided Design and Engineering (3 credits)

EGR 612 - Analytical Dynamics (3 credits)

EGR 615 - Applied Finite Element Analysis (3 credits)

EGR 620 - Material and Process Selection (3 credits)

EGR 680 - Special Topics in Engineering (1 to 4 credits)

EGR 699 - Independent Study in Engineering (1 to 3 credits)

Elective Graduate Courses:

The elective graduate courses may be chosen from any of the available graduate engineering courses, including the emphasis-specific courses, or other graduate courses from different disciplines. The graduate electives from disciplines other than engineering must be preapproved by the graduate program director of the School of Engineering.

Culminating Experience (three to six credits):

The culminating experience route for each student must be approved by the graduate program director. From among the three culminating experience routes, students typically select the culminating M.S.E. project route for six credits or the culminating M.S.E. thesis route for six credits. The project and thesis routes are equivalent: the master's project is reserved for proprietary work, whereas the master's thesis is reserved for nonproprietary work. The culminating experience requires the following courses:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

EGR 690 - Capstone Design Project (3 credits) **OR** EGR 693 - Master's Project (1 to 6 credits)  
Maximum of six. **OR** EGR 695 - Master's Thesis (1 to 6 credits) Maximum of six.

Students may register for EGR 693 more than once for a combined total of six credits.

Students may register for EGR 695 more than once for a combined total of six credits. Students who need to complete their culminating thesis after finishing the six credits of EGR 695 must continuously register for EGR 696 - Continuation of Master's Project or Thesis Research (1 credit)

### **Product Design and Manufacturing Engineering Emphasis**

In this emphasis, students should complete the following courses.

Professional Practice (nine credits):

EGR 600 - Advanced Engineering Analysis (3 credits)

EGR 602 - Professional Aspects of Engineering (3 credits)

EGR 604 - Implementation and Measurement (3 credits)

Emphasis Area (five courses):

EGR 503 - Medical Device Design (3 credits)

EGR 513 - Materials for Energy Storage (3 credits)

EGR 541 - Engineering Economics, Quality Control, and Manufacturing Operations (4 credits)

EGR 547 - Engineering Mechanics of Human Motion (3 credits)

EGR 550 - Manufacturing Control Systems (4 credits)

EGR 553 - Biomedical Materials (3 credits)

EGR 580 - Special Topics in Engineering (1 to 4 credits)

EGR 610 - Engineering Design (3 credits)

EGR 611 - Computer-Aided Design and Engineering (3 credits)

EGR 620 - Material and Process Selection (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

EGR 641 - Applied Optimization (3 credits)

EGR 642 - Materials Handling and Flow Control (3 credits)

EGR 680 - Special Topics in Engineering (1 to 4 credits)

EGR 699 - Independent Study in Engineering (1 to 3 credits)

STA 615 - Design of Experiments for Engineers (3 credits)

#### Elective Graduate Courses:

The elective graduate courses may be chosen from any of the available graduate engineering courses, including the emphasis-specific courses, or other graduate courses from different disciplines. The graduate electives from disciplines other than engineering must be preapproved by the graduate program director of the School of Engineering.

#### Culminating Experience (three to six credits):

The culminating experience route for each student must be approved by the graduate program director. From among the three culminating experience routes, students typically select the culminating M.S.E. project route for six credits or the culminating M.S.E. thesis route for six credits. The project and thesis routes are equivalent: the master's project is reserved for proprietary work, whereas the master's thesis is reserved for nonproprietary work. The culminating experience requires the following courses:

EGR 690 - Capstone Design Project (3 credits) **OR** EGR 693 - Master's Project (1 to 6 credits) Maximum of six. **OR** EGR 695 - Master's Thesis (1 to 6 credits) Maximum of six.

Students may register for EGR 693 more than once for a combined total of six credits.

Students may register for EGR 695 more than once for a combined total of six credits. Students who need to complete their culminating thesis after finishing the six credits of EGR 695 must continuously register for

EGR 696 - Continuation of Master's Project or Thesis Research (1 credit)

## English

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences in this catalog.

**Website:** [gvsu.edu/english](http://gvsu.edu/english)

The primary aim of the English program is to contribute directly to the liberal education of our majors by developing an awareness of the richness of literature, past and present; of the power

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

and complexity of language; and of the value of critical reading, informed interpretation, and effective writing. Thus, English majors learn to read and interpret literature from different historical periods and from different parts of the world, to write clearly, persuasively and analytically, and to study a variety of critical approaches to literature and language. Many of our majors also study English education, learning how to teach the skills of reading, writing, and interpretation to the next generation of English and language arts students.

The study of English at Grand Valley extends beyond the classroom, as well. Among other extracurricular activities, the department sponsors visits to campus by writers and critics and organizes faculty-led play-readings. Students who achieve a GPA of 3.0 or better and rank in the top 35 percent of their class are invited to join Grand Valley's Chapter of Sigma Tau Delta, the National English Honor Society, which fosters interest in literature and language scholarship and in creative writing. The department also organizes an annual writing contest and holds a ceremony at which students are awarded prizes for excellent writing and other academic accomplishments. In addition, the department grants scholarships to English majors who demonstrate scholastic achievement and writing excellence.

Students who graduate from our department with a major or minor in English pursue careers in a variety of fields, including library science, law, teaching, writing, and publishing.

The English Department offers two emphasis areas: literature and language and secondary English education. All majors choose one of the two areas.

## **Literature and Language**

Students in the literature and language emphasis area study American, British, and international literature including literature in translation. They study the development of the English language, as well as critical approaches to literature and language, including modern literary, linguistic, and critical theories. In addition, literature and language students learn how to write analytic interpretations of literary texts and of linguistic phenomena.

## **Secondary English Education**

The secondary English education emphasis area, in conjunction with the College of Education and Community Innovation, certifies students to teach English in Michigan secondary schools (grades 6-12). Courses in the secondary English education emphasis area emphasize the teaching of literature and the teaching of writing and are rooted in the theory, research, and best practices of the English education field. Students learn how to engage adolescents in reading and responding to texts ranging from classics to contemporary and young adult works. Students also assimilate strategies for teaching the writing process to adolescents, learning how to design and assess meaningful writing assignments. Finally, the secondary English education program equips students to teach in today's schools by focusing on current issues such as standardized testing, urban education, English as a second language, censorship, technology, and more.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Note: Students seeking certification in secondary English education must have a 3.0 minimum GPA in English in order to be eligible to enter the College of Education and Community Innovation for teacher assisting and student teaching.

### **Lake Michigan Writing Project (LMWP)**

This National Writing Project site offers practicing teachers the opportunity to study the teaching of writing and hone their own writing skills during a Summer Invitational Institute, held annually. The LMWP Institute is listed as ENG 632 and will substitute for EDR 631 in M.A. degree programs. Prospective students should apply online at [lmwritingproject.org](http://lmwritingproject.org). Those accepted will receive fellowships to cover the cost of tuition for ENG 632 and ENG 633.

## **Applied Linguistics Minor**

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

**Website:** [gvsu.edu/english](http://gvsu.edu/english)

The applied linguistics minor has two tracks: The general track (21 credits) and the ESL track for those seeking K-12 ESL teaching certification (23 credits).

### **General Track**

The general track of the applied linguistics minor is designed for students who are interested in pursuing a systematic study of language and applied issues in language teaching, language learning, and language use. Students with a minor in applied linguistics/general track are well prepared to teach English internationally as well as to work in such settings as adult literacy, refugee services, nonprofit/NGO services, and electronic and print publishing. The minor is an excellent disciplinary complement to majors such as anthropology, classics, communications, computing and information systems, English, education, modern languages, philosophy, psychology, and writing.

### **Requirements for the General Track**

The general track requires three foundation courses and four electives for a total of 21 credits. Three electives must be chosen from English. The fourth elective must be chosen from the cross-departmental elective list or be approved by an English linguistics advisor.

### **Foundation Courses**

There are nine credits required, including:

ENG 261 - Foundations of Language Study (3 credits)

ENG 363 - Applied Linguistics (3 credits)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

ENG 364 - Sociolinguistics (3 credits)

### **English Electives**

There are nine credits required:

ENG 362 - History of the English Language (3 credits)

ENG 365 - Teaching English as a Second Language (3 credits)

ENG 366 - English Grammar and Usage (3 credits)

ENG 390 - Topics in Language and Rhetoric (3 credits)

ENG 392 - Language and Power (3 credits)

ENG 461 - Language and Gender (3 credits)

ENG 465 - Teaching Second Language Reading and Writing (3 credits)

ENG 467 - Language Disorders and English Literacy (3 credits)

ENG 469 - ESL Teaching Practicum (3 credits)

### **Cross-departmental Electives**

There are three credits required:

ANT 207 - Language and Culture (3 credits)

CIS 343 - Structure of Programming Languages (3 credits)

CIS 365 - Artificial Intelligence (3 credits)

CIS 461 - Compiler Design and Construction (3 credits)

FRE 331 - French Phonetics (3 credits)

FRE 332 - Introduction to French Linguistics (3 credits)

GER 321 - Improving German Pronunciation (3 credits)

GER 322 - Introduction to German Linguistics (3 credits)

GER 421 - History of the German Language (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

PHI 203 - Intermediate Logic (3 credits)

PHI 470 - Truth, Meaning, Communication: Philosophy of Language (3 credits)

PSY 305 - Infant and Early Childhood Development (3 credits)

PSY 357 - Psychology of Language (3 credits)

PSY 365 - Cognition (3 credits)

SPA 308 - Spanish Phonetics (3 credits)

SPA 309 - Advanced Spanish Grammar (3 credits)

SPA 327 - The History of the Spanish Language (3 credits)

SPA 329 - Sociolinguistics of Spanish (3 credits)

SPA 335 - Introduction to Spanish Linguistics (3 credits)

## **ESL Track**

The ESL track of the applied linguistics minor is designed for students seeking elementary (including PCKET) or secondary teacher certification in the U.S. The curriculum meets Michigan Department of Education (MDE) standards for a teachable minor for elementary and secondary certification and leads to ESL endorsement, an add-on credential to a Michigan teaching license. To qualify for ESL endorsement, students must also pass the Michigan Test for Teacher Certification (MTTC) in ESL.

## **Course Requirements**

There are 23 credits required. Students must complete 18 credits of coursework in English and a supervised teaching practicum through the College of Education and Community Innovation to fulfill the applied linguistics minor/ESL track.

## **English Courses**

There are 18 credits required.

ENG 261 - Foundations of Language Study (3 credits)

ENG 363 - Applied Linguistics (3 credits)

ENG 364 - Sociolinguistics (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

ENG 365 - Teaching English as a Second Language (3 credits)

ENG 366 - English Grammar and Usage (3 credits)

ENG 465 - Teaching Second Language Reading and Writing (3 credits)

### **COE Practicum**

There are 5 credits required.

EDR 470 - Directed Teaching in ESL: Elementary (5 credits) **OR** EDR 471 - Directed Teaching in ESL: Secondary (5 credits)

Note about extended practicum schedule: EDR 470/EDR 471 is offered in winter semesters only, during an extended (20-week) semester that ends approximately mid-June. Students must register for EDR 470/EDR 471 concurrently with their major subject area student teaching (EDI 430/EDI 431).

In addition to the required coursework, the MDE requires all candidates pursuing ESL endorsement to have documented experience learning a second language equivalent to two semesters' worth of college-level study. Students pursuing a B.A. from GVSU fulfill this state requirement by completion of the degree requirement that requires third semester proficiency in a second language. Students pursuing a B.S. from GVSU can fulfill the state requirement in one of the following ways:

Two semesters of second language study at the college level

Second semester proficiency in a second language as demonstrated by the appropriate proficiency exam(s) administered by the Modern Languages and Literatures Department or the Classics Department

Certificate from an intensive language institute verifying at least 15 weeks of intensive second language study

Note to students in the following areas of teacher certification:

If you are seeking elementary certification in a core subject (language arts, social studies, science, or math), you will need to complete two minors: the elementary distributed minor and the applied linguistics minor/ESL track.

If you are seeking elementary certification with a Pedagogical Content Knowledge for Elementary Teaching (PCKET) major, the applied linguistics minor/ESL track fulfills the required "student-centered" minor.

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

If you are seeking secondary certification in any of the state-approved teachable majors, the applied linguistics minor/ESL track fulfills the requirement for a teachable minor for initial certification.

## **Bachelor of Arts in English**

### **Requirements for a Major in English**

All English majors will earn the B.A. degree, which in addition to general education course requirements mandates third-semester proficiency in a foreign language of the student's choice. (A placement test is available to students who desire advanced placement or waiver of the foreign language requirement.) All English majors must choose an emphasis within the major and complete the three English foundation courses and the Capstone course, ENG 495 - Language and Literature.

### **Foundation Courses**

There are nine credits required at the 200-level, including:

ENG 215 - Foundations of Literary Study: Genre (3 credits)

ENG 216 - Foundations of Literary Study: Critical Approaches (3 credits)

ENG 261 - Foundations of Language Study (3 credits)

### **Requirements for the Emphases**

All English majors must choose one of the following emphases:

Language and literature

Secondary English education

Each emphasis requires different options from the six course categories that follow.

Note: ENG 215 - Foundations of Literary Study: Genre and ENG 216 - Foundations of Literary Study: Critical Approaches serve as prerequisites for all 300- and 400-level literature courses not offered in the General Education Program. ENG 261 - Foundations of Language Study serves as a prerequisite for all 300- and 400-level linguistics courses not offered in the General Education Program. **\*Courses marked with an asterisk are courses that belong to general education Issues.**

#### **A. American Literature**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

The courses in this category focus on important periods, themes, and fields in American literary history. They seek to define, explore, and broaden our understanding of literature in the context of its historical moment.

ENG 225 - American Literature I: to 1860 (3 credits)

ENG 226 - American Literature II: from 1860 (3 credits)

ENG 231 - Early African American Literature (3 credits)

ENG 232 - Modern African American Literature (3 credits)

ENG 325 - American Literature to 1800 (3 credits)

ENG 326 - Nineteenth-Century American Literature (3 credits)

ENG 327 - Modern American Literature (3 credits)

ENG 328 - Contemporary American Literature (3 credits)

ENG 334 - American Multicultural Literature for Children and Young Adults (3 credits)

\* ENG 335 - Literature of American Minorities (3 credits)

## **B. British Literature**

The courses in this category focus on important periods, themes, and fields in British literary history. They seek to define, explore, and broaden our understanding of literature in the context of its historical moment.

ENG 220 - British Literature I (3 credits)

ENG 221 - British Literature II (3 credits)

ENG 313 - British Literature: Shakespeare (3 credits)

ENG 321 - British Literature: Medieval (3 credits)

ENG 322 - British Literature: Renaissance (3 credits)

ENG 323 - British Literature: 18th-Romantic (3 credits)

ENG 324 - British Literature: Victorian-Present (3 credits)

## **C. International Literature**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

The courses in this category focus on a variety of international literatures in translation as well as on global literatures written in English. They seek to define, explore, and broaden our understanding of literature in the context of its historical moment.

ENG 204 - World Mythology (3 credits)

ENG 303 - Studies in World Literature (3 credits)

ENG 304 - International Literature for Children and Young Adults (3 credits)

ENG 378 - Contemporary Latin American Literature (3 credits)

\*ENG 388 - Emigration and Immigration in Contemporary World Literature (3 credits)

#### **D. Approaches to Literature**

The courses in this category focus on different genres, methods, topics, and concepts through which to approach, analyze, and interpret literature.

ENG 314/DS 314 - Digital Literacies (3 credits)

ENG 320 - Studies in Poetry (3 credits)

ENG 330 - Studies in Fiction (3 credits)

ENG 331 - Comics and Graphic Novels in Contemporary Culture (3 credits)

ENG 336/WGS 336 - Lesbian, Gay and Queer Literature (3 credits)

ENG 337/AAA 337 - Contemporary Black Literature (3 credits)

ENG 340 - Studies in Drama (3 credits)

ENG 360 - Studies in Nonfiction (3 credits)

ENG 380 - Special Topics in English (1 to 3 credits)

\*ENG 382 - Literature and the Environment (3 credits)

\*ENG 383 - "Make It New": Literary Modernism (3 credits)

\*ENG 384 - Literature of War (3 credits)

\*ENG 386 - Literary Responses to Death and Dying (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

ENG 436 - Women and Literature (3 credits)

ENG 440 - Studies in Major Author(s) (3 credits)

ENG 445 - Studies in Literary Criticism and Theory (3 credits)

### **E. Approaches to Language**

The courses in this category focus on major topics in linguistics and introduce students to fundamental principles of linguistic theory and research. ENG 261 serves as a prerequisite for 300- and 400-level language courses.

ENG 362 - History of the English Language (3 credits)

ENG 363 - Applied Linguistics (3 credits)

ENG 364 - Sociolinguistics (3 credits)

ENG 365 - Teaching English as a Second Language (3 credits)

ENG 366 - English Grammar and Usage (3 credits)

ENG 390 - Topics in Language and Rhetoric (3 credits)

\* ENG 392 - Language and Power (3 credits)

ENG 461 - Language and Gender (3 credits)

ENG 465 - Teaching Second Language Reading and Writing (3 credits)

ENG 467 - Language Disorders and English Literacy (3 credits)

ENG 469 - ESL Teaching Practicum (3 credits)

### **F. Approaches to Pedagogy**

The courses in this category focus on the teaching of the language arts in English secondary schools. The courses introduce students to literatures, concepts, theories, and practices of relevance to the elementary and secondary classrooms.

ENG 310 - Teaching Writing: Secondary (3 credits)

ENG 311 - Teaching Literature to Adolescents (3 credits)

ENG 400 - Critical Issues in K-12 Literacy (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Language and Literature Emphasis Requirements**

### **Foundation Courses** (9 credits)

ENG 215 - Foundations of Literary Study: Genre (3 credits)

ENG 216 - Foundations of Literary Study: Critical Approaches (3 credits)

ENG 261 - Foundations of Language Study (3 credits)

### **Elective Requirements** (27 credits)

Category requirements include:

One course each from course categories A-E

Historical requirements include:

At least one course on literature before 1700

At least one course in 18th or 19th century literature

At least one course in 20th or 21st century literature

300-level+ courses include:

At least 15 credits of 300-level+ courses in categories A-E, plus at least one 400-level literature course (categories A-D).

### **Capstone** (3 credits):

ENG 495 - Language and Literature (3 credits)

Total: 39 credits

## **Secondary English Education Emphasis Requirements**

### **Foundation Courses** (9 credits)

ENG 215 - Foundations of Literary Study: Genre (3 credits)

ENG 216 - Foundations of Literary Study: Critical Approaches (3 credits)

ENG 261 - Foundations of Language Study (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

**Track Requirements** (12 credits)

ENG 310 - Teaching Writing: Secondary (3 credits)

ENG 311 - Teaching Literature to Adolescents (3 credits)

ENG 313 - British Literature: Shakespeare (3 credits)

ENG 400 - Critical Issues in K-12 Literacy (3 credits)

**Elective Requirements** (15 credits)

One course from category A

One course from category B

One course from category C

One course from category E

One course from category A-F

**Capstone** (3 credits)

ENG 495 - Language and Literature (3 credits)

Total: 39 credits

**Suggested Order of Coursework for a Major in English Language and Literature**

The following schedule assumes that students will consult with an advisor to make appropriate choices in general education courses.

**Year One**

ENG 215 - Foundations of Literary Study: Genre (3 credits)

ENG 216 - Foundations of Literary Study: Critical Approaches (3 credits)

MTH 110 - Algebra (4 credits)

WRT 150 - Strategies in Writing (4 credits)

Foreign language 101 and/or 102

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

General education Foundations (four courses)

## **Year Two**

ENG 261 - Foundations of Language Study (3 credits)

English elective at the 200-level (two courses)

English elective at the 200- or 300-level

Electives (three courses)

Foreign language 201

General education Foundations (three courses)

## **Year Three**

English elective at the 300-level (three courses)

English elective at the 300- or 400-level

General education Foundations (two courses)

General education Issues

Electives (three courses)

## **Year Four**

English elective (300- or 400-level)

English elective (400-level)

General education Issues (two courses)

Electives (four courses)

ENG 495 - Language and Literature (3 credits)

## **Suggested Order of Coursework for a Major in Secondary English Education**

### **Year One**

Foreign language 101 and/or 102

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

General education Foundations (four courses)

English Department foundation course

One course in teachable minor

MTH 110 - Algebra (4 credits)

PSY 101 - Introductory Psychology (3 credits) Prerequisite for PSY 301 plus social studies foundation.

WRT 150 - Strategies in Writing (4 credits)

### **Year Two**

Foreign language 201

General education Foundations (four courses)

English Department foundation (two courses)

Three courses in teachable minor

PSY 301 - Child Development (3 credits)

### **Year Three**

English Department major track (five courses)

General education Foundations (final two courses)

One or two courses in teachable minor (One can be in general education.)

EDI 338 - Teachers as Decision Makers: Instruction and Assessment in Elementary Schools (3 credits)

EDF 315 - Diverse Perspectives on Education (3 credits)

### **Year Four**

English Department major track (four courses)

One, two, or three courses in teachable minor

General education Issues (May double count in English major track.)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

EDI 331 - Methods and Strategies of Secondary Teaching (5 credits)

EDI 310 - Building and Sustaining Positive Learning Environments (3 credits)

EDR 321 - Content Area Literacy (3 credits)

### **Year Five**

General education Issues

ENG 495 - Language and Literature (3 credits)

EDT 370 - Technology in Education (3 credits)

EDS 379 - Universal Design for Learning: Secondary (3 credits)

EDI 431 - Student Teaching, Secondary (8 credits)

EDF 485 - The Context of Educational Issues (3 credits)

## **English Minor**

The English minor is designed for the student who desires a general study of English through literature and linguistics. The secondary teachable minor is designed for those seeking minor certification in English.

## **Requirements for a Minor in English**

The minor in English requires 21 credits.

### **Courses Required**

Students must take the following (nine credits):

ENG 215 - Foundations of Literary Study: Genre (3 credits)

ENG 216 - Foundations of Literary Study: Critical Approaches (3 credits)

ENG 261 - Foundations of Language Study (3 credits)

### **Elective Courses**

Students must take 12 elective credits, including:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Four English courses, three of which must be at the 300-level or above.

## **Requirements for a Secondary Teachable Minor in English**

There are 24 credits required for the secondary teachable minor in English.

### **Courses Required**

There are 15 credits required, including:

ENG 215 - Foundations of Literary Study: Genre (3 credits)

ENG 216 - Foundations of Literary Study: Critical Approaches (3 credits)

ENG 261 - Foundations of Language Study (3 credits)

ENG 310 - Teaching Writing: Secondary (3 credits)

ENG 311 - Teaching Literature to Adolescents (3 credits)

### **Elective Courses**

There are nine credits required, choose one course from each of the following:

Category A: American

Category B: British

Any category at or above 300-level

## **Master of Arts in English**

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

**Website:** [gvsu.edu/english/mastersofartsinenglish](http://gvsu.edu/english/mastersofartsinenglish)

The Master of Arts in English offers students and professionals an opportunity to deepen literary knowledge, sharpen critical skills, and strengthen expository writing. It teaches students a humanistic approach to literature as they analyze diverse national and international literatures. The overall goal of the program is to train students in reading and writing about a range of British, American, and world literatures with emphasis on literary history, history of genre, close analysis of individual authors and themes, cultural context, and critical theory. It meets the needs of any professional that is required to synthesize complex data through analysis, like those in

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

business, law, statistics and/or nonprofit organizations, teachers who want to strengthen their content expertise, and/or those who wish to pursue a Ph.D. in literature.

The program offers the option of two tracks: 1) an M.A. qualifying examination and 2) a thesis project. Both tracks require 33 credit hours of work. Regardless of the track chosen, all students must take courses in an author or topic, a literary period, and a genre. Additionally, the curriculum requires the Graduate Literary Studies Seminar, a course that gives instruction in research methods, as it provides students with the conceptual and critical vocabulary of the discipline.

## **Admission**

Applications are considered throughout the year on a rolling basis. Deadline for:

Fall semester: July 15

Winter semester: November 15

Spring/summer semester: March 15.

To be considered, the candidate must submit the following:

**Personal Statement:** A brief statement of purpose explaining the applicant's academic preparation, interest in this program, and professional goals.

**Writing Sample:** An original essay writing sample of 10 to 15 pages (approximately) that demonstrates the writer's potential for literary analysis, including the use of sources. (It may be a paper written for a previous course.)

**References:** Contact information for three people who can assess the applicant's academic preparation.

## **Program Course Requirements**

Track One: 33 credit hours of coursework plus qualifying examinations

Track Two: 27 credit hours of coursework plus a six-credit-hour thesis

## **Core Courses**

All degree-seeking students require the following core courses:

ENG 600 - Graduate Literary Studies Seminar (3 credits) Note: For degree-seeking students this seminar must be taken within the first 9 credit hours (i.e. three courses) in the program.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

ENG 624 - Genre Studies (3 credits)

ENG 651 - Literary Period Seminar (3 credits)

ENG 661 - Author or Topic Seminar (3 credits) **OR** ENG 663 - Shakespeare (3 credits)

These core requirement credits give students a solid understanding of key areas in the field of literary study.

### **Electives Courses**

In addition to the program core requirements, the program offers a variety of elective graduate courses:

ENG 600 - Graduate Literary Studies Seminar (3 credits)

ENG 603 - Seminar in British Literature (3 credits)

ENG 605 - Seminar in American Literature (3 credits)

ENG 612 - Women Writers (3 credits)

ENG 614 - Literature of American Ethnic Minorities (3 credits)

ENG 616 - World Literature in English (3 credits)

ENG 624 - Genre Studies (3 credits)

ENG 651 - Literary Period Seminar (3 credits)

ENG 655 - History of Literary Criticism and Theory (3 credits)

ENG 661 - Author or Topic Seminar (3 credits)

ENG 663 - Shakespeare (3 credits)

ENG 680 - Special Topics in English (1 to 4 credits)

ENG 695 - Master's Thesis (1 to 3 credits)

ENG 699 - Independent Study (1 to 3 credits)

The course offerings vary yearly to ensure students leave the program understanding the breadth of literary studies.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Transfer Courses**

Students may apply to transfer a maximum of six credits for courses taken at another prior institution and/or program. To earn transfer credit, the courses must have been completed no earlier than four years prior to the time of application (or eight years prior to the time of graduation) and they must be equivalent to those offered in GVSU's M.A. in English literature (except the core requirement courses). Contact the program director to determine course equivalency.

## **Responsible Conduct of Research Training**

Each graduate student must complete Responsible Conduct of Research (RCR) training prior to completion of nine credit hours of the graduate program or prior to engaging in any research activity (e.g. voluntary, independent, or supervised research, projects, theses, and dissertations).

## **Tracks**

### **Qualifying Examination Track**

The examination track is appropriate for students who wish to focus on coursework.

Students who elect the examination track must complete 33 credit hours of coursework in the program, including the required core courses. After completing all course work, students must pass their qualifying examination to finally earn the degree.

**The Exam:** Consists of two essays written in a total of four hours. The purpose of the exam is for students to demonstrate a range of skills and knowledge in literary study, including familiarity with a variety of approaches to literature. Students choose to focus on two of a possible four areas, each of which corresponds with the core courses in the program:

Major author

Literary historical period

Literary genre

Criticism and theory

**Examination Committee:** The exam committee consists of the graduate program director and two professors chosen by students. By the completion of 18 credits, students consult with both faculty members, each specializing in one of the selected examination areas. The student will ask one of these faculty members to serve as the principal exam advisor. All committee members must hold full graduate faculty status in The Graduate School.

**Reading Lists:** The reading lists consist of major primary texts, as well as significant critical works in the field. In consultation with the exam committee, students draw up separate reading

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

lists for each chosen area. Although students should consult with their committee during this process, it is the students responsibility to develop these lists based on their research into each of their chosen areas. Students submit the preliminary reading lists to the committee, which may request revisions should they be necessary. After the revision process is complete, the principal exam advisor will then submit the lists to the graduate director for final approval. (This step helps to ensure consistency among the various exam committees over time.)

**Exam Deadlines:** The Graduate School sets exam deadlines each semester. The graduate program director shares the dates with students and exam committees. The exam must be scheduled by the third week of the semester in which students wish to sit for the exam. The exam may not take place during the last three weeks of the semester. On the day of the exam students choose two questions from a list: one from each selected area.

Students write for either

a single four-hour period or

two (two-hour) periods separated by a 30-minute break.

**Evaluation:** The exam committee reads both exam essays. Readers assign to each essay a grade: High Pass, Pass, or Fail. If the two readers disagree on their rating, the graduate program director will serve as the third reader.

Unsuccessful students have another opportunity to write the exam in the following semester.

Students who do not earn a passing grade after two attempts will not receive the degree and cannot retake the exam. However, in consultation with the exam committee and with final permission from the graduate program director students can propose a thesis project, which requires registration for six hours of thesis credit. As in every case, the principal advisor must approve a thesis prospectus prior to registering for thesis credits. (See Thesis Preparation for details.)

### **Thesis Track**

The thesis track is appropriate for students who are interested in researching, organizing, and writing a sustained argument on a topic of interest within the field of literature. This track is strongly recommended for students who hope to pursue a PhD after the completion of their M.A.

Students who elect the thesis track must complete 27 credit hours of coursework in the program (including the required core courses), after which they may begin to write the thesis. (See Student Resources on The Graduate School webpage for helpful tips regarding thesis preparation.)

**Description:** The thesis is a document of at least 50 pages that typically consists of five chapters: an introduction, chapters two to four, and a conclusion. In the thesis students make an original

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

contribution to their field while demonstrating the ability to maintain a sustained argument, incorporating current research and exhibiting critical analysis.

**Thesis Committee:** The committee consists of the graduate program director and three professors. Students will ask a faculty member whose area of expertise aligns with their research interest to serve as the Chair of the thesis committee; the chair will work with students to assemble the full thesis committee. (All committee members must hold full graduate faculty qualifications/status in the Graduate School.) By the end of 18 credits, students consult with the committee chair to receive approval of topic.

**Prospectus Guidelines:** In the prospectus, students clarify their topic and present the idea formally both to the committee chair and to the program director. The prospectus must reveal an argument that is thorough, succinct, concise, and coherent, demonstrating critical engagement with current scholarly conversations in the study of literature. Students will revise the prospectus based on comments from the committee before submission to the graduate program director.

The prospectus will follow all Modern Languages Association (MLA) conventions. It should be approximately four to six pages and include a working bibliography. It must include the following:

Describe a focused topic

State a provisional thesis

Provide literary review, i.e. collect and evaluate other people's work on the topic

Discuss how the work will contribute to existing scholarship on the topic

Once the committee chair and the program director have reviewed the prospectus, they may approve it, decline to approve it and direct the student to consider other topics, or suggest revisions and read it again before making a final decision. Their decision in any case should be given in writing, via mail or e-mail. After successful completion of the prospectus, students may register for thesis credit: ENG 695.

**ENG 695 - Master's Thesis:** After approval of the prospectus students register for one to six credits of Master's Thesis over two consecutive semesters. At the end of the second semester students must successfully defend the thesis project. Should students require more than 6 credits to complete the thesis project, they must register for ENG 696 credit until project is complete.

### **Writing the Thesis:**

In consultation with their committee chair, students should design a schedule that will allow them to defend their thesis at the completion of six thesis credits. After drafting each chapter of the thesis, the student will receive feedback from the principal advisor and make necessary revisions. The completed thesis should follow the formatting requirements outlined in the University Guidelines for Preparation of Theses and Dissertations. Students can find the required

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

formatting for the thesis outlined on The Graduate School webpage (see Student Resources).

The committee chair will read drafts of the student's thesis and will indicate when the thesis draft is ready for students to share with the full thesis committee. Typically, the timeline for the revision of the thesis is as follows:

Four weeks prior to planned defense date:

committee receives draft and provides comments and requests for revision.

Three weeks prior to planned defense date:

The committee meets to discuss comments for revision with the committee chair

Committee chair shares these comments with students

Two weeks prior to planned defense date:

students revise thesis with committee comments in mind

students prepare for defense.

Once revisions have been completed, students are ready for the thesis defense. In the event that revision requests are so substantive that the student cannot complete them in the typical time frame, the student may need to delay the planned defense date.

**Thesis Defense:** The Graduate School sets thesis defense deadlines each semester. The graduate program director shares the dates with students and thesis committees. The thesis defense must be scheduled by the third week of the semester in which students wish to defend. The defense may not take place during the last three weeks of the semester.

The revised draft of the thesis must be submitted to the committee at least two weeks prior to the defense date, at which time the thesis defense announcement must be sent to the department, as well as shared with the Graduate School. All English Department faculty and graduate students are invited to attend the defense. Interested faculty may read the thesis and participate in the discussion; graduate students may observe the defense. Students begin the defense with a brief statement (approximately 10-15 minutes) sharing how they arrived at their topic, what they found in their research, and where they hope to go with the work they've completed in the thesis.

After the defense, the committee chair asks the student (and any student observers) to leave the room for 15 minutes so that the committee may deliberate. After 15 minutes, the student is invited back into the room and the committee chair communicates the results: Pass, Pass with Distinction, Pass with Revisions, or Fail. In the case of a Pass with Revisions, the committee may require further revisions to the thesis; if so, students will have 30 days to revise and resubmit the thesis for final determination. If the committee votes not to accept the thesis,

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

students have the option of shifting to the Examination Track, which requires taking six additional credit hours of coursework and passing the qualifying examination.

**Depositing the Thesis:** Once the thesis is finally approved, students must submit the Committee Signature page to The Graduate School for the dean's signature. Students must deposit the thesis to ScholarWorks@GVSU, the university's electronic repository for scholarship. Students must then formally apply to graduate via myBanner. (Log into myBanner, select Student, then Student Records, and Apply to Graduate.)

## Entrepreneurship

**Website:** [gvsu.edu/management](http://gvsu.edu/management)

The entrepreneurship major is designed to provide students broad, intellectual, and practical skills, and a demonstrated ability to apply knowledge using skills such as creativity, critical thinking, communication, and collaboration in real-world settings to help them develop an entrepreneurial mindset and/or new venture. Students learn to identify opportunities, solve problems, build business strategies, test and validate assumptions, execute, and present. Through a series of courses that include hands-on and experiential learning opportunities, students develop the knowledge and skills that serve as a springboard for students to start, run, or grow their own personal or family owned business.

Students who pursue the entrepreneurship major are required to complete a second Seidman major in a functional discipline (such as finance, marketing, accounting, etc.). Students should contact the Seidman Undergraduate Student Services Office early in their program for a suggested pattern of coursework. Visit us online at [gvsu.edu/seidman/undergraduateprograms](http://gvsu.edu/seidman/undergraduateprograms).

## Bachelor of Business Administration in Entrepreneurship

### Requirements for the B.B.A.

#### Core Courses

All business core courses acquaint you with various fields in business and help you learn to communicate, to interact, and to assume responsible positions in your chosen field.

For the B.B.A., you must complete the following courses:

ACC 212 - Principles of Financial Accounting (3 credits)

ACC 213 - Principles of Managerial Accounting (3 credits)

BUS 201 - Legal Environment for Business (3 credits)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

**BOTH** ECO 210 - Introductory Macroeconomics (3 credits) **AND** ECO 211 - Introductory Microeconomics (3 credits)  
**OR ONLY** ECO 200 - Business Economics (3 credits)

Upper-division economics course - not ECO 490 (3 credits)

FIN 320 - Managerial Finance (3 credits)

MGT 268 - Business Processes and Management Information Systems (3 credits)

MGT 331 - Managing People and Organizations (3 credits)

MGT 366 - Operations Management (3 credits)

MGT 495 - Administrative Policy (3 credits)

MKT 350 - Marketing Management (3 credits)

Students are required to select one class from the following list. This course may count toward the major or minor if applicable.

ACC 333 - Corporate Governance and Accounting Ethics (3 credits)

ECO 440 - Public Economics and Ethics (3 credits)

FIN 330 - Ethics in Finance (3 credits)

MGT 340 - Ethics and Business, Social Justice and Sustainability (3 credits)

MGT 438 - Business Ethics (3 credits)

MKT 375 - Marketing Ethics (3 credits)

### **Required Business Electives**

Three upper-division business courses are not applied to the major or minor (nine credits total). However, these courses can be applied toward a second business major if one is declared.

### **Elective Courses**

Students may elect nonbusiness or business courses to fulfill their elective course requirements. Students may apply up to six hours of internship and independent research credit, in any combination, toward their degree requirements. Business majors may not take any of the major courses, except the internship and study abroad courses, on a credit/no-credit basis.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## Requirements for a Major in Entrepreneurship

Students must take:

STA 215 - Introductory Applied Statistics (3 credits)

Quantitative group - choose one:

MGT 361 - Management Science (3 credits)

MTH 122 - College Algebra (3 credits)

MTH 125 - Survey of Calculus (3 credits)

MTH 201 - Calculus I (4 credits)

PHI 103 - Logic (3 credits)

**PLUS** the following:

one option from the creativity courses

three core courses

one option from the application or the practicum courses

one option from the elective courses

and a **second business major** (excluding general business and international business)

### Creativity Course

Choose one:

INT 310 - Creativity and Innovative Problem-Solving (3 credits)

MKT 369 - Creativity in Marketing Innovation (3 credits)

### Core Courses

Students must take all three:

ENT 350 - Entrepreneurial Business Plan (3 credits)

MGT 330 - Entrepreneurship and Small Business Management (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

MKT 370 - New Product Development (3 credits)

### **Application or Practicum Course**

Choose one:

BUS 490 - Business Internship (1 to 6 credits)

ENT 351 - Entrepreneurial Project (3 credits)

### **Electives Course**

Choose one:

ACC 321 - Cost Strategy and Decision Making (3 credits)

ECO 300 - Data Analytics for Economics and Business (3 credits)

MGT 345 - Team Building (3 credits)

MGT 437 - Family Business (3 credits)

MKT 352 - Marketing Research (3 credits)

MKT 358 - Advertising and Marketing Communications (3 credits)

## **Interdisciplinary Entrepreneurship Undergraduate Certificate**

For additional information about opportunities this college offers, please refer to the Seidman College of Business section in this catalog.

### **Interdisciplinary Entrepreneurship Certificate Goal**

This certificate is primarily designed for nonbusiness majors. Nonbusiness majors (e.g. graphic design, music literature, and health professions) who are currently taking limited entrepreneurship classes would benefit from the completion of the certificate. The certificate would allow the student to become more knowledgeable regarding starting or running a new business. It also allows the nonbusiness major to gain knowledge, skill sets, and experiences beyond their major studies.

### **Certificate Requirements**

There are three courses (nine credits) that comprise the certificate.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

ENT 150 - Entrepreneurial Quest (3 credits)

ENT 151 - New Venture Feasibility (3 credits)

ENT 251 - Entrepreneurial Management and Marketing (3 credits)

## **Environmental and Sustainability Studies**

Environmental and sustainability studies draw upon a variety of disciplines - arts and humanities, physical and life sciences, and economic and policy studies - to develop a holistic, place-based, and solutions-oriented understanding of environmental and sustainability challenges. While all aspects of humans' interaction with their environments may be relevant to environmental and sustainability studies, students organize their studies around one or more of four focus areas: sustainable food systems, energy, water resources, or culture and the built environment.

Students will gain the broad educational background needed to create positive change as leaders, thinkers, decision-makers, and citizens. The program emphasizes a practical approach to environmental issues through collaborative problem-solving, involvement in faculty-led research projects, internships, practicums, and community engagement projects. Our students gain an understanding of the way interconnected physical, institutional, and cultural systems shape our attitudes and behavior toward the environment. They have first-hand experience addressing large and complex "wicked problems" from an interdisciplinary perspective.

Sustainability practitioners seek to understand and address such problems through the lens of the "triple bottom line," which highlights the environmental, social, and economic impacts of our actions. This orientation is reflected in the organization of coursework under three "perspectives" categories that highlight social and cultural considerations, physical and life science considerations, and political and economic considerations. The arts, humanities, and social sciences create, interpret, and analyze cultural narratives that influence humans' interactions with their environments. Knowledge from the physical and life sciences defines the context and limits of humans' interactions with their environments. Policy studies, economics, and social sciences describe and analyze social structures that influence humans' interactions with their environments. Students pursue either a B.A. or B.S. degree.

### **Careers**

Businesses, government, and non-profit organizations are increasingly interested in implementing environmental and sustainability initiatives. Graduates are prepared to pursue careers in the emerging field of sustainability implementation (for example, as sustainability practitioners or officers in industry, government, and the non-profit sector), and in a wide variety of other occupations that involve environmental and sustainability communication, advocacy, outreach, education, and research. Students may also pursue postgraduate studies in areas such as law, public policy, administration, business, or environmental humanities.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

The 35 to 37 credit major in environmental and sustainability studies (ENS) combines academic foundations in various disciplines with practical experience in interdisciplinary research and problem-solving, so as to prepare graduates to work effectively in business, nonprofit, civic, or governmental roles that support sustainability and environmental responsibility.

The 21 credit minor in environmental and sustainability studies is structured for students in any major who have a strong interest in environmental and sustainability issues.

The 16 to 20 credit sustainable food systems certificate provides skills and experience necessary to address the role of food in community life.

## **Bachelor of Arts or Bachelor of Science in Environmental and Sustainability Studies**

**Website:** [gvsu.edu/ens](http://gvsu.edu/ens)

### **Requirements**

The environmental and sustainability studies (ENS) major requires 35 to 37 credits, plus nine to 12 credits in B.A. or B.S. program requirements.

### **Required Courses**

The following courses are required (nine credits):

ENS 201 - Introduction to Environmental and Sustainability Studies (3 credits)

ENS 300 - Principles of Sustainability (3 credits)

INT 301 - Interdisciplinary Research Methods (3 credits)

### **Technical Skills Courses**

Choose one course from the following (three to four credits):

ENS 305 - Sustainability Assessment and Reporting (3 credits)

GPY 307 - Introduction to Geographic Information Systems (3 credits)

GPY 370 - Introduction to Remote Sensing (3 credits)

NRM 250 - Resource Measurement and Maps (3 credits)

PHO 171 - Photography I (4 credits)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

STA 301 - Questionnaire Design and Execution (3 credits)

STA 311 - Introduction to Survey Sampling (3 credits)

STA 341 - Demographic Methods (3 credits)

WRT 200 - Introduction to Professional Writing (3 credits)

WRT 253 - Document Production and Design (3 credits)

WRT 350 - Business Communication (3 credits)

### **Triple Bottom Line Overview Courses**

Students must choose one course from each of the following three groups (nine credits). No course may count toward both a focus area and the triple bottom line overview.

### **Social and Cultural Perspectives**

ANT 340 - Culture and Environment (3 credits)

ART 423 - Animals in Art (3 credits)

BIO 338 - Environmental Ethics (3 credits)

ENG 382 - Literature and the Environment (3 credits)

ENS 311 - To Bee or Not to Bee; Honey Bees and Social Impact (3 credits)

HST 323 - Michigan History (3 credits)

INT 330 - The Idea of Nature (3 credits)

PNH 360 - Voluntarism and the Nonprofit Sector (3 credits)

PSY 362 - Environmental Psychology (3 credits)

### **Physical and Life Science Perspectives**

BIO 105 - Environmental Science (3 credits)

ENS 310 - How Biosphere Works (3 credits)

GPY 100 - Physical and Environmental Geography (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

NRM 330 - Environmental Pollution (3 credits)

### **Political and Economic Perspectives**

ECO 345 - Environmental and Resource Economics (3 credits)

ENS 303/PLS 303 - Introduction to U.S. Environmental Policy (3 credits)

GPY 361 - People, Environment, and Development in the Amazon (3 credits)

INT 322 - Wicked Problems of Sustainability (3 credits)

NRM 150 - Introduction to Natural Resources (3 credits)

NRM 451 - Natural Resource Policy (3 credits)

OSH 414 - Environmental Safety and Health Regulations (3 credits)

PLS 314 - International Law (3 credits)

PNH 307 - Local Politics and Administration (3 credits)

### **Synthesis and Application**

A minimum of five credits are required from the following:

ENS 401 - Environmental Problem Solving (3 credits) Capstone

ENS 490 - Internship (1 to 6 credits) **OR** ENS 491 - Practicum (1 to 6 credits)

### **Focus Areas**

Students must complete the required coursework in at least one of the following four focus areas (a minimum of nine to 10 credits):

Sustainable food systems

Energy

Water resources

Culture and the built environment

A focus area includes one course relevant to the focus area topic from each of the three triple bottom line perspectives:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Social and cultural perspectives

Physical and life science perspectives

Political and economic perspectives

The focus area in sustainable food systems also requires completion of a course on food safety (either HTM 201 or HTM 250).

Students are encouraged to complete additional coursework within a focus area, or to complete more than one focus area, as their interests and resources permit.

## **1. Sustainable Food Systems**

Students must complete a food safety course and one course from each perspectives list. No course may count as both a focus area course and as a triple bottom line overview course.

### **Food Safety**

HTM 201 - Good Food Gone Bad: Food Safety for Everyone (1 credit) **OR** HTM 250 - Food Production and Kitchen Management (4 credits)

### **Social and Cultural Perspectives**

ART 423 - Animals in Art (3 credits)

ENS 311 - To Bee or Not to Bee; Honey Bees and Social Impact (3 credits)

GPY 362 - Farmers, Crops, and Our Challenging Agricultural World (3 credits)

GPY 363 - World Forests and Their Use (3 credits)

INT 342 - Food Matters (3 credits)

SOC 288 - Sociology of Food (3 credits)

### **Physical and Life Science Perspectives**

BIO 319 - Global Agricultural Sustainability (3 credits)

ENS 392 - Sustainable Agriculture: Ideas and Techniques (3 credits)

NRM 281 - Principles of Soil Science (4 credits)

### **Political and Economic Perspectives**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

GPY 345 - The Geography and Land Use Management of Michigan and the Great Lakes Area (3 credits)

GPY 361 - People, Environment, and Development in the Amazon (3 credits)

## **2. Energy**

Students must complete one course from each perspectives list. No course may count both as a focus area course and as a triple bottom line overview course.

### **Social and Cultural Perspectives**

GPY 363 - World Forests and Their Use (3 credits)

HST 323 - Michigan History (3 credits)

IDS 350 - Civil Discourse (3 credits)

INT 330 - The Idea of Nature (3 credits)

### **Physical and Life Science Perspectives**

BIO 105 - Environmental Science (3 credits)

BIO 215 - Ecology (4 credits)

EGR 360 - Thermodynamics (4 credits)

ENS/GPY 412 - Global Climate and Environmental Change (3 credits)

### **Political and Economic Perspectives**

ECO 345 - Environmental and Resource Economics (3 credits)

EGR 406/NRM 406 - Renewable Energy Systems: Structure, Policy, and Analysis (3 credits)

NRM 451 - Natural Resource Policy (3 credits)

## **3. Water Resources**

Students must complete one course from each perspectives list. No course may count both as a focus area course and as a triple bottom line overview course.

### **Social and Cultural Perspectives**

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

BIO 338 - Environmental Ethics (3 credits)

HST 323 - Michigan History (3 credits)

INT 330 - The Idea of Nature (3 credits)

### **Physical and Life Science Perspectives**

BIO 107 - Great Lakes and Other Water Resources (4 credits)

BIO 215 - Ecology (4 credits)

GEO 105 - Living with the Great Lakes (3 credits)

### **Political and Economic Perspectives**

GPY 345 - The Geography and Land Use Management of Michigan and the Great Lakes Area (3 credits)

NRM 451 - Natural Resource Policy (3 credits)

OSH 414 - Environmental Safety and Health Regulations (3 credits)

## **4. Culture and the Built Environment**

Students must complete one course from each perspectives list. No course may count both as a focus area course and as a triple bottom line overview course.

### **Social and Cultural Perspectives**

ANT 340 - Culture and Environment (3 credits)

ENG 382 - Literature and the Environment (3 credits)

GPY 410 - Landscape Analysis and Green Infrastructure (3 credits)

HST 320 - American Indians (3 credits)

HST 327 - History of United States Urban Society (3 credits)

SW 150 - Introduction to Social Work and Social Welfare (3 credits)

WGS 335 - Women, Health and Environment (3 credits)

### **Physical and Life Science Perspectives**

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

EGR 306 - Urban Sustainability (3 credits)

GPY 312 - Urban and Regional Environmental Planning (3 credits)

NRM 330 - Environmental Pollution (3 credits)

### **Political and Economic Perspectives**

CJ 370 - Environmental Crime and Justice (3 credits)

GPY 324/PNH 324 - Urbanization (3 credits)

GPY 335 - Globalization and Development (3 credits)

GPY 361 - People, Environment, and Development in the Amazon (3 credits)

HTM 368 - Geotourism (3 credits)

SOC 351 - Urban Sociology (3 credits)

### **B.A. and B.S. Degree Requirements**

Nine to 12 credits are required for the B.A. or B.S. degree.

The Bachelor of Arts degree is distinguished by its concentration in liberal arts and typically focuses on culture, arts, philosophy, and language.

The Bachelor of Science degree is grounded in the liberal arts and distinguished by its focus on mathematics, statistics, quantitative reasoning, and scientific analysis.

### **B.A. Degree Requirements**

Twelve credits are required. Third-semester proficiency in a foreign language of the student's choice, either classical or modern, equivalent to a 201 course in a GVSU language program.

### **B.S. Degree Requirements**

Students must complete nine to 10 credits:

STA 215 - Introductory Applied Statistics (3 credits)

**AND** one of the following:

AHS 301 - Introduction to Health Care Research (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

GPY 307 - Introduction to Geographic Information Systems (3 credits)

HST 290 - Research Methods in History (3 credits)

PLS 300 - Political Analysis (3 credits)

PSY 300 - Research Methods in Psychology (3 credits)

**AND** one of the following:

GPY 370 - Introduction to Remote Sensing (3 credits)

GPY 407 - Advanced GIS (4 credits)

STA 216 - Intermediate Applied Statistics (3 credits)

STA 301 - Questionnaire Design and Execution (3 credits)

STA 314 - Statistical Quality Methods (3 credits)

STA 318 - Statistical Computing (3 credits)

STA 340 - Statistics in the Media (3 credits)

## **Environmental and Sustainability Studies Minor**

A total of 21 credits are needed to fulfill the environmental and sustainability studies (ENS) minor. A major must include at least 30 credits not duplicated in the minor.

### **Requirements**

The environmental and sustainability studies minor requires a minimum of 21 credit hours, including the following courses:

#### **Core Courses**

ENS 201 - Introduction to Environmental and Sustainability Studies (3 credits)

ENS 401 - Environmental Problem Solving (3 credits)

#### **Elective Courses**

**Choose one course from each of the three following categories.**

All courses are three credits unless specified.

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

## **Social and Cultural Perspectives**

ANT 340 - Culture and Environment (3 credits)

ART 423 - Animals in Art (3 credits)

BIO 338 - Environmental Ethics (3 credits)

ENG 382 - Literature and the Environment (3 credits)

ENS 300 - Principles of Sustainability (3 credits)

ENS 311 - To Bee or Not to Bee; Honey Bees and Social Impact (3 credits)

GPY 362 - Farmers, Crops, and Our Challenging Agricultural World (3 credits)

GPY 363 - World Forests and Their Use (3 credits)

GPY 410 - Landscape Analysis and Green Infrastructure (3 credits)

HST 320 - American Indians (3 credits)

HST 323 - Michigan History (3 credits)

HST 327 - History of United States Urban Society (3 credits)

IDS 350 - Civil Discourse (3 credits)

INT 330 - The Idea of Nature (3 credits)

INT 342 - Food Matters (3 credits)

PNH 360 - Voluntarism and the Nonprofit Sector (3 credits)

PSY 362 - Environmental Psychology (3 credits)

SOC 288 - Sociology of Food (3 credits)

SW 150 - Introduction to Social Work and Social Welfare (3 credits)

WGS 335 - Women, Health and Environment (3 credits)

## **Physical and Life Science Perspectives**

BIO 105 - Environmental Science (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

BIO 107 - Great Lakes and Other Water Resources (4 credits)

BIO 215 - Ecology (4 credits)

BIO 319 - Global Agricultural Sustainability (3 credits)

EGR 306 - Urban Sustainability (3 credits)

EGR 360 - Thermodynamics (4 credits)

ENS 310 - How Biosphere Works (3 credits)

ENS 392 - Sustainable Agriculture: Ideas and Techniques (3 credits)

GEO 105 - Living with the Great Lakes (3 credits)

GPY 100 - Physical and Environmental Geography (3 credits)

GPY 312 - Urban and Regional Environmental Planning (3 credits)

GPY 412/ENS 412 - Global Climate and Environmental Change (3 credits)

HTM 201 - Good Food Gone Bad: Food Safety for Everyone (1 credit)

HTM 250 - Food Production and Kitchen Management (4 credits)

NRM 281 - Principles of Soil Science (4 credits)

NRM 330 - Environmental Pollution (3 credits)

### **Political and Economic Perspectives**

CJ 370 - Environmental Crime and Justice (3 credits)

ECO 345 - Environmental and Resource Economics (3 credits)

EGR 406/NRM 406 - Renewable Energy Systems: Structure, Policy, and Analysis (3 credits)

ENS 303/PLS 303 - Introduction to U.S. Environmental Policy (3 credits)

GPY 324/PNH 324 - Urbanization (3 credits)

GPY 335 - Globalization and Development (3 credits)

GPY 345 - The Geography and Land Use Management of Michigan and the Great Lakes Area (3 credits)

GPY 361 - People, Environment, and Development in the Amazon (3 credits)

HTM 368 - Geotourism (3 credits)

INT 322 - Wicked Problems of Sustainability (3 credits)

NRM 150 - Introduction to Natural Resources (3 credits)

NRM 451 - Natural Resource Policy (3 credits)

OSH 414 - Environmental Safety and Health Regulations (3 credits)

PNH 307 - Local Politics and Administration (3 credits)

PLS 314 - International Law (3 credits)

SOC 351 - Urban Sociology (3 credits)

### **Additional Elective Courses**

Six credits of upper-level electives (300-level or above) from two different disciplines from the perspectives lists are required. ENS 305 - Sustainability Assessment and Reporting, ENS 399 - Independent Readings in Environmental Studies, ENS 490 - Internship, or ENS 491 - Practicum may count as one upper-level elective.

## **Sustainable Food Systems Undergraduate Certificate**

The sustainable food systems certificate is housed within the environmental and sustainability studies (ENS) program. Strong local food systems are essential for healthy local communities. Students preparing for careers in local food enterprises, health care, sustainability, education, business, social work, nonprofit administration, and many other fields will benefit from the skills and experience necessary to address the role of food in community life.

All undergraduate certificates at GVSU have received Higher Learning Commission approval. Individuals may pursue the sustainable food systems certificate separately or concurrently with any major or minor. Any course that satisfies both requirements will be counted toward the certificate and the student's major or minor.

### **Why Study Sustainable Food Systems at Grand Valley?**

Gain a deep understanding of sustainable food systems' impact on society and the environment.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Engage in practical experience gardening, composting, and marketing at GVSU's Sustainable Agriculture Project, the on-campus student farm.

Acquire the skills to integrate multiple perspectives on food justice, environmental stewardship, and food science and safety.

Learn and understand the food needs of diverse communities.

Develop advocacy strategies to support local food systems that sustain the environment now and into the future.

## **Certificate Requirements**

To earn the certificate, students complete a total of 16 to 20 credits. In addition to three required courses, students select one course from each of the two groups of electives, and one additional elective from either group for a total of three elective courses. No more than two electives with the same prefix are allowed.

### **Required Courses**

Students must complete seven to 10 credits, including:

ENS 201 - Introduction to Environmental and Sustainability Studies (3 credits)

ENS 392 - Sustainable Agriculture: Ideas and Techniques (3 credits)

HTM 201 - Good Food Gone Bad: Food Safety for Everyone (1 credit) **OR** HTM 250 - Food Production and Kitchen Management (4 credits)

### **Elective Courses**

Students take nine to 10 credits as follows:

#### **Group One: Agriculture**

Select at least one course from the following (three to four credits):

BIO 309 - Plants and Human Health (3 credits)

BIO 319 - Global Agricultural Sustainability (3 credits)

BIO 423 - Plant Biotechnology (3 credits)

GPY 362 - Farmers, Crops, and Our Challenging Agricultural World (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

NRM 281 - Principles of Soil Science (4 credits)

### **Group Two: Food and Nutrition**

Select at least one course from the following (three credits):

BMS 105 - Basic Nutrition (3 credits)

AFN 381 - Design Thinking in Applied Food and Nutrition (3 credits)

HTM 175 - International Food and Culture (3 credits)

INT 342 - Food Matters (3 credits)

SOC 288 - Sociology of Food (3 credits)

## **Exercise Science**

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

**Website:** [gvsu.edu/exercisescience](http://gvsu.edu/exercisescience)

Exercise science is the study of physical activity and exercise and the associated short-term functional responses and long-term adaptations the human body experiences. The exercise science major will seek to serve the students of Grand Valley State University by providing theoretical foundations for exercise testing and prescription in apparently healthy and clinical populations. Students receive hands-on experience and skill preparation to work in a wide variety of health, fitness, and wellness careers. The exercise science degree, with emphasis areas in health/fitness instruction and clinical exercise science, is consistent with American College of Sports Medicine (ACSM) standards. The major prepares students for opportunities in community health and fitness, corporate wellness, personal training, cardiac rehabilitation, performance enhancement, and future graduate study in related areas.

### **Mission**

To prepare students for physical activity, exercise, health, and sport-related professions through academic, practical, and research experiences. Our students will have the knowledge and skills to promote and impact their health and that of society.

### **Vision**

The exercise science program in the Movement Science Department at Grand Valley State University is committed to being nationally recognized for its excellence in teaching and scholarship. Through our excellence, we prepare future leaders in the areas of health, physical

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

activity, exercise, and sport. We achieve excellence in teaching by using innovative teaching strategies that incorporate active student learning. We complement excellence in teaching with innovative scholarship addressing critical issues related to health, fitness, and sports performance across the life span.

### **Graduate School Opportunities**

Students are well-prepared to enter graduate school. Examples of graduate programs are:

Physical therapy

Kinesiology

Exercise science

Exercise physiology

Epidemiology and public health

Health promotion

Biomechanics

Physician assistant studies

Occupational therapy

Medicine

Sport and exercise psychology

Nutrition

Orthotics and prosthetics

## **Bachelor of Science in Exercise Science**

### **Requirements**

Students in the exercise science program at Grand Valley State University must follow all general education requirements as defined in the Grand Valley State University Undergraduate and Graduate Catalog.

### **Core Courses**

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

There are 51, 54, or 57 credits\* required, including:

BIO 120 - General Biology I (4 credits)

BMS 105 - Basic Nutrition (3 credits)

EXS 209 - Research Methods in Exercise and Health Sciences (3 credits)

EXS 320 - Exercise Testing and Prescription (3 credits)

EXS 321 - Exercise Testing Lab (1 credit)

EXS 390 - Fieldwork in Exercise Science (2 credits)

EXS 420 - Laboratory Practicum in Exercise Science (3 credits)

EXS 470 - Exercise for Special Populations (3 credits)

EXS 490 - Internship in Exercise Science (6, 9, or 12 credits)

EXS 495 - Professionalism in Exercise Science (3 credits) SWS

MOV 101 - Foundations of Human Movement Science (3 credits)

ATH 217 - Modern Principles of Athletic Training (2 credits)

MOV 300 - Kinesiology (3 credits)

MOV 304 - Introduction to Exercise Physiology (3 credits)

PSY 101 - Introductory Psychology (3 credits)

PSY 310 - Behavior Modification (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

\*Depending on EXS 490

## **Emphasis Courses**

Students must choose between clinical exercise science or health fitness instruction as an emphasis within their exercise science degree program.

### **Clinical Exercise Science**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

There are 35 credits required. Students have the opportunity to complete nine credits of electives within the emphasis. The electives must be at either the 300- or 400-level.

BMS 208 - Human Anatomy (3 credits)

BMS 290 - Human Physiology (3 credits)

BMS 391 - Laboratory in Human Physiology (2 credits)

CHM 109 - Introductory Chemistry (4 credits)

CHM 231 - Introductory Organic Chemistry (4 credits)

CHM 232 - Biological Chemistry (4 credits)

EXS 465 - Cardiopulmonary Rehabilitation for the Clinical Exercise Physiologist (3 credits)

PHY 200 - Physics for the Life Sciences (4 credits)

Electives (9 credits)

### **Health-Fitness Instruction**

There are 32 credits required. Students are given the opportunity to complete six credits of electives within this emphasis. The electives must be at either the 300- or 400-level.

BMS 223 - Infectious Human Diseases; Prevention and Control (3 credits)

BMS 250 - Anatomy and Physiology I (4 credits)

BMS 251 - Anatomy and Physiology II (4 credits)

MOV 201 - Psychosocial Aspects of Physical Education and Sport (3 credits)

MOV 310 - Motor Skill Development (3 credits)

PSY 364 - Life Span Developmental Psychology (3 credits)

SOC 252 - Sociology of Drug Use and Abuse (3 credits)

SOC 286 - Sociology of Health Care (3 credits)

Electives (6 credits)

### **Elective Courses**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

The following is a list of approved elective courses within either emphasis. Consult with an academic advisor, as additional elective courses may be approved. A different course is required where a listed course has already been taken in the emphasis (e.g. MOV 310 and PSY 364 are required within the health fitness instruction so they cannot be used as electives within that same emphasis, but MOV 310 and PSY 364 may be used as electives in the clinical exercise science emphasis).

BIO 355 - Human Genetics (3 credits)

BMS 375 - The Biology of Aging (3 credits)

EXS 460 - Strength and Conditioning for Athletic Performance (3 credits)

MOV 310 - Motor Skill Development (3 credits)

MOV 350 - The Obesogenic Environment (3 credits)

MOV 480 - Special Topics in Movement Science (1 to 3 credits)

PSY 364 - Life Span Developmental Psychology (3 credits)

STA 345 - Statistics in Sports (3 credits)

### **Program Costs**

Students will be responsible for the costs associated with the required pre-internship health compliance check (immunizations, background check, and drug screening), travel to and from fieldwork or internship sites, and all textbooks and supplemental materials required for each course.

### **Fieldwork and Internship**

Students are required to undertake both a fieldwork and internship in their junior and senior year, respectively.

### **Suggested Order of Coursework for Clinical Exercise Science**

#### **Year One**

BIO 120 - General Biology I (4 credits)

CHM 109 - Introductory Chemistry (4 credits)

MTH 110 - Algebra (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MOV 101 - Foundations of Human Movement Science (3 credits)

BMS 208 - Human Anatomy (3 credits)

CHM 231 - Introductory Organic Chemistry (4 credits)

WRT 150 - Strategies in Writing (4 credits)

General education Historical Perspectives (3 credits)

General education Social and Behavioral Sciences (3 credits)

### **Year Two**

BMS 290 - Human Physiology (3 credits)

BMS 391 - Laboratory in Human Physiology (2 credits)

CHM 232 - Biological Chemistry (4 credits)

PSY 101 - Introductory Psychology (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

General education Philosophy and Literature (3 credits)

BMS 105 - Basic Nutrition (3 credits)

ATH 217 - Modern Principles of Athletic Training (2 credits)

MOV 304 - Introduction to Exercise Physiology (3 credits)

PHY 200 - Physics for the Life Sciences (4 credits)

General education U.S. Diversity (3 credits)

### **Year Three**

EXS 209 - Research Methods in Exercise and Health Sciences (3 credits)

EXS 320 - Exercise Testing and Prescription (3 credits)

EXS 321 - Exercise Testing Lab (1 credit)

MOV 300 - Kinesiology (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Elective (3 credits)

Elective (3 credits)

EXS 390 - Fieldwork in Exercise Science (2 credits)

EXS 465 - Cardiopulmonary Rehabilitation for the Clinical Exercise Physiologist (3 credits)

PSY 310 - Behavior Modification (3 credits)

General Education Arts (3 credits)

General Education Issues (3 credits)

### **Year Four**

EXS 420 - Laboratory Practicum in Exercise Science (3 credits)

EXS 470 - Exercise for Special Populations (3 credits)

EXS 495 - Professionalism in Exercise Science (3 credits)

General education Global Perspectives (3 credits)

General education Issues (3 credits)

EXS 490 - Internship in Exercise Science (6, 9, or 12 credits) SWS course (3 credits)

### **Suggested Order of Coursework for Health-Fitness Instruction**

#### **Year One**

BIO 120 - General Biology I (4 credits)

BMS 105 - Basic Nutrition (3 credits)

MOV 101 - Foundations of Human Movement Science (3 credits)

PSY 101 - Introductory Psychology (3 credits)

General education Arts (3 credits)

BMS 250 - Anatomy and Physiology I (4 credits)

MTH 110 - Algebra (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

ATH 217 - Modern Principles of Athletic Training (2 credits)

WRT 150 - Strategies in Writing (4 credits)

General education U.S. Diversity (3 credits)

## **Year Two**

BMS 251 - Anatomy and Physiology II (4 credits)

MOV 201 - Psychosocial Aspects of Physical Education and Sport (3 credits)

ATH 217 - Modern Principles of Athletic Training (2 credits)

STA 215 - Introductory Applied Statistics (3 credits)

General education Philosophy and Literature (3 credits)

BMS 223 - Infectious Human Diseases; Prevention and Control (3 credits)

MOV 304 - Introduction to Exercise Physiology (3 credits)

SOC 286 - Sociology of Health Care (3 credits)

General education Physical Sciences (3 credits)

General education Global Perspectives (3 credits)

## **Year Three**

EXS 209 - Research Methods in Exercise and Health Sciences (3 credits)

EXS 320 - Exercise Testing and Prescription (3 credits)

EXS 321 - Exercise Testing Lab (1 credit)

EXS 390 - Fieldwork in Exercise Science (2 credits)

MOV 300 - Kinesiology (3 credits)

MOV 310 - Motor Skill Development (3 credits)

PSY 364 - Life Span Developmental Psychology (3 credits)

SOC 252 - Sociology of Drug Use and Abuse (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Electives (3 credits)

General education Historical Perspectives (3 credits)

General education Social and Behavioral Sciences (3 credits)

#### **Year Four**

EXS 420 - Laboratory Practicum in Exercise Science (3 credits)

EXS 470 - Exercise for Special Populations (3 credits)

EXS 495 - Professionalism in Exercise Science (3 credits)

Electives (3 credits)

Two Issues courses (6 credits)

EXS 490 - Internship in Exercise Science (6, 9, or 12 credits)

PSY 310 - Behavior Modification (3 credits)

Issues (3 credits)

## **Combined Bachelor of Science in Exercise Science and Master of Athletic Training**

Qualified undergraduates may choose to pursue an accelerated bachelor/master combined program and obtain both a B.S. in exercise science - clinical emphasis and Master of Athletic Training within an accelerated time frame, usually five years. Students who choose to apply to this program may take graduate courses after being admitted to the Master of Athletic Training professional program and completing at least 90 undergraduate credits. Up to 12 credits of graduate work may be used in partial satisfaction of the requirements for the undergraduate degree (in alignment with university policy, a maximum of 12 credit hours of graduate work will count toward both the graduate and undergraduate degrees). All other master degree requirements must be met, including a project and the graduate Capstone (ATH 689 - Professional Topics in Athletic Training). Please see the Master of Athletic Training catalog page for requirements for admission to the MAT as admission is competitive.

After completing 120 credits and all requirements for the bachelor degree, students are awarded a bachelor degree.

### **Admission for Combined Degree**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Students will normally apply to the combined degree program at the end of the fall semester during their third academic year and will be admitted for the winter semester. Please see the Master of Athletic Training catalog page for requirements for admission to the MAT as admission is competitive and is handled through the Athletic Training Centralized Application Service (ATCAS). The student should view the complete application requirements in that online platform. Generally, application requirements include:

Overall GPA of 3.00 or greater

A minimum of C earned in all courses

Two recommendations

Academic transcripts

Resume/CV and writing samples

A minimum of 75 hours of documented observation

Health care provider CPR/AED and first aid certifications

## **Requirements**

### **During Undergraduate Studies**

All university requirements, including general education courses, must be completed before the final (graduate) year of the combined B.S./MAT program. In the final undergraduate year (usually the fourth year), students will take 12 to 15 credits of graduate-level courses.

In accordance with university policy, students will earn a maximum of 12 graduate credits during their undergraduate program.

Students may dual-count up to 12 credits of the following courses toward the clinical exercise science and Master of Athletic Training degrees. Students are strongly encouraged to work with their faculty advisor to ensure all undergraduate and graduate requirements are met.

ATH 514 (4 credits) in lieu of EXS 420

ATH 521 (3 credits) in lieu of EXS 490

ATH 523 (3 credits) in lieu of EXS 495

ATH 525 (4 credits) in lieu of free electives in the Bachelor of Science degree

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **During Graduate Studies**

A student shall be considered a graduate student for all purposes upon either of the following events: the award of a baccalaureate degree or the completion of 12 graduate credit hours.

## **Suggested Order of Coursework**

Note: The following sequence makes no attempt to minimize credit load. For example, the sequence assumes that all general education courses are distinct and no double dipping is done.

### **Year One**

Requires 35 undergraduate credits, including:

General education Philosophy and Literature

General education Social and Behavioral Sciences

BIO 120 - General Biology I (4 credits)

BMS 105 - Basic Nutrition (3 credits)

BMS 250 - Anatomy and Physiology I (4 credits)

CHM 109 - Introductory Chemistry (4 credits)

MTH 110 - Algebra (4 credits)

MOV 101 - Foundations of Human Movement Science (3 credits)

PSY 101 - Introductory Psychology (3 credits)

WRT 150 - Strategies in Writing (4 credits)

### **Year Two**

Requires 37 undergraduate credits, including:

General education U.S. Diversity

General education Historical Perspectives

General education Art

\*ATH 210 - Directed Observation in AT (1 credit)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

BMS 251 - Anatomy and Physiology II (4 credits)

\*CHM 230 - Introduction to Organic and Biochemistry (4 credits)

EXS 209 - Research Methods in Exercise and Health Sciences (3 credits)

ATH 217 - Modern Principles of Athletic Training (2 credits)

\*ATH 218 - Modern Principles of Athletic Training Lab (1 credit)

MOV 300 - Kinesiology (3 credits)

MOV 304 - Introduction to Exercise Physiology (3 credits)

PHY 200 - Physics for the Life Sciences (4 credits)

STA 215 - Introductory Applied Statistics (3 credits)

### **Year Three**

Requires 31 undergraduate credits, including:

Elective

General education Issues

General education Issues

General education Global Perspective

BMS 212 - Introductory Microbiology (3 credits)

\*BMS 223 - Infectious Human Diseases; Prevention and Control (3 credits)

\*BMS 310 - Basic Pathophysiology (3 credits)

EXS 320 - Exercise Testing and Prescription (3 credits)

EXS 321 - Exercise Testing Lab (1 credit)

EXS 470 - Exercise for Special Populations (3 credits)

MOV 310 - Motor Skill Development (3 credits)

### **Year Four**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Requires 35 graduate credits, including:

ATH 506 - Intervention and Referral (2 credits)

ATH 514 - Assessment and Evaluation I (4 credits)

ATH 515 - Assessment and Evaluation II (4 credits)

ATH 521 - Athletic Training Clinical I (3 credits)

ATH 522 - Athletic Training Clinical II (3 credits)

ATH 523 - Methods of Evidence-Based Practice in Athletic Training (3 credits)

ATH 525 - Prehospital Care of the Injured Patient (4 credits)

ATH 530 - General Medical Conditions in Athletic Training (3 credits)

ATH 575 - Therapeutic Interventions I (4 credits)

IPE 507 - Integrated Team Health Care (2 credits)

STA 610 - Applied Statistics for Health Professions (3 credits)

### **Year Five**

Requires 24 graduate credits, including:

ATH 607 - Pharmacology in Athletic Training (3 credits)

ATH 626 - Athletic Training Clinical III (4 credits)

ATH 628 - Athletic Training Clinical IV (4 credits)

ATH 675 - Therapeutic Interventions II (4 credits)

ATH 685 - Advanced Techniques in Athletic Training (2 credits)

ATH 689 - Professional Topics in Athletic Training (3 credits)

ATH 693 - Project in Athletic Training (1 to 3 credits)

The following courses are accepted substitutions in the undergraduate exercise science - clinical emphasis degree should a student choose not to complete the combined degree. Students are strongly encouraged to work with their faculty advisor to ensure all requirements are met.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CHM 230 substituted for CHM 231 + CHM 232

ATH 210 and ATH 218 substituted for EXS 390

BMS 223 substituted for PSY 310

BMS 310 substituted for EXS 465

The following is a list of approved elective courses within exercise science. In consult with an academic advisor, additional elective courses may be approved.

BIO 355 - Human Genetics (3 credits)

BMS 375 - The Biology of Aging (3 credits)

EXS 460 - Strength and Conditioning for Athletic Performance (3 credits)

MOV 310 - Motor Skill Development (3 credits)

MOV 350 - The Obesogenic Environment (3 credits)

MOV 480 - Special Topics in Movement Science (1 to 3 credits)

PSY 364 - Life Span Developmental Psychology (3 credits)

STA 345 - Statistics in Sports (3 credits)

### **Graduation Without Completion of the Combined Degree Program**

If a student decides at some point to pursue only the undergraduate portion of the combined degree, the graduate courses taken in lieu of undergraduate courses will still be recognized. Credit from the undergraduate degree cannot be used toward a graduate degree at a later date.

If a student should not be successful in their application for the MAT or simply chose not to apply, that student would need to complete the following courses in their fourth year to earn their B.S. in clinical exercise science emphasis:

EXS 420 - Laboratory Practicum in Exercise Science (3 credits)

EXS 490 - Internship in Exercise Science (6, 9, or 12 credits)

EXS 495 - Professionalism in Exercise Science (3 credits)

PSY 310 - Behavior Modification (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

# Film and Video Production

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences sections in this catalog.

**Website:** [gvsu.edu/filmvideo](http://gvsu.edu/filmvideo)

A strong hands-on emphasis characterizes the film and video production major. Courses include animation, cinema studies, documentary and nonfiction, fiction filmmaking, new media, and sound design. The curriculum integrates production experience with the insights offered by media history, theory, and criticism.

Digital video facilities include editing suites, a full complement of field gear, a studio classroom, and a digital audio studio. Students work with a variety of software in Macintosh computer laboratories. Student internship opportunities include regional and national productions, postproduction houses, and many more.

## Accreditation

The film and video production major is accredited by the National Association of Schools of Art and Design (NASAD).

## Admission

In order to maintain high-quality instruction, the film and video production major limits the number of students accepted each year into FVP 226, FVP 227, and all 300- and 400-level film/video courses.

Students are required to have an overall GPA above 2.5 and complete the two film and video pre-admission courses (FVP 123 and FVP 125) with a minimum of 3.0 GPA in order to apply for admission to the major and take FVP 226/FVP 227 and 300- and 400-level film and video courses. Achievement of these minimum criteria does not guarantee admission. For additional information, see the admission section.

Having met these requirements, students will submit an admission application. Guidelines for the application are available on the film and video production website at [gvsu.edu/filmvideo](http://gvsu.edu/filmvideo), and upon request from the Department of Visual and Media Arts office, 1105 Alexander Calder Art Center. Admission applications are accepted the first Monday of November, April, and August.

Students interested in the film and video production major are encouraged to complete the film and video production foundation requirements early in their course of study, and to maintain regular contact with their advisor to ensure proper course enrollment and steady progress toward full acceptance.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Students may petition to bypass the two pre-admission courses on the basis of prior coursework for which they have received a 3.0 minimum GPA at another postsecondary institution. The petition should include a syllabus plus one or more projects and/or papers from the prior course(s). On the basis of these materials, the film and video production faculty will determine what Grand Valley coursework, if any, is required of the petitioner. Students may not take upper-level production FVP courses until they are admitted to the major.

## **Bachelor of Arts or Bachelor of Science in Film and Video Production**

### **Requirements for a Major in Film and Video Production**

#### **B.A. and B.S. Degree Requirements**

All film and video production students must choose either the B.A. or B.S. requirement.

#### **B.A. Degree Requirement**

The B.A. degree requires a third semester proficiency in a foreign language of the student's choice.

#### **B.S. Degree Requirement**

CIS 160 - Learn to Code in Python (3 credits)

CIS 162 - Computer Science I (4 credits)

CIS 238 - Internet Media and Programming (3 credits)

#### **Preadmission Courses**

The following courses can be taken in any order:

FVP 123 - Survey of Media Production Modes (3 credits)

FVP 125 - Media Production I (3 credits)

Minimum 3.0 GPA required for FVP preadmission courses and 2.5 GPA overall required to apply to the major. See admission policy. Students must maintain good academic standing at the university after admission to the major.

#### **Film/Video Production Foundation**

The film/video production foundation requires 22 credits, including:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

FVP 123 - Survey of Media Production Modes (3 credits)

FVP 125 - Media Production I (3 credits)

FVP 226 - Media Production II (3 credits)

FVP 227 - Post-Production Techniques (3 credits)

FVP 261 - Scriptwriting I (3 credits)

FVP 282 - Audio Production I (3 credits)

**AND** two history/theory/criticism courses from the following:

FVP 348 - Film Theories (3 credits)

FVP 370 - American Cinema (3 credits)

FVP 371 - History of Animation (3 credits)

FVP 372 - History of Documentary Film (3 credits)

FVP 373 - Issues of Representation (3 credits)

FVP 374 - Experimental Film and Video (3 credits)

FVP 375 - World Cinema (3 credits)

FVP 376 - Latin American Cinema (3 credits)

### **Film/Video Production Emphasis**

The film/video production emphasis requires 15 credits.

Choose five courses; one course must be a 400-level advanced production course.

### **Intermediate Production**

FVP 321 - Fiction Filmmaking I (3 credits)

FVP 322 - Documentary Production I (3 credits)

FVP 323 - Media Technologies (3 credits)

FVP 324 - 3-D Computer Animation (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

FVP 325 - Animation I (3 credits)

FVP 326 - New Media I (3 credits)

FVP 327 - Film and Video Art (3 credits)

FVP 328 - Intermediate Film Practicum (3 or 6 credits)

FVP 330 - Digital Post Production (3 credits)

FVP 362 - Scriptwriting II (3 credits)

FVP 368 - Lighting for Film and Video Productions (3 credits)

FVP 380 - Special Topics in Film and Video (3 credits)

FVP 382 - Audio Production II (3 credits)

### **Advanced Production**

FVP 421 - Fiction Filmmaking II (3 credits)

FVP 422 - Documentary Production II (3 credits)

FVP 425 - Animation II (3 credits)

FVP 426 - New Media II (3 credits)

FVP 428 - Advanced Film Practicum (3 or 6 credits)

FVP 429 - Post Production Practicum (3 credits)

FVP 470 - Producing for Clients (3 credits)

FVP 482 - Sound Design for Film and Video (3 credits)

### **History/Theory/Criticism**

FVP 348 - Film Theories (3 credits)

FVP 370 - American Cinema (3 credits)

FVP 371 - History of Animation (3 credits)

FVP 372 - History of Documentary Film (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

FVP 373 - Issues of Representation (3 credits)

FVP 374 - Experimental Film and Video (3 credits)

FVP 375 - World Cinema (3 credits)

FVP 376 - Latin American Cinema (3 credits)

### **Internship or Thesis**

Requires one to six credits.

FVP 490 - Internship (1 to 6 credits)

FVP 498 - Senior Thesis/Project (1 to 6 credits)

### **Capstone**

All students majoring in film and video production must take FVP 495 (Capstone) during their senior year. The Capstone is a culminating course in which students demonstrate their conceptual understanding and creative abilities as they relate to film and media arts.

FVP 495 - Issues in Film and Media Arts (3 credits)

### **Visual and Media Arts Requirement**

Choose one course for three credits.

ART 150 - Foundations: 2-D Design (3 credits)

ART 151 - Foundations: 3-D Design (3 credits)

ART 152 - Foundations: Color and Design (3 credits)

ART 153 - Foundations: Making and Meaning in Art and Design (3 credits)

ART 155 - Foundations: Introduction to Drawing I (3 credits)

ART 209 - Graphic Design Basics (3 credits)

ART 245 - Introduction to Jewelry and Metalsmithing (3 credits)

ART 260 - Introduction to Painting (3 credits)

ART 265 - Introduction to Printmaking (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

ART 270 - Introduction to Sculpture (3 credits)

ART 271 - Digital 3-D Modeling and Design (3 credits)

ART 275 - Introduction to Ceramics (3 credits)

PHO 171 - Photography I (4 credits)

## Finance

For additional information about opportunities your college offers, please refer to the Seidman College of Business section in this catalog at [gvsu.edu/seidman](http://gvsu.edu/seidman).

**Website:** [gvsu.edu/finance](http://gvsu.edu/finance)

The finance program provides students with an understanding of financial definitions, concepts, relationships, and strategies involving individuals, financial institutions, and non-financial business activities. This 19 credit hours program is designed to provide fundamental knowledge for careers in banking, financial management, investments, portfolio management, and financial planning. It recognizes that finance is becoming an increasingly complex and critical area in the overall management and success of all types of organizations, institutions, business and others, and for individuals as well.

### Career Opportunities

Generally, 80 to 90 percent of finance graduates report finding jobs directly related to their major, giving them one of the highest placement rates among new Grand Valley State University graduates. Graduates obtain careers in business and personal finance, investments, banking, insurance, real estate, government, and international financial management. You may become a financial analyst, credit analyst, commercial lender, bank branch manager, mutual fund/pensions manager, project finance manager, cash manager, capital budgeting manager, or financial planner.

Seidman Investment Portfolio Organization (IPO), a student business organization, provides many opportunities to explore different avenues of finance. Students who participate in IPO will gain valuable investment experience by helping to manage a \$120,000 stock portfolio.

## Bachelor of Business Administration in Finance

### Requirements for the B.B.A.

#### Core Courses

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

All business core courses acquaint you with various fields in business and help you learn to communicate, to interact, and to assume responsible positions in your chosen field.

For the B.B.A., you must complete the following courses.

ACC 212 - Principles of Financial Accounting (3 credits)

ACC 213 - Principles of Managerial Accounting (3 credits)

BUS 201 - Legal Environment for Business (3 credits)

**BOTH** ECO 210 - Introductory Macroeconomics (3 credits) **AND** ECO 211 - Introductory Microeconomics (3 credits)  
**OR ONLY** ECO 200 - Business Economics (3 credits)

Upper-division economics course (not ECO 490) (3 credits)

FIN 320 - Managerial Finance (3 credits)

MGT 268 - Business Processes and Management Information Systems (3 credits)

MGT 331 - Managing People and Organizations (3 credits)

MGT 366 - Operations Management (3 credits)

MGT 495 - Administrative Policy (3 credits)

MKT 350 - Marketing Management (3 credits)

Students are required to select one class from the following list. This course may count toward the major or minor if applicable.

ACC 333 - Corporate Governance and Accounting Ethics (3 credits)

ECO 440 - Public Economics and Ethics (3 credits)

FIN 330 - Ethics in Finance (3 credits)

MGT 340 - Ethics and Business, Social Justice and Sustainability (3 credits)

MGT 438 - Business Ethics (3 credits)

MKT 375 - Marketing Ethics (3 credits)

### **Required Business Electives**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Three upper-division business courses are not applied to the major or minor (nine credits total). However, these courses can be applied toward a second business major if one is declared.

### **Electives Courses**

Students may elect nonbusiness or business courses to fulfill their elective course requirements. Students may apply up to six hours of internship and independent research credit, in any combination, toward their degree requirements. Business majors may not take any of the major courses, except the internship and study abroad courses, on a credit/no-credit basis.

### **Requirements for a Major in Finance**

#### **Business Core**

FIN 321 - Investments (3 credits)

FIN 322 - Intermediate Managerial Finance (3 credits)

FIN 422 - Advanced Managerial Finance (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

Quantitative group - choose one:

MTH 122 - College Algebra (3 credits)

MTH 125 - Survey of Calculus (3 credits)

MTH 201 - Calculus I (4 credits)

PHI 103 - Logic (3 credits)

MGT 361 - Management Science (3 credits)

#### **Additional Courses**

Include three additional finance courses at the upper level (at least one at the 400-level) that is not an internship.

Note: Some financial institutions require a minimum of 12 credits of accounting for students who plan to seek positions as credit analysts.

## **Frederik Meijer Honors College**

**Website:** [gvsu.edu/honors](http://gvsu.edu/honors)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Mission**

The mission of the Frederik Meijer Honors College is to inspire and empower motivated students to be intellectually curious lifelong learners who make positive contributions to their local and global communities, and serve as capable leaders and active global citizens.

## **Program Information**

The Frederik Meijer Honors College is an alternative general education program for students who desire to challenge themselves academically. The focus of the college is to bridge the gaps between traditional academic disciplines and allow students a chance to see the impact each discipline has on the others.

To fulfill this goal, many of our classes are interdisciplinary and team-taught while utilizing smaller class sizes to elicit greater discussion. We understand that sometimes the moments of the greatest learning are unplanned. These smaller classes, coupled with the fact that many professors hold office hours nearby, foster a deeper personal connection between students and professors. Another feature of our curriculum is an active schedule of cocurricular activities, both on campus and off.

The greater student-faculty interaction, as well as classes specially designed to foster advanced writing and speaking skills, critical thinking, and analysis, prepare students to be competitive for graduate and professional programs. Our students develop high levels of proficiency in research, writing, critical thinking, synthesizing material from multiple disciplines, and applying critical skills to primary sources. Because of these advanced skills, honors students have more opportunities to participate in and present research as undergraduates at the Grand Valley State University Student Scholars Day, regional honors conferences, the National Collegiate Honors Council annual meeting, and other professional meetings.

The Meijer Honors College encourages its students to engage in extracurricular activities to develop leadership skills and an appreciation of the richness and diversity of university life. Honors students frequently engage in service and volunteer projects at the university or in the community. They also have unique cultural experiences and travel opportunities such as subsidized museum visits and faculty-led trips to Chicago, Detroit, and other cities. There are annual summer service-learning programs to Ghana, Haiti, and Israel, and students are also encouraged to take advantage of other study abroad opportunities offered by the university.

Completion of the Meijer Honors College program should not be confused with "Graduation with Honors," which is determined strictly by final grade point average. The Meijer Honors College requires not only a high grade point average, but also successful completion of a special series of challenging courses. Completion of all Meijer Honors College requirements results in the "Meijer Honors College Graduate" designation on both the baccalaureate diploma and the college transcript. Graduates are eligible to wear a special stole and medallion at Commencement.

## **Accreditation**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

There is no accrediting body for honors, though the National Collegiate Honors Council sets guidelines and offers resources for honors programs. Grand Valley is an active member of the National Collegiate Honors Council.

## **Admission**

Applicants must first be accepted to GVSU before applying to the Meijer Honors College. We employ a holistic application process, which means that we consider the whole student, not just static indicators. In the application we look for demonstrations of strong academic motivation and ability to achieve on a high level. The application asks students to show these through completing a self-assessment, listing academic and leadership accomplishments, writing a strong essay, and submitting a significant analytical or creative paper from high school. Our normal expectation of high school applicants entering college for the first time is a 3.5 high school GPA and an ACT score of 28 or an SAT score of 1300. These are not firm requirements, however.

The Meijer Honors College also welcomes applications from students transferring from another college or university or from within GVSU. Our normal expectation is that transfer students will have a 3.5 college GPA. The application form is available online at [gvsu.edu/honors](http://gvsu.edu/honors).

## **Academic Standing**

To attain the Meijer Honors College designation, students must graduate with an overall grade point average of 3.2 or above. Students below 3.2 may complete the honors curriculum in order to satisfy their university general education requirements, but they will not earn the honors designation. Honors courses may be repeated only with the consent of both the director and the faculty member involved.

Students may voluntarily withdraw from honors at any time but will be responsible for completing the regular General Education Program if they do so. Meijer Honors College advisors are available to assist students transitioning out of the program. Likewise, students may apply to transfer into honors from the regular General Education Program, or from another college or university, and honors advisors are available to help with the transition.

## **Learning and Living Community**

One of the hallmarks of the Meijer Honors College is its rich learning and living community. For this reason, honors students, especially first-year students, are encouraged to live in one of the two honors housing centers, so that they strengthen the bonds of community and reinforce each other's commitment to academic excellence.

**The Glenn A. Niemeyer Learning and Living Center** is a state-of-the-art residential and academic center with two- and four-bedroom apartments, lounges, study areas, and a computer lab. Most honors classrooms are also in the building.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

**The Holton-Hooker Learning and Living Center** is a residential and academic center which provides optimal housing for first-year honors students because it builds rich and deep community.

## **Frederik Meijer Honors College Requirements**

To graduate from the Meijer Honors College a student must satisfy the following course requirements, which also fulfill all general education requirements of the university.

Satisfaction of Grand Valley general education requirements through completion of the Meijer Honors College curriculum does not add any additional coursework to a student's program. In fact, it often results in a reduction of the number of credits required. Honors students should meet regularly with their major advisors as well as with a Meijer Honors College advisor.

### **Suggested Order of Coursework**

#### **Year One**

HNR 151 - First Year Interdisciplinary Sequence 1 (3 credits)

HNR 152 - First Year Interdisciplinary Sequence 2 (3 credits)

HNR 153 - First Year Interdisciplinary Sequence 3 (3 credits)

HNR 154 - First-Year Interdisciplinary Sequence 4 (3 credits)

Except in extraordinary circumstances, this sequence of courses should be taken in the first year, as it offers guidance to students in making a transition from high school to university work.

#### **Year Two**

HNR 200 - Campus/Community Engagement (3 credits)

HNR 201 - Live. Learn. Lead. (3 credits)

HNR 250 - Project-Based Learning (3 credits) **OR** HNR 251 - Project-Based Learning/QL (3 credits)

HNR 200 is offered as a variable-credit course (one, two, or three credits). All students must complete a total of three credits.

Some non-HNR courses may substitute for HNR 200 and HNR 250/HNR 251. Students should consult with a Meijer Honors College advisor about possibilities.

#### **Year Three**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

HNR 350 - Integrative Seminar (3 credits) **OR** HNR 351 - Honors Integrative Seminar/QL (3 credits)

HNR 251 and HNR 351 are identical to HNR 250 and HNR 350 with an additional emphasis on quantitative modes of inquiry. All honors students must take one -50 course (HNR 250 or HNR 350) and one -51 course (HNR 251 or HNR 351).

### **Year Four**

HNR 401 - Senior Project Proposal (1 credit)

HNR 499 - Honors Senior Project (1 to 4 credits)

## **French**

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

**Website:** [gvsu.edu/ml](http://gvsu.edu/ml)

French is a language spoken natively on all continents by over 160 million speakers and as a second language by millions more. French is in fact the most commonly studied second language in the world. It remains therefore one of the major languages of diplomacy worldwide. The study of French encompasses both a study of the language and the investigation of the cultures/literatures wherever French is spoken. French and Francophone culture is vibrant: French is a language of the arts and literature, of technology, of social and political institutions that promote freedom of thought and expression as well as multiculturalism. Study of the French language prepares students for multicultural career settings in the United States and abroad.

A French major and minor are available. Students majoring in French will choose one of three areas of emphasis: literature, linguistics or civilization. A French minor complements majors in many other fields, such as international relations, business, philosophy, English, education, history, the arts, and increasingly, the sciences. Students who plan to complete the French major or minor for secondary education certification must meet the additional requirements of the French Secondary Education program and College of Education and Community Innovation.

### **Participating Programs**

The French section of the Department of Modern Languages and Literatures works closely with the Padnos International Center to make available many opportunities for study abroad. We offer one faculty-led summer program in Nice, France, where students complete six credits in French language and French culture (FRE 385 and FRE 386). Semester-long programs are offered with several partner institutions in France: in Angers (the École Supérieure des sciences commerciales d'Angers and the Université Catholique), and in Grenoble (Groupe ESC). Many other

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

opportunities for study abroad are available. We also offer summer internships in France through EUSA, where students are placed in positions related to their career focus.

## **Bachelor of Arts in French**

### **Requirements**

Students majoring in French are required to complete 36 hours beyond the FRE 202 course, including the following.

### **Core Courses**

There are 12 credits required, including:

FRE 315 - French Conversation (3 credits)

FRE 316 - Advanced French Grammar (3 credits)

FRE 317 - Writing in French (3 credits)

FRE 318 - Introduction to French Literature (3 credits)

One course in each of the following areas: literature, linguistics civilization, and global competence as follows (12 credits)

Three elective courses at the 300- and 400-level, at least one of which must be at the 400-level (9 credits)

FRE 495 - Advanced Topics in French (Capstone) (3 credits)  
Capstone must be taken in the last year preceding graduation.

Students should take careful note of the prerequisites for their chosen courses.

Students seeking to pursue a graduate degree in French are advised to complete a minor or major in another foreign language. All secondary education majors and minors must complete a study abroad program (as follows).

### **Areas**

#### **Literature**

Students must choose one course from the following:

FRE 321 - Survey of French Literature I (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

FRE 322 - Survey of French Literature II (3 credits)

FRE 323 - Survey of French Literature III (3 credits)

### **Linguistics**

Students must choose one course from the following:

FRE 331 - French Phonetics (3 credits)

FRE 332 - Introduction to French Linguistics (3 credits)

#### **AND EITHER**

FRE 341 - French History and Civilization (3 credits) **OR** FRE 342 - Contemporary French Culture and Society (3 credits)

### **Civilization**

Students must choose one course from the following:

FRE 341 - French History and Civilization (3 credits)

FRE 342 - Contemporary French Culture and Society (3 credits)

FRE 343 - Francophone Civilization (3 credits)

### **Global Competence**

Students must choose one course from the following:

FRE 351 - Business French (3 credits)

FRE 386 - French Culture Abroad (3 credits)

FRE 395 - Advanced Speaking Strategies and Skills (3 credits)

### **Suggested Order of Coursework for a Major in French**

Suggested order of coursework for students without prior language background:

FRE 101 - Beginning French I: Language and Culture (4 credits) followed by FRE 102 - Beginning French II: Language and Culture (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

FRE 201 - Intermediate French I: Language and Culture (4 credits) followed by FRE 202 - Intermediate French II: Language and Culture (4 credits)

Core curriculum:

FRE 315 - French Conversation (3 credits)

FRE 316 - Advanced French Grammar (3 credits)

FRE 317 - Writing in French (3 credits)

FRE 318 - Introduction to French Literature (3 credits)

One course in each of the following areas: literature, linguistics civilization, and global competence

Three electives (one at 400-level, not including FRE 495)

FRE 495 - Advanced Topics in French (Capstone) (3 credits)

Students entering GVSU with previous experience in French may start French courses at the 200- or 300-level, based on a placement exam, CLEP or AP credits, or consultation with an advisor from the French section.

Students who wish to review beginning material before taking 200-level courses can take FRE 150 - Intensive Elementary French.

## **Requirements for a Certificate in Secondary Education**

Students majoring in French secondary education are required to complete 39 hours beyond the FRE 202 course, including the following.

### **Core Courses**

There are 12 credits required, including:

FRE 315 - French Conversation (3 credits)

FRE 316 - Advanced French Grammar (3 credits)

FRE 317 - Writing in French (3 credits)

FRE 318 - Introduction to French Literature (3 credits)

**PLUS** the following:

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

FRE 331 - French Phonetics (3 credits) **AND** FRE 332 - Introduction to French Linguistics (3 credits)

FRE 334 - Foreign Language Acquisition and Pedagogy (3 credits)

One course in each of the following areas: literature, civilization, global competence, see preceding information (9 credits).

Two elective courses, at least one of which must be at the 400-level, not including FRE 495 (6 credits).

FRE 495 - Advanced Topics in French (Capstone) (3 credits) Capstone must be taken in the last year preceding graduation.

### **Oral Proficiency Requirement**

It is a requirement of the Michigan Department of Education and Grand Valley's College of Education and Community Innovation that teacher candidates achieve the Advanced-Low level on the Oral Proficiency Interview (OPI) in French before student teaching. The OPI should be taken right away after returning from a study abroad program. Information sessions on the OPI and other requirements for certification are provided each semester.

### **Study Abroad Requirement**

Students with a French secondary education major or minor must study abroad in a French-speaking country for a minimum of one semester (12 to 15 credits in French at the 300- or 400-level) in a departmentally approved program. Courses taken during the study abroad semester normally fulfill some of the courses required for the major, but these need to be determined ahead of time by a French advisor. Advising is critical. Students interested in pursuing a teaching degree in French are urged to meet with a French advisor as early as possible in their program.

Students are advised to complete at least two courses (six credits) of French at the 300-level prior to studying abroad in order to maximize proficiency gains abroad.

Students who cannot meet the study abroad requirement will need to complete an alternative plan approved by a French advisor.

## **French Minor**

### **Requirements for a Minor in French**

Students choosing French as a minor program must complete a minimum of 21 hours of French beyond the FRE 201 course, including FRE 202 or its equivalent and the French core curriculum (FRE 315, FRE 316, FRE 317, and FRE 318). Six credits of electives beyond the core must be completed at the 300- or 400-level.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Required Courses**

FRE 202 - Intermediate French II: Language and Culture (4 credits)

Core courses (12 credits):

FRE 315 - French Conversation (3 credits)

FRE 316 - Advanced French Grammar (3 credits)

FRE 317 - Writing in French (3 credits)

FRE 318 - Introduction to French Literature (3 credits)

Plus the following:

Two electives at the 300- or 400-level. (6 credits)

## **Alternative Path**

Students who begin the program at the 300-level are required to complete 21 credits including the following.

Core courses (12 credits):

FRE 315 - French Conversation (3 credits)

FRE 316 - Advanced French Grammar (3 credits)

FRE 317 - Writing in French (3 credits)

FRE 318 - Introduction to French Literature (3 credits)

Three electives at the 300- or 400-level (6 credits)

## **Requirements for a French Secondary Education Minor**

Students choosing French as a secondary education minor must complete 24 hours of French beyond the FRE 202 course.

Note: FRE 202 does not count toward the secondary education minor.

Core courses (12 credits):

FRE 315 - French Conversation (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

FRE 316 - Advanced French Grammar (3 credits)

FRE 317 - Writing in French (3 credits)

FRE 318 - Introduction to French Literature (3 credits)

Plus the following:

FRE 332 - Introduction to French Linguistics (3 credits)

FRE 334 - Foreign Language Acquisition and Pedagogy (3 credits)

Two electives at the 300- or 400-level.

### **Study Abroad Requirement**

Students with a French secondary education major or minor must study abroad in a French-speaking country for a minimum of one semester (12 to 15 credits in French at the 300- or 400-level) in a departmentally approved program. Courses taken during the study abroad semester normally fulfill some of the courses required for the major, but these need to be determined ahead of time by a French advisor. Advising is critical. Students interested in pursuing a teaching degree in French are urged to meet with a French advisor as early as possible in their program. Students are advised to complete at least two courses (six credits) of French at the 300-level prior to studying abroad in order to maximize proficiency gains abroad. Students who cannot meet the study abroad requirement will need to complete an alternative plan approved by a French advisor.

### **Oral Proficiency Requirement**

It is a requirement of the Michigan Department of Education and the GVSU College of Education and Community Innovation that teacher candidates reach the Advanced-Low level on the Oral Proficiency Interview (OPI) in French before student teaching. The OPI should be taken right away after returning from a study abroad program. Information sessions on the OPI and other requirements for certification are provided each semester.

## **Geography and Sustainable Planning**

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

**Website:** [gvsu.edu/geography](http://gvsu.edu/geography)

**Contact Information:** Phone: (616) 331-3065, fax: (616) 331-8635, and email: [gydept@gvsu.edu](mailto:gydept@gvsu.edu).

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

**Professors:**

Elena Lioubimtseva. Jim Penn, Wanxiao Sun. Associate Professors: Jeroen Wagendorp, Gang Xu, Kin Ma. Assistant Professor: Chad Frederick. Adjunct Instructors: Jason Moore, Steven Stepek, Jonathan Wessell.

Geography and sustainable planning offers the following programs:

Bachelor of Arts and Bachelor of Science in geography, including the general geography major and four emphasis areas: geospatial technology, urban and regional planning, environment and global development, and climate change mitigation, adaptation and resiliency planning.

Geographic techniques (GIS and remote sensing) minor

Sustainable urban and regional planning minor

Geography education at the secondary level minor (teachable minor)

Geographic information systems technology undergraduate certificate

Sustainable urban and regional planning undergraduate certificate

The geography and sustainable planning curriculum at GVSU integrates the natural and social sciences and geospatial technologies and offers students strong analytical and problem-solving skills. Geography and sustainable planning areas offer a wide range of opportunities to people with various interests and talents focusing on finding real solutions to complex environmental, economic, and social problems and issues (such as food and water security, deforestation, urban congestion, economic growth, environmental justice, climate change, etc.). Students majoring in geography will develop strong analytical, research, civic engagement and communication skills and master sophisticated technologies such as Geographic Information Systems (GIS), remote sensing, Global Positioning Systems (GPS), climate and environmental modeling, digital image processing, and computer cartography. The department offers 40 different courses, including faculty-led international summer school in urban and regional planning in the Netherlands.

Faculty members are experts in sustainable development and global change, geospatial technologies (GIS, satellite remote sensing, and digital image processing), community conservation projects, sustainable urban and regional planning, environmental, cultural, and regional geography. Flexible interdisciplinary programs provide courses of study focused on geospatial technologies (computer cartography, GIS, satellite remote sensing, and digital image processing), urban and regional planning, natural resource use, and global and regional development. Due to the revolution in geospatial information technologies and spatial data analysis, geographers are very much in demand in the job market and in graduate school. Please consult the department's website information about employment opportunities, scholarships, and grants.

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

## **Degrees Offered**

B.A. and B.S. in geography

B.A. and B.S. in geography: geospatial technology emphasis

B.A. and B.S. in geography: urban and regional planning emphasis

B.A. and B.S. in geography: environment and global development

Three minors:

Geography education at the secondary level (teachable minor). A teachable major with elementary and secondary education is also offered as a social studies major with a geography emphasis.

Geospatial technology

Sustainable urban and regional planning

Three certificates:

Environmental remote sensing

Geographic information science (GIS) and technology

Sustainable urban and regional planning

Available to all majors at GVSU, certificate credit hours can be duplicated with a major or minor.

For more information about geography and planning degrees, please contact Professor Jim Penn at [pennji@gvsu.edu](mailto:pennji@gvsu.edu).

## **Participating Programs**

Geography and sustainable planning participates in the social studies major, which is designed for students seeking teacher certification in secondary or middle school social studies or in elementary education. The major includes a minimum of 42 credit hours in economics, geography, history, and political science. Students seeking teacher certification also complete an appropriate minor and the professional program offered by the College of Education and Community Innovation. The social studies major meets State of Michigan content standards for teacher preparation in social studies, which require at least six credit hours and two courses in each of the four disciplines and at least 18 credits and six courses in one of the four areas.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Honors Organizations**

Lambda Omega is GVSU's Chapter of the Gamma Theta Upsilon, the International Geography Honor Society. Gamma Theta Upsilon (GTU) is an international honor society in geography. Gamma Theta Upsilon was founded in 1928 and became a national organization in 1931. Members of GTU have met academic requirements and share a background and interest in geography. GTU chapter activities support geography knowledge and awareness.

GTU's goals:

To further professional interest in geography by affording a common organization for those interested in the field.

To strengthen student and professional training through academic experiences in addition to those of the classroom and laboratory.

To advance the status of geography as a cultural and practical discipline for study and investigation.

To encourage student research of high quality and to promote an outlet for publication.

To create and administer funds for furthering graduate study and/or research in the field of geography.

To encourage members to apply geographic knowledge and skills in service to humankind.

See: [gammathetaupsilon.org](http://gammathetaupsilon.org).

## **Bachelor of Arts or Bachelor of Science in Geography**

### **Requirements for a Major in Geography**

#### **Core Courses**

All geography majors, regardless of the area of emphasis, are required to complete the following core courses (12 credit hours):

GPY 100 - Physical and Environmental Geography (3 credits)

GPY 200 - Computer Cartography (3 credits)

GPY 220 - Cultural Geography (3 credits)

GPY 495 - Senior Thesis (3 credits)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **B.A. or B.S. in General Geography Without an Emphasis**

Students pursuing the general geography degree, without an emphasis, are to select their elective courses in consultation with their academic advisors to acquire significant transdisciplinary breadth, including courses in geospatial technology, urban and regional planning, environmental geography, sustainability science, and regional and global human development.

This self-designed geography degree track includes at least six credit hours of the regional geography, selected from the following:

GPY 235 - Geography for a Changing World (3 credits)

GPY 345 - The Geography and Land Use Management of Michigan and the Great Lakes Area (3 credits)

GPY 350 - Geopolitics, Energy and Environment of Russia and Central Eurasia (3 credits)

GPY 351 - Geography of Africa (3 credits)

GPY 352 - Geography of Latin America (3 credits)

GPY 353 - Geography of the United States and Canada (3 credits)

GPY 354 - Geography and Globalization of Asia (3 credits)

GPY 356 - The Geography, Culture and Land Use Management of Europe (3 credits)

GPY 361 - People, Environment, and Development in the Amazon (3 credits)

GPY 381 - Study Abroad I (3 to 9 credits)

**AND** choose at least 15 credits from the following topical geography and planning courses:

GPY 101 - Sustainability and Place (1 credit)

GPY 209 - Introduction to Urban and Regional Planning (3 credits)

GPY 307 - Introduction to Geographic Information Systems (3 credits)

GPY 310 - Land Use Planning (3 credits)

GPY 312 - Urban and Regional Environmental Planning (3 credits)

GPY 314 - Land Use and Planning Law (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

GPY 316 - Introduction to Transportation Planning (3 credits)

GPY 324 - Urbanization (3 credits)

GPY 335 - Globalization and Development (3 credits)

GPY 362 - Farmers, Crops, and Our Challenging Agricultural World (3 credits)

GPY 363 - World Forests and Their Use (3 credits)

GPY 365 - GIS for Economic and Business Decision-Making (3 credits)

GPY 370 - Introduction to Remote Sensing (3 credits)

GPY 380 - Special Topics in Geography (3 credits)

GPY 385 - GIS in Urban and Regional Analysis (3 credits)

GPY 399 - Independent Readings (1 to 3 credits)

GPY 407 - Advanced GIS (4 credits)

GPY 410 - Landscape Analysis and Green Infrastructure (3 credits)

GPY 412 - Global Climate and Environmental Change (3 credits)

GPY 470 - Digital Image Processing (3 credits)

GPY 490 - Internship (1 to 9 credits)

GPY 499 - Independent Research (1 to 3 credits)

No more than six hours of GPY 399 and GPY 499 combined may count toward the major.

### **B.S. in Geography with an Emphasis in Climate Change Mitigation, Adaptation, and Resiliency Planning**

In addition to the geography major core courses (12 credits), students pursuing climate change mitigation, adaptation, and resiliency planning emphasis are required to take the following five courses pertaining to climate mitigation and adaptation planning:

GPY 101 - Sustainability and Place (1 credit)

GPY 209 - Introduction to Urban and Regional Planning (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

GPY 310 - Land Use Planning (3 credits)

GPY 412/ENS 412 - Global Climate and Environmental Change (3 credits)

NRM 140 - The Climatic Factor (4 credits)

**AND** choose at least nine credits from the following elective courses:

GPY 312 - Urban and Regional Environmental Planning (3 credits)

GPY 314 - Land Use and Planning Law (3 credits)

GPY 316 - Introduction to Transportation Planning (3 credits)

GPY 361 - People, Environment, and Development in the Amazon (3 credits)

GPY 362 - Farmers, Crops, and Our Challenging Agricultural World (3 credits)

GPY 363 - World Forests and Their Use (3 credits)

GPY 365 - GIS for Economic and Business Decision-Making (3 credits)

GPY 370 - Introduction to Remote Sensing (3 credits)

GPY 381 - Study Abroad I (3 to 9 credits)

GPY 385 - GIS in Urban and Regional Analysis (3 credits)

GPY 407 - Advanced GIS (4 credits)

GPY 410 - Landscape Analysis and Green Infrastructure (3 credits)

GPY 470 - Digital Image Processing (3 credits)

### **B.A. or B.S. in Geography with an Emphasis in Environment and Global Development**

In addition to the geography major core courses (12 credits), as previously specified, students pursuing a B.A. or B.S. in geography with an emphasis in environment and global development are required to take the following fundamental courses on global development and environmental changes (9 credits):

GPY 235 - Geography for a Changing World (3 credits)

GPY 335 - Globalization and Development (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

GPY 412 - Global Climate and Environmental Change (3 credits)

**AND** choose at least six credits of the following environmental courses on environmental sustainability:

GPY 312 - Urban and Regional Environmental Planning (3 credits)

GPY 362 - Farmers, Crops, and Our Challenging Agricultural World (3 credits)

GPY 363 - World Forests and Their Use (3 credits)

**AND** choose at least four credits from the following courses on the regional patterns of environment and development:

GPY 101 - Sustainability and Place (1 credit)

GPY 345 - The Geography and Land Use Management of Michigan and the Great Lakes Area (3 credits)

GPY 350 - Geopolitics, Energy and Environment of Russia and Central Eurasia (3 credits)

GPY 351 - Geography of Africa (3 credits)

GPY 352 - Geography of Latin America (3 credits)

GPY 353 - Geography of the United States and Canada (3 credits)

GPY 354 - Geography and Globalization of Asia (3 credits)

GPY 356 - The Geography, Culture and Land Use Management of Europe (3 credits)

GPY 361 - People, Environment, and Development in the Amazon (3 credits)

**AND** choose at least three nonduplicated credits of any upper-level (300- or 400-level) geography and sustainable planning courses. These may include independent studies, internships, and study abroad courses.

### **B.A. or B.S. in Geography with an Emphasis in Geospatial Technology**

In addition to the geography major core courses (12 credits), as previously specified, students pursuing a B.A. or B.S. in geography with an emphasis in geospatial technology are required to take the following GIS and remote sensing courses (13 credits):

GPY 307 - Introduction to Geographic Information Systems (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

GPY 370 - Introduction to Remote Sensing (3 credits)

GPY 407 - Advanced GIS (4 credits)

GPY 470 - Digital Image Processing (3 credits)

**AND** choose one of the following GIS applications courses:

GPY 365 - GIS for Economic and Business Decision-Making (3 credits)

GPY 385 - GIS in Urban and Regional Analysis (3 credits)

**AND** choose at least six nonduplicated credits of any 300- or 400-level geography and sustainable planning courses. These may include independent studies, internships, and study abroad courses.

### **B.A. or B.S. in Geography with an Emphasis in Sustainable Urban and Regional Planning**

In addition to the geography major core courses (12 credits), as previously specified, students pursuing a B.A. or B.S. in geography with an emphasis in urban and regional planning are required to take the following fundamental urban and regional planning courses (6 credits):

GPY 111 - Cities, Towns, and Villages (3 credits)

GPY 209 - Introduction to Urban and Regional Planning (3 credits)

GPY 324 - Urbanization (3 credits)

GPY 310 - Land Use Planning (3 credits)

And take at least six credits of the following planning courses:

GPY 312 - Urban and Regional Environmental Planning (3 credits)

GPY 314 - Land Use and Planning Law (3 credits)

GPY 316 - Introduction to Transportation Planning (3 credits)

GPY 385 - GIS in Urban and Regional Analysis (3 credits)

And take at least four credits from the following courses related to sustainable planning:

GPY 101 - Sustainability and Place (1 credit)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

GPY 345 - The Geography and Land Use Management of Michigan and the Great Lakes Area (3 credits)

GPY 356 - The Geography, Culture and Land Use Management of Europe (3 credits)

GPY 381 - Study Abroad I (3 to 9 credits)

GPY 410 - Landscape Analysis and Green Infrastructure (3 credits)

And take at least three nonduplicated credits of any upper-level (300- or 400-level) geography and sustainable planning courses. These may include independent studies, internships, and study abroad courses.

### **General Education**

Please note that all GVSU students must complete the university general education requirements. Some geography courses count for one or more general education categories (Foundations, Cultures, and Issues). Please see your advisor and GVSU General Education Program requirements if you have any questions about course overlaps.

All GVSU students are required to fulfill WRT 150 - Strategies in Writing (or WRT 120 - Strategies in Writing - Stretch I and WRT 130 - Strategies in Writing - Stretch II) and two Supplemental Writing Skills (SWS) classes with a grade not lower than C before graduation; GPY 495 - Senior Thesis is an SWS course.

### **B.A. or B.S. Degree Requirements**

#### **B.A. Degree Requirements**

Students pursuing the B.A. degree requirements must satisfy the third semester proficiency (through the 201-level) in one of the classical or modern languages offered by the Classics Department or the Department of Modern Languages and Literatures.

#### **B.S. Degree Requirements**

Students pursuing the B.S. degree requirements must complete the following courses:

STA 215 - Introductory Applied Statistics (3 credits)

GPY 307 - Introduction to Geographic Information Systems (3 credits)

**AND** choose one of the following courses:

GPY 407 - Advanced GIS (4 credits)

GPY 410 - Landscape Analysis and Green Infrastructure (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

GPY 412 - Global Climate and Environmental Change (3 credits)

GPY 470 - Digital Image Processing (3 credits)

## **Suggested Order of Coursework for a Major in Geography**

Suggested sample curriculum for a major in geography (this is an example only, please see your advisor and follow the catalog to develop coursework appropriate for your interests and/or area of emphasis).

### **Year One**

#### Fall Semester

GPY 100 - Physical and Environmental Geography (3 credits)

GPY 220 - Cultural Geography (3 credits)

WRT 150 - Strategies in Writing (4 credits)

General education Foundations

#### Winter Semester

GPY 200 - Computer Cartography (3 credits)

GPY 235 - Geography for a Changing World (3 credits)

MTH 110 - Algebra (4 credits)

General education Foundations

### **Year Two**

#### Fall Semester

GPY 209 - Introduction to Urban and Regional Planning (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

General education SWS

General education Foundations

#### Winter Semester

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

GPY 307 - Introduction to Geographic Information Systems (3 credits)

GPY 310 - Land Use Planning (3 credits)

GPY 354 - Geography and Globalization of Asia (3 credits)

General education Cultures

### **Year Three**

#### Fall Semester

GPY 324 - Urbanization (3 credits)

GPY 350 - Geopolitics, Energy and Environment of Russia and Central Eurasia (3 credits)

GPY 370 - Introduction to Remote Sensing (3 credits)

General education Issues

#### Winter Semester

GPY 312 - Urban and Regional Environmental Planning (3 credits)

GPY 356 - The Geography, Culture and Land Use Management of Europe (3 credits)

GPY 407 - Advanced GIS (4 credits)

General education Issues (second course)

### **Year Four**

#### Fall Semester

GPY 345 - The Geography and Land Use Management of Michigan and the Great Lakes Area  
(3 credits)

GPY 362 - Farmers, Crops, and Our Challenging Agricultural World (3 credits)

GPY 363 - World Forests and Their Use (3 credits)

GPY 410 - Landscape Analysis and Green Infrastructure (3 credits)

#### Winter Semester

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

GPY 412 - Global Climate and Environmental Change (3 credits)

GPY 470 - Digital Image Processing (3 credits)

GPY 490 - Internship (1 to 9 credits)

GPY 495 - Senior Thesis (3 credits)

## **Environmental Remote Sensing (RS) Undergraduate Certificate**

The environmental remote sensing (RS) certification program is housed within the Department of Geography and Sustainable Planning ([gvsu.edu/geography](http://gvsu.edu/geography)). The program provides cutting-edge skills in remote sensing science, digital image processing, and big data visualization. Particular emphasis is placed on applications of remote sensing technology in environmental planning, sustainable development, climate change adaptation, urban resiliency planning, and natural resource management.

The environmental remote sensing certificate is designed for GVSU students who want to add geospatial technology skills to their major. Students learn practical applications of geospatial technologies and develop working competency in remote sensing and GIS software, such as ERDAS IMAGINE, TerrSet (IDRISI), eCognition, and ESRI ArcGIS. Open for all majors. For more information, visit our website at [gvsu.edu/geography/rs-certificate](http://gvsu.edu/geography/rs-certificate).

**Program Coordinator:** Professor Gang Xu, Ph.D., Department of Geography and Sustainable Planning.

### **Reasons to Study Remote Sensing Technology**

#### **Enter an Emerging Field**

Geospatial technology is one of the most important emerging fields in the United States according to the U.S. Department of Labor.

#### **Ensure Marketability**

Remote sensing competency offers top jobs in a wide variety of sectors.

#### **Gain a Competitive Edge**

Studying geospatial technologies will give students an edge over peers in the current job market.

#### **Benefit from Practical Application**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Students will learn practical skills that will benefit their future careers.

### **Enjoy Flexibility**

Students can attend full- or part-time. Any major combined with this certificate creates a new hybrid skillset.

### **Value its Affordability**

Students can add an extra credential on their official transcripts with little to no additional cost.

Our alumni have found rewarding careers in positions such as environmental specialists, transportation analysts, urban planners, business GIS analysts, regional intelligence analysts, lead digital mappers, and county GIS directors.

### **Requirements**

Students will complete a minimum of 12 credit hours to receive certification in environmental remote sensing. Up to six credits can be transferred from another institution (subject to course content approval).

### **Required Courses**

Six credits are required, including:

GPY 370 - Introduction to Remote Sensing (3 credits)

GPY 470 - Digital Image Processing (3 credits)

### **Elective Courses**

Take any two of the following:

CIS 160 - Learn to Code in Python (3 credits)

CIS 162 - Computer Science I (4 credits)

CIS 233 - Concepts of Database Systems (3 credits)

GEO 425 - GIS Applications in Geology (3 credits)

GPY 307 - Introduction to Geographic Information Systems (3 credits)

GPY 365 - GIS for Economic and Business Decision-Making (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

GPY 385 - GIS in Urban and Regional Analysis (3 credits)

GPY 407 - Advanced GIS (4 credits)

NRM 250 - Resource Measurement and Maps (3 credits)

NRM 395 - GIS Applications in Resource Management (3 credits)

NRM 450 - Applied Spatial Analysis of Natural Resources (3 credits)

## **Topics**

How remote sensing works

Digital image processing techniques

Satellite image interpretation

Land use/land cover classification

Big data visualization

Environmental, planning, and sustainability applications

## **Geographic Information Science (GIS) and Technology Undergraduate Certificate**

The GIS technology certification program is housed with the department of Geography and Sustainable Planning ([gvsu.edu/geography](http://gvsu.edu/geography)). Geographic Information Systems (GIS) are used to map, model, query, synthesize, and analyze big spatial data according to their location. GIS benefits organizations in almost every industry. There is growing interest in the economic, environmental, and strategic planning value of GIS.

The GIS technology certificate is designed for GVSU students who want to add geospatial technology skills to their major. Students learn practical applications of geospatial technologies and develop a working competency in GIS software, such as ESRI ArcGIS, Business Analyst, and Edras Imagine. Open for all majors. For more information, visit our website at [gvsu.edu/geography/gis-certificate-47.htm](http://gvsu.edu/geography/gis-certificate-47.htm).

Program coordinator: Professor Gang Xu, Ph.D., Department of Geography and Sustainable Planning.

### **Reasons to Study GIS Technology**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

An emerging field: Geospatial technology is one of the most important emerging fields in the United States according to the U.S. Department of Labor.

Marketability: GIS competency offers top jobs in a wide variety of sectors.

A competitive edge: Studying these technologies will give students an edge over peers in the current job market.

Practical application: Students will learn practical skills that will benefit their future careers.

Flexibility: Students can attend full or part time. Any major combined with this certificate creates a new hybrid skill set.

Affordability: An extra credential on your official transcript with little to no additional cost.

Our alumni have found rewarding careers in positions such as environmental specialists, transportation analysts, urban planners, business GIS analysts, regional intelligence analysts, lead digital mappers, and county GIS directors.

## **Coursework**

Students will complete a minimum of 13 credit hours to receive certification in GIS. Up to six credits can be transferred from another institution (subject to course content approval).

## **Required Courses**

Students must complete the following 10 credits:

GPY 200 - Computer Cartography (3 credits)

GPY 307 - Introduction to Geographic Information Systems (3 credits)

GPY 407 - Advanced GIS (4 credits)

## **Electives Courses**

Choose one of the following:

CIS 160 - Learn to Code in Python (3 credits)

CIS 162 - Computer Science I (4 credits)

CIS 233 - Concepts of Database Systems (3 credits)

GEO 425 - GIS Applications in Geology (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

GPY 365 - GIS for Economic and Business Decision-Making (3 credits)

GPY 370 - Introduction to Remote Sensing (3 credits)

GPY 385 - GIS in Urban and Regional Analysis (3 credits)

GPY 470 - Digital Image Processing (3 credits)

NRM 250 - Resource Measurement and Maps (3 credits)

NRM 395 - GIS Applications in Resource Management (3 credits)

NRM 450 - Applied Spatial Analysis of Natural Resources (3 credits)

Natural resources management (NRM) majors pursuing the NRM resource analysis methods emphasis may substitute the following for GPY 200:

NRM 250 - Resource Measurement and Maps (3 credits)

NRM 395 - GIS Applications in Resource Management (3 credits)

NRM 450 - Applied Spatial Analysis of Natural Resources (3 credits)

## **Topics**

GIS science and technology

Remote sensing (satellite image interpretation)

Advanced GIS

Environmental, social, and business applications of GIS

Spatial analysis techniques

Computer mapping

## **Geography-Teacher Certification Minor**

Expertise in geography is important to all elementary and secondary education students. This minor provides education students with a foundation in human and physical geography, a strong understanding of concepts and principles of global and regional geography, a deep content understanding of regions of the world, and a basic competency in the use of geographic techniques.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Requirements for a Minor in Geography - Teacher Certification**

Students seeking certification to teach geography at the secondary level are required to complete:

Three core courses

Four regional studies courses

One methods course from the list of electives

Those students pursuing a GPY teachable minor must complete:

SST 310 - Teaching Social Studies: Secondary (3 credits)

### **Core Courses**

GPY 100 - Physical and Environmental Geography (3 credits)

GPY 220 - Cultural Geography (3 credits)

SST 310 - Teaching Social Studies: Secondary (3 credits)

### **Regional Studies Courses**

Required courses include:

GPY 235 - Geography for a Changing World (3 credits)

GPY 353 - Geography of the United States and Canada (3 credits)

GPY 345 - The Geography and Land Use Management of Michigan and the Great Lakes Area  
(3 credits)

**AND** one course from the following:

GPY 350 - Geopolitics, Energy and Environment of Russia and Central Eurasia (3 credits)

GPY 351 - Geography of Africa (3 credits)

GPY 352 - Geography of Latin America (3 credits)

GPY 354 - Geography and Globalization of Asia (3 credits)

GPY 356 - The Geography, Culture and Land Use Management of Europe (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

GPY 362 - Farmers, Crops, and Our Challenging Agricultural World (3 credits)

### **Methods Courses**

Choose one:

GPY 200 - Computer Cartography (3 credits)

GPY 307 - Introduction to Geographic Information Systems (3 credits)

GPY 209 - Introduction to Urban and Regional Planning (3 credits)

GPY 370 - Introduction to Remote Sensing (3 credits)

NRM 250 - Resource Measurement and Maps (3 credits)

## **Geospatial Technology Minor**

Provide core skills in GIS, digital image processing (remote sensing), and computer cartography. Emphasize environmental, business, urban planning, and community development applications. Prepare students for jobs in the private and the public sectors as well as for graduate school.

### **Requirements for a Minor in Geospatial Technology**

Complete three core courses and any four of the electives listed as follows.

#### **Required Courses**

Nine credits are required, including:

GPY 200 - Computer Cartography (3 credits)

GPY 307 - Introduction to Geographic Information Systems (3 credits)

GPY 370 - Introduction to Remote Sensing (3 credits)

#### **Electives Courses**

Take any four of the following:

CIS 160 - Learn to Code in Python (3 credits)

CIS 162 - Computer Science I (4 credits)

CIS 233 - Concepts of Database Systems (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CIS 260 - Application Development in Visual Basic (4 credits)

GEO 425 - GIS Applications in Geology (3 credits)

GPY 365 - GIS for Economic and Business Decision-Making (3 credits)

GPY 385 - GIS in Urban and Regional Analysis (3 credits)

GPY 407 - Advanced GIS (4 credits)

GPY 470 - Digital Image Processing (3 credits)

NRM 250 - Resource Measurement and Maps (3 credits)

NRM 395 - GIS Applications in Resource Management (3 credits)

NRM 450 - Applied Spatial Analysis of Natural Resources (3 credits)

## **Sustainable Urban and Regional Planning Minor**

The sustainable urban and regional planning minor is housed within the department of Geography and Sustainable Planning ([gvsu.edu/geography](http://gvsu.edu/geography)) and focuses on optimal and sustainable land use and development in urban, suburban, and rural areas in the U.S. and worldwide. Planners create better living environments for all by designing smart and integrated land use systems. Our graduates find employment in public, private, and governmental institutions.

### **Reasons to Study Sustainable Urban and Regional Planning**

The minor is a valuable addition to a student's transcript, demonstrating their concentration in the planning field.

Sustainable urban and regional planning students

- gain an understanding of planning terms and concepts, which equips them to enter conversations about local planning and zoning, and qualifies them for internships and jobs;

- build a strong foundation in the history and theory of planning and a depth of understanding that informs their analyses of local issues;

- participate in regional and state planning conferences and are exposed to frequent guest speakers, giving them contact with real-world practitioners in the field of planning; and

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

connect with a broad community of alumni in planning related fields, people our undergraduates come to know on a first name basis, offering our graduates a ready-made network for career advice.

Concepts and skills in sustainable urban planning are applicable to a variety of specialties:

Sustainable urban and regional planning

Land-use planning

Urban development and housing

Transportation planning

Environmental planning

Environmental policy and planning law

## **Requirements**

Students who minor in sustainable urban and regional planning are required to complete a minimum of 24 credit hours from the courses that follow. These 24 hours or eight courses are to be completed in two separate groupings. Group one consists of a nine-credit-hour core: GPY 111, GPY/PNH 209 and GPY 310/PNH 313. Group two consists of 15 hours or five courses. Students are encouraged to meet with their advisor to optimize course selection.

### Group One

GPY 111 - Cities, Towns, and Villages (3 credits)

GPY/PNH 209 - Introduction to Urban and Regional Planning (3 credits)

GPY 310/PNH 313 - Land Use Planning (3 credits)

### Group Two

Select five courses or 15 credit hours

GPY 307 - Introduction to Geographic Information Systems (3 credits)

PNH 307 - Local Politics and Administration (3 credits)

GPY 312 - Urban and Regional Environmental Planning (3 credits)

GPY 314 - Land Use and Planning Law (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

GPY 316 - Introduction to Transportation Planning (3 credits)

GPY/PNH 324 - Urbanization (3 credits)

GPY/MKT 365 - GIS for Economic and Business Decision-Making (3 credits)

GPY 381/PA 380 - Study Abroad (Summer II in the Netherlands) Credits: 3

GPY/ECO 385 - GIS in Urban and Regional Analysis (3 credits)

GPY 410 - Landscape Analysis and Green Infrastructure (3 credits)

GPY/ENS 412 - Global Climate and Environmental Change (3 credits)

PNH 495 - Community Analysis (Capstone) (3 credits)

GPY 496 - Field Research Project (3 credits)

## **Undergraduate Certificate in Sustainable Urban and Regional Planning**

The certification program in sustainable urban and regional planning is housed within the Department of Geography and Sustainable Planning ([gvsu.edu/geography](http://gvsu.edu/geography)). This applied program offers practical tools and strategies to students interested in smart urban development, land-use planning, transportation, green architecture and design, and applications of geographic techniques in planning and urban development. Open for all majors.

Program coordinator: Professor Jeroen Wagendorp, Ph.D., Department of Geography and Sustainable Planning.

### **Reasons to Study Sustainable Urban and Regional Planning**

The certificate in sustainable urban and regional planning gives students additional expertise and opportunities for applying geographic understandings and skills in the wider community.

Students who enter the certificate program

- gain an understanding of planning terms and concepts, which equips them to enter conversation about local planning and zoning, and qualifies them for internship and jobs;

- build a strong foundation in the history and theory of planning and a depth of understanding that informs their analyses of local issues;

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

participate in regional and state planning conferences and are exposed to frequent guest speakers, giving them contact with real-world practitioners in the field of planning; and

connect with a broad community of alumni in planning related fields, people our undergraduates come to know on a first name basis, offering our graduates a ready-made network for career advice.

Students who have graduated from GVSU with the sustainable urban and regional planning certificate have found employment in economic development, housing, real estate, transportation planning, watershed management, land-use planning, and environmental planning.

### **Requirements for a Certificate in Sustainable Urban and Regional Planning**

Students who seek a certificate in sustainable urban and regional planning are required to complete GPY 111 and GPY/PNH 209, courses that should be taken first and in order. GPY 209 is followed by three or more courses for a minimum of nine credit hours from the electives listed as follows.

#### **Required Courses**

GPY 111 - Cities, Towns, and Villages (3 credits)

GPY/PNH 209 - Introduction to Urban and Regional Planning (3 credits)

#### **Elective Courses**

GPY 101 - Sustainability and Place (1 credit)

GPY 310/PNH 313 - Land Use Planning (3 credits)

GPY 312 - Urban and Regional Environmental Planning (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

GPY 316 - Introduction to Transportation Planning (3 credits)

GPY/PNH 324 - Urbanization (3 credits)

GPY/MKT 365 - GIS for Economic and Business Decision-Making (3 credits)

GPY 381/PNH 380 - Special Topics in Public and Nonprofit Administration (1 to 3 credits)

GPY/ECO 385 - GIS in Urban and Regional Analysis (3 credits)

GPY 410 - Landscape Analysis and Green Infrastructure (3 credits)

GPY 496 - Field Research Project (3 credits)

## Geology

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

**Website:** [gvsu.edu/geology](http://gvsu.edu/geology)

Geology is the study of the earth its composition, processes, and history. The great outdoors is the laboratory of geology, where one may study landforms, rock and mineral deposits, fossils, folds, faults, glaciers, groundwater, and the processes that have shaped the earth and that affect its inhabitants. Geology also provides context for understanding Earth's energy, water, and mineral resources. A relatively young science, geology continues on the threshold of new discovery as geoscientists explore the frontiers of the continents, oceans, atmosphere, and planets. The geology department offers B.S. degrees in geology, geology-chemistry, and earth science, and minors in geology and earth science. The B.S. degrees in geology and geology-chemistry prepare students for graduate study in the geological sciences and work in industry. As terminal degrees, they can lead to a variety of careers, including environmental technology, mineral and energy resource exploration, science writing, and business. The B.S. degree in earth science prepares students to teach in the secondary grades. Michigan teacher certification also requires completion of the College of Education and Community Innovation professional program and a minor area of study. The minor program in geology is designed to provide a supportive second discipline for students in a variety of majors, including other sciences or engineering, anthropology, business, or law. The earth science minor is for students seeking certification as secondary school teachers, and is also a suitable minor for such majors as anthropology, geography, and natural resources management.

## Bachelor of Science in Earth Science

For additional information about opportunities your college offers, please refer to The College of Liberal Arts and Sciences in this catalog.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Requirements for a Major in Earth Science**

The earth science B.S. is designed for students who want to pursue a career in secondary education. The major can also serve as a pathway to other careers. Michigan teacher certification requires completion of the College of Education and Community Innovation professional program and a minor area of study. The geology department strongly recommends students in this major complete a biology minor. Earth science majors with a biology minor can earn a science (DI) endorsement with an additional nine credits coursework. Students are encouraged to visit their advisor to design the best possible curricular track. A minimum of 2.7 GPA in the major is required for recommendation for teacher certification. Completion of a major in earth science requires the following.

### **1. Degree Requirements**

General university degree requirements must be met as identified in the General Academic Regulations section of the Grand Valley State University Graduate and Undergraduate Catalog.

### **2. Geology Courses**

Includes 33 semester credit hours of geology courses with a minimum overall GPA of 2.0.

GEO 111 - Exploring the Earth (4 credits)

GEO 112 - Earth History (4 credits)

GEO 175 - Research Tools for Geosciences (1 credit)

GEO 203 - Weather and Climate for Pre-Service Teachers (3 credits)

GEO 214 - Solid Earth Materials and Systems (4 credits)

GEO 220 - Earth Surface Materials and Systems (4 credits)

GEO 320 - Geomorphology (4 credits)

GEO 430 - Oceanography (3 credits)

GEO 485 - Geology Research and Writing Seminar (1 credit)

GEO 486 - Geology Reading Seminar (1 credit)

### **3. Cognate Science Courses**

Includes 23 semester credit hours of science cognate courses with a minimum overall GPA of C (2.0).

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CHM 115 - Principles of Chemistry I (4 credits)

MTH 122 - College Algebra (3 credits)

MTH 123 - Trigonometry (3 credits)

PHY 105 - Descriptive Astronomy (3 credits)

PHY 220 - General Physics I (5 credits)

PHY 221 - General Physics II (5 credits)

### **Suggested Order of Coursework**

The CLAS Academic Advising Center has earth science curriculum guides for the major.

## **Bachelor of Science in Geology**

### **Requirements**

Completion of a B.S. in geology requires the following:

#### **Degree Requirements**

Students must complete the general education requirements as identified in the General Academic Regulations section of the Grand Valley State University Undergraduate and Graduate Catalog.

#### **Core Courses**

Requires 46 to 47 semester hours of geology courses with a minimum overall GPA of C (2.0).

#### **Core Geology Courses** (33 semester hours):

GEO 111 - Exploring the Earth (4 credits)

GEO 112 - Earth History (4 credits)

GEO 175 - Research Tools for Geosciences (1 credit)

GEO 214 - Solid Earth Materials and Systems (4 credits)

GEO 220 - Earth Surface Materials and Systems (4 credits)

GEO 311 - Structural Geology (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

GEO 312 - Sedimentation-Stratigraphy (4 credits)

GEO 485 - Geology Research and Writing Seminar (1 credit)

GEO 486 - Geology Reading Seminar (1 credit)

Geology field requirement (6 credits)

Students must complete one of the following that include a summer field camp in geology (taught by another college or university) that is approved as GEO 493 (3 to 6 credits).

GEO 315 - Geological Field Methods (3 credits) and an approved field camp: GEO 493 - Applied Field Geology (1 to 8 credits)

**OR** an approved field camp: GEO 493 - Applied Field Geology (1 to 8 credits)

### **Emphases**

Requires 13 to 14 semester hours from either the B.S. in geology or the B.S. in geology - environmental emphasis.

### **B.S. in Geology Degree Requirements**

GEO 314 - Petrography: Mineral and Rock Analysis (2 credits)

**AND** one of the following (two or three credits):

GEO 414 - Advanced Petrology (2 credits)

GEO 411 - Global Tectonics (3 credits)

**PLUS** the following (at least nine credits):

GEO electives: Three Geology courses at the 300- or 400-level.

Geology Issues courses cannot count toward the geology major.

### **B.S. in Geology with an Environmental Emphasis Degree Requirements**

GEO 320 - Geomorphology (4 credits)

GEO 440 - Geohydrology (3 credits)

**AND** choose one from:

GEO 420 - Glacial and Quaternary Geology (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

GEO 425 - GIS Applications in Geology (3 credits)

GEO 430 - Oceanography (3 credits)

GEO 445 - Introduction to Geochemistry (3 credits)

GEO 470 - Geophysics (4 credits)

**PLUS** the following (at least three credits):

GEO elective: One geology course at the 300- or 400-level.

Geology Issues courses cannot count toward the geology major.

### **Cognate Courses**

Requires 31 to 33 semester hours of cognate science courses in chemistry, physics, mathematics, statistics, computer science, and/or geographic information systems as follows.

#### **a. Chemistry Courses (two)**

CHM 115 - Principles of Chemistry I (4 credits)

CHM 116 - Principles of Chemistry II (5 credits)

#### **b. Physics Courses (choose one of the following pairs)**

##### **EITHER**

PHY 220 - General Physics I (5 credits)

PHY 221 - General Physics II (5 credits)

##### **OR**

PHY 230 - Principles of Physics I (5 credits)

PHY 231 - Principles of Physics II (5 credits)

#### **c. Basic Mathematics Courses (two)**

MTH 122 - College Algebra (3 credits)

MTH 123 - Trigonometry (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

**d. Mathematics, Statistics, Computer Science, or Geographic Information Systems Courses**  
(choose two courses from one of the following options):

**EITHER** Calculus

MTH 201 - Calculus I (4 credits)

MTH 202 - Calculus II (4 credits)

**OR** Statistics

STA 215 - Introductory Applied Statistics (3 credits)

STA 216 - Intermediate Applied Statistics (3 credits)

**OR** Computer Science (choose one course from each group)

Group One

CIS 160 - Learn to Code in Python (3 credits)

CIS 161 - Computational Science (3 credits)

CIS 162 - Computer Science I (4 credits)

Group Two

CIS 163 - Computer Science II (4 credits)

CIS 231 - Problem Solving Using Spreadsheets (3 credits)

CIS 260 - Application Development in Visual Basic (4 credits)

**OR** Geographic Information Systems (GIS)

GPY 307 - Introduction to Geographic Information Systems (3 credits)

Choose one of the following

GPY 407 - Advanced GIS (4 credits)

GEO 425 - GIS Applications in Geology (3 credits)

NRM 395 - GIS Applications in Resource Management (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Suggested Order of Coursework for a Major in Geology**

### **Year One**

Fall Semester (15 credits)

CHM 115 - Principles of Chemistry I (4 credits)

GEO 111 - Exploring the Earth (4 credits)

MTH 122 - College Algebra (3 credits)

WRT 150 - Strategies in Writing (4 credits)

Winter Semester (15 credits)

General education courses (6 credits)

CHM 116 - Principles of Chemistry II (5 credits)

GEO 112 - Earth History (4 credits)

### **Year Two**

Fall Semester (14 to 16 credits)

General education courses (6 credits)

Geology elective (3 credits)

GEO 214 - Solid Earth Materials and Systems (4 credits) **OR** GEO 220 - Earth Surface Materials and Systems (4 credits)

GEO 175 - Research Tools for Geosciences (1 credit)

MTH/CIS/STA elective (3 to 5 credits)

Winter Semester (13 to 17 credits)

General education courses (6 to 9 credits)

GEO 214 - Solid Earth Materials and Systems (4 credits) **OR** GEO 220 - Earth Surface Materials and Systems (4 credits)

MTH/CIS/STA elective (3 to 5 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **B.S. in Geology**

### **Year Three**

Fall Semester (15 credits)

General education course (3 credits)

GEO 311 - Structural Geology (4 credits)

GEO 315 - Geological Field Methods (3 credits)

Physics sequence (5 credits)

Winter Semester (14 credits)

General education course (3 credits)

GEO 312 - Sedimentation-Stratigraphy (4 credits)

GEO 314 - Petrography: Mineral and Rock Analysis (2 credits)

Physics sequence (5 credits)

Summer Field Course (3 to 6 credits)

### **Year Four**

Fall Semester (13 credits)

Geology elective (3 to 4 credits)

General education course (3 to 6 credits)

GEO 486 - Geology Reading Seminar (1 credit)

Elective (3 credits)

Winter Semester (13 credits)

General education course (3 credits)

Geology elective (3 credits)

Electives (6 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

GEO 485 - Geology Research and Writing Seminar (1 credit)

GEO 411 - Global Tectonics (3 credits)

### **B.S. in Geology - Environmental Emphasis**

#### **Year Three**

Fall Semester (16 credits):

General education course (3 credits)

GEO 311 - Structural Geology (4 credits)

GEO 320 - Geomorphology (4 credits) **OR** GEO 440 - Geohydrology (3 credits)

Physics sequence (5 credits)

Winter Semester (14 to 16 credits):

General education course (3 credits)

Geology elective (2 to 4 credits)

GEO 312 - Sedimentation-Stratigraphy (4 credits)

Physics sequence (5 credits)

Summer Field Course (3 to 6 credits)

#### **Year Four**

Fall Semester (12 to 15 credits)

GEO 320 - Geomorphology (4 credits) **OR** GEO 440 - Geohydrology (3 credits)

GEO 486 - Geology Reading Seminar (1 credit)

General education course (3 to 6 credits)

Geology elective (3 to 4 credits)

Winter Semester (13 credits)

General education course (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

Geology elective (3 credits)

Electives (6 credits)

GEO 485 - Geology Research and Writing Seminar (1 credit)

## **Bachelor of Science in Geology-Chemistry**

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

### **Requirements for a Geology-Chemistry Major**

Completion of a major in dual geology-chemistry requires the following.

#### **Degree Requirements**

Students must complete the general university degree requirements as identified in the general Academic Regulations section of the Grand Valley State University Graduate and Undergraduate Catalog.

#### **Geology Courses**

Requires 34 semester credit hours of geology courses with a minimum overall GPA of C (2.0).

Geology Issues courses cannot count toward the geology major. At least three semester credits.

GEO 111 - Exploring the Earth (4 credits)

GEO 112 - Earth History (4 credits)

GEO 175 - Research Tools for Geosciences (1 credit)

GEO 214 - Solid Earth Materials and Systems (4 credits)

GEO 220 - Earth Surface Materials and Systems (4 credits)

GEO 311 - Structural Geology (4 credits)

GEO 312 - Sedimentation-Stratigraphy (4 credits)

GEO 445 - Introduction to Geochemistry (3 credits)

GEO 485 - Geology Research and Writing Seminar (1 credit)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

GEO 486 - Geology Reading Seminar (1 credit)

GEO electives: At least one course at the 300- or 400-level

### **Chemistry Courses**

Requires 21 semester credit hours of chemistry courses with a minimum overall GPA of C (2.0).

CHM 115 - Principles of Chemistry I (4 credits)

CHM 116 - Principles of Chemistry II (5 credits)

CHM 221 - Survey of Analytical Chemistry (4 credits)

CHM 325 - Instrumental Analysis (4 credits)

CHM 351 - Introduction to Physical Chemistry (3 credits)

CHM 352 - Physical Chemistry Laboratory (1 credit)

### **Mathematics Courses**

Requires four semester credit hours.

MTH 201 - Calculus I (4 credits)

### **Physics Course**

Requires five semester credit hours.

PHY 230 - Principles of Physics I (5 credits)

### **Suggested Order of Coursework**

The CLAS Academic Advising Center has geology-chemistry curriculum guides for the major.

## **Earth Science Minor**

### **Requirements for a Minor in Earth Science**

An earth science minor for teacher certification requires a minimum overall GPA of 2.7 in the minor and a minimum of 21 credits, including the following courses (substitutions must be approved by the geology department chair):

GEO 111 - Exploring the Earth (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

GEO 112 - Earth History (4 credits)

GEO 203 - Weather and Climate for Pre-Service Teachers (3 credits)

GEO 220 - Earth Surface Materials and Systems (4 credits)

PHY 105 - Descriptive Astronomy (3 credits)

SCI 450 - Earth and Life Science in Secondary Education (3 credits)

## **Suggested Order of Coursework**

### **Year One**

Fall Semester:

GEO 111 - Exploring the Earth (4 credits)

PHY 105 - Descriptive Astronomy (3 credits)

Winter Semester:

GEO 112 - Earth History (4 credits)

GEO 203 - Weather and Climate for Pre-Service Teachers (3 credits)

### **Year Two**

Fall Semester:

GEO 220 - Earth Surface Materials and Systems (4 credits)

## **Geology Minor**

### **Requirements for a Minor in Geology**

Completion of a minor in geology requires 25 to 26 credits including the following:

GEO elective: One course at the 300- or 400-level (3 to 4 credits) Geology Issues courses (300-level) cannot count toward the geology minor.

GEO 111 - Exploring the Earth (4 credits)

GEO 112 - Earth History (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

GEO 175 - Research Tools for Geosciences (1 credit)

GEO 214 - Solid Earth Materials and Systems (4 credits)

GEO 220 - Earth Surface Materials and Systems (4 credits)

GEO 311 - Structural Geology (4 credits)

GEO 486 - Geology Reading Seminar (1 credit)

## Global Studies and Social Impact

For additional information about opportunities your college offers, please refer to the Brooks College of Interdisciplinary Studies section in this catalog.

**Website:** [gvsu.edu/ags](http://gvsu.edu/ags)

Deepening interconnectedness and globalization requires an interdisciplinary approach to the study of global and international issues. Global studies and social impact offers students the opportunity to develop the skills and knowledge needed for engaged global citizenship on the local and world stage. The global studies and social impact major allows students to critically explore interactions between states, societies, cultures, and the environment, and reflect on our individual and collective responses to the outcomes of these complex interactions. A particular emphasis of the program is on social transformation and social change to prepare students to be leaders in their communities and the world.

**Participating programs:** Area and global studies programs, including African and African American studies, East Asian studies, Latin American studies and Middle East studies

## Bachelor of Arts or Bachelor of Science in Global Studies and Social Impact

Global studies and social impact is an interdisciplinary major with a focus on understanding, through multiple perspectives, global issues and how they affect people in all areas of the world.

### Requirements for a Major in Global Studies

There are 39 credits required for the major, plus 12 credits for B.A. degree or plus nine credits for B.S. degree.

### Core Courses

Nine credits are required, including:

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

GSI 201 - (Dis)Order and (In)Justice: An Introduction to Global Studies (3 credits)

GSI 202 - History of Global Change and Social Transformation (3 credits)

GSI 495 - Global Studies and Social Impact (3 credits)

### **Area Studies Electives**

Twelve credits are required.

Choose two areas (AAA, EAS, LAS, MES) and take two courses from the list of courses available from each area. In the case of Meijer Honors College sequences, students need to take the entire four-course sequence to earn credit for that area. An asterisk (\*) designates experiential learning.

#### African and African American Studies (AAA)

AAA 300 - U.S. - Africa Relations (3 credits)

AAA 319 - African Politics (3 credits)

AAA 337 - Contemporary Black Literature (3 credits)

AAA 355 - History of Underground Railroad (3 credits)

GPY 351 - Geography of Africa (3 credits)

HST 335 - Africa Before 1870 (3 credits)

HST 336 - Africa After 1870 (3 credits)

#### East Asian Studies (EAS)

EAS 301 - Masterpieces of East Asian Literature (3 credits)

EAS 351 - Asian American Experiences (3 credits)

GPY 354 - Geography and Globalization of Asia (3 credits)

HNR 256/HNR 257 - East Asia and the World: Ideas, Inventions, and Power 2 (3 credits) **AND**

HNR 276/HNR 277 - East Asia and the World: Ideas, Inventions, and Power 4 (3 credits)

HST 240 - A History of East Asia to 1800 (3 credits)

HST 333 - Modern China (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

HST 342 - History of Buddhism and East Asian Religions (3 credits)

PHI 400 - Wisdom of the East: Advanced Topics in Asian Philosophy (3 credits)

PLS 283 - Chinese Politics and U.S.-China Relations (3 credits)

#### Latin American Studies (LAS)

FVP 376 - Latin American Cinema (3 credits)

GPY 352 - Geography of Latin America (3 credits)

HST 330 - Colonial Latin America (3 credits)

HST 331 - Modern Latin America (3 credits)

HST 334 - The Making of the Caribbean (3 credits)

HST 372/LAS 372 - From Slavery to Freedom (3 credits)

\*LAS 320 - Model Organization of American States (3 credits)

LAS 374/HST 374 - Revolution in the Americas (3 credits)

PLS 284 - Latin American Politics (3 credits)

#### Middle East Studies (MES)

ANT 350 - Archaeology of Mid-East (3 credits)

HNR 209/HNR 210 - The Middle East Beyond the Headlines 2 (3 credits) **AND** HNR 219/HNR 220 - The Middle East Beyond the Headlines 4 (3 credits)

HST 337 - The Age of Islamic Empire (3 credits)

HST 338 - Modern Middle East (3 credits)

HST 339 - Modern Iran (3 credits)

MES 350 - Islam: Scripture and Ritual (3 credits)

MES 370 - Contemporary Issues in the Middle East: The Model Arab League (3 credits)

PLS 320 - Comparative Politics of the Middle East (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Clusters**

Eighteen cluster credits are required.

Students choose two courses from each of the three clusters. No more than two courses from each discipline. GSI 490 may only be taken once for credit. An asterisk (\*) designates experiential learning.

### **Places, Movements, Encounters Cluster**

Courses in this cluster help students to think about how place and culture connect, and about how people and ideas move and shift in a global world. Students will learn how the fast changing, globalized world is constantly presenting new challenges and new kinds of encounters and opportunities.

AAA 302 - African Diaspora (3 credits)

COM 378 - Intercultural Communication (3 credits)

GPY 335 - Globalization and Development (3 credits)

GSI 490 - Internship\*

GSI 215/PLS 215 - Global Migration (3 credits)

GSI 491 - Practicum: Immigrants and Refugees in the Community (3 credits)

HTM 368 - Geotourism (3 credits)

LAS 373 - Latinos/as in West Michigan (3 credits)

INT 319/HST 319 - Human Traffic and Trafficking (3 credits)

INT 350 - The Immigrant Experience in the U.S. (3 credits)

MES 202 - Arab Americans (3 credits)

SOC 355 - Sociology of Work and Employment (3 credits)

### **Expressions and Identities Cluster**

Courses in this cluster address issues of individual and social identity in a global context. Students will learn to think theoretically and apply this knowledge to understandings of gender, race, ethnicity, class, spirituality and sexuality, and the construction of hybrid identities.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

AAA 351 - Perspectives on African American Males (3 credits)

ANT 340 - Culture and Environment (3 credits)

ANT 345 - Perspectives on Globalization (3 credits)

COM 372 - Global Communications (3 credits)

EAS 351 - Asian American Experiences (3 credits)

FVP 375 - World Cinema (3 credits)

GSI 490 - Internship\*

REL 335 - Sacred Words, Global Understanding (3 credits)

REL 300 - Religions in the World Today: Theories, Methods, and Issues (3 credits)

WGS 352/AAA 352 - Black Women's Culture and Communities (3 credits)

WRT 354 - Writing in the Global Context: Culture, Technology, and Language Practices (3 credits)

### **Systems and Actions Cluster**

Courses in this cluster focus on large-scale and global policies and structures within which people and ideas circulate. Students will learn to think about human agency within such structures, as well as how to critically evaluate how these structures enable and challenge social justice locally and globally.

AHS 330 - Health Care: A Global Perspective (3 credits)

BIO 319 - Global Agricultural Sustainability (3 credits)

ECO 365 - Comparative Economic Systems (3 credits)

GPY 412/ENS 412 - Global Climate and Environmental Change (3 credits)

GSI 290 - Changemakers! Introduction to Social Impact (3 credits)

GSI 490 - Internship\*

INT 342 - Food Matters (3 credits)\*

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

INT 400 - Global Visionary Leadership (3 credits) **OR** INT 402 - Feminist Visionary Thinkers (3 credits)

PLS 313 - International Organization (3 credits)

PLS 316 - Human Rights in International Politics (3 credits)

SOC 377 - Globalization: Structures and Movements (3 credits)

WGS 450 - Global Feminisms (3 credits)

## **B.A. or B.S. Degree**

This major offers both B.A. and B.S. degree options.

### **B.A. Degree Requirements**

Students who opt for the B.A. degree must gain fourth semester proficiency in a world language.

### **B.S. Degree Requirements**

To complete the B.S. degree, students must take:

STA 215 - Introductory Applied Statistics (3 credits)

One of the following research methods courses:

INT 301 - Interdisciplinary Research Methods (3 credits)

HST 290 - Research Methods in History (3 credits)

One of the following additional courses in methodology or statistics (cannot be the same methods course selected previously):

AHS 301 - Introduction to Health Care Research (3 credits)

COM 375 - Communication Research (3 credits)

HST 290 - Research Methods in History (3 credits)

INT 301 - Interdisciplinary Research Methods (3 credits)

PLS 300 - Political Analysis (3 credits)

STA 216 - Intermediate Applied Statistics (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

STA 301 - Questionnaire Design and Execution (3 credits)

STA 314 - Statistical Quality Methods (3 credits)

STA 318 - Statistical Computing (3 credits)

STA 340 - Statistics in the Media (3 credits)

STA 341 - Demographic Methods (3 credits)

WGS 395 - Women and Gender Studies Research Methods (3 credits)

### **Experiential Learning or Study Abroad**

Students are required to complete either an experiential learning course or study abroad. An experiential learning course takes the place of one cluster course. Study abroad course takes the place of one area studies course.

### **Suggested Order of Coursework for a Major in Global Studies**

#### **Year One**

Language 101

Language 102

GSI 201 - (Dis)Order and (In)Justice: An Introduction to Global Studies (3 credits)

GSI 202 - History of Global Change and Social Transformation (3 credits)

#### **Year Two**

Language 101

Language 102

AAA 300 - U.S. - Africa Relations (3 credits)

AAA 319 - African Politics (3 credits)

LAS 373 - Latinos/as in West Michigan (3 credits)

INT 350 - The Immigrant Experience in the U.S. (3 credits)

#### **Year Three**

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

FVP 375 - World Cinema (3 credits)

MES 370 - Contemporary Issues in the Middle East: The Model Arab League (3 credits)

PLS 311 - International Conflict and Conflict Resolution (3 credits)

WRT 354 - Writing in the Global Context: Culture, Technology, and Language Practices (3 credits)

## **Year Four**

HST 339 - Modern Iran (3 credits)

GSI 495 - Global Studies and Social Impact (3 credits)

WGS 450 - Global Feminisms (3 credits)

# **Graduate Education**

**Dean:** Collins; **Associate Dean:** King

**Leadership and Learning:** Chair: Shinsky; Professors: Armstrong, King, Mack, Sowa-Wojciakowski; Associate Professors: Alston, Busman, Chelbo, Cooper, Geisel, Hipp, Margulus, McCrea, Patterson, Schiller; Assistant Professors: Bultsma, DeFrance, Fahrenbruck, Gu, Diarrassouba, Smith, Stearns, Stolle, Storey, Worst; Instructors: Clay, Cleveland, Helzer, Hill, Gregels, Judge, Kalee, Kaletka, Kamps, Melin, Page, Remenap, Schultz, Shelton, Spencer, Starkweather. Joint Appointment: Coffey.

**Special Education, Foundations, and Technology:** Chair: P. Lancaster; Professors: Cross, Grant; Associate Professors: Abramson, D.Bair, Carson, S.Lancaster, Lubic, Mader, Miller, Fisher, Topper, S. Williams, Wilson; Assistant Professors: M.Bair, Clark, Hanks, Harris, Perhamus, Schelling, Subramony, O. Williams; Instructors; Barneveld, Helder, Koning, Stockton.

**Website:** [gvsu.edu/coe](http://gvsu.edu/coe)

## **Mission**

Teaching, leading, and learning in a democratic society.

## **Philosophy**

Believing that schools function as social and political entities as well as for the growth of individuals, the College of Education and Community Innovation prepares teachers and leaders a) to enhance the academic and personal potential of their students, and b) to evaluate the social

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

and ethical implications of educational policies and practices

## **Values**

The College of Education and Community Innovation values *expertise* to guide our practice, *equity* to guide our interactions, *liberal education* to guide our perspectives, and *social responsibility* to guide our commitment to democratic education. We value these ideals in our preparation of candidates, our development of faculty, and our relationships with the larger community we serve.

## **Graduate Studies in Education**

The College of Education and Community Innovation offers the Master of Education degree (M.Ed.), Michigan Provisional Certification, Michigan Professional Certification, School Counseling license and endorsement, programs leading to certificate renewals, certificate endorsements, special education approvals, and professional development.

The major function for the graduate program is to create opportunities for professional renewal and development. The graduate program attempts to increase knowledge and understanding of the learning process and the repertoire of teaching methods and skills.

## **Admission**

Graduate admission requires:

All students seeking degree, endorsement, approval, license or certificate change at the graduate level must be formally admitted to graduate study.

A maximum of six graduate credits earned prior to graduate admission may apply to degree requirements.

In addition to the requirements listed in the Admissions section of the catalog, applicants must have an undergraduate GPA of 3.0 or higher calculated on the last 60 credits of undergraduate work taken from a regionally accredited college or university. Applicants must submit an application, and three professional or academic recommendations on designated forms. Students are encouraged to identify their desired emphasis area with application submission.

Applicants with less than a 3.0 GPA calculated on the last 60 credits of undergraduate work may meet alternate criteria for admission, such as a prior master's degree from a regionally accredited institution, acceptable test scores on the GRE General Test, maintain a 3.0 GPA within the first six credit hours of graduate coursework, or a final appeal to the department chair with faculty support.

## **Academic Policies**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

All students seeking a degree, certification, additional endorsement, special education approval, school counseling license or a change in certification status must establish a planned program of professional study with a graduate advisor that specifies program objectives, competencies, and course requirements. Degree candidates must complete the degree within eight years from the first course used for the master's program. A maximum of nine credits may be transferred toward the degree from other institutions. A maximum of six credits earned under nondegree-seeking status may be applied to the degree. Applicants for degree, endorsement, or approval must maintain a 3.0 GPA. Endorsement, approval, and professional certification programs require that a least half the credits be earned at Grand Valley. Due to stringent requirements being set forth by the State of Michigan Department of Education, students pursuing initial certification, first or second renewal of their provisional certification, additional endorsement, school counseling license, professional or administrator certification are now being held to a higher standard. Students who have certain misdemeanors, multiple misdemeanors or a felony may be denied and/or not recommended for any level of certification by GVSU College of Education and Community Innovation and/or State of Michigan. If a student is recommended to the Michigan Department of Education for provisional certification, additional endorsement, school counseling license, professional or administrator certification, the conviction could have an adverse effect on being granted a certificate. If a certificate is granted, there is no guarantee of employability.

## **Internships**

Students who graduate from the Grand Valley State University undergraduate special education program may apply for a full-year paid teaching internship in special education. In addition to completing the required coursework, students must pass the Michigan Subject Area Test, and maintain a 3.0 GPA to receive the K-12 endorsement in learning disabilities. Interns may apply the credit hours generated from this internship to the learning disabilities master's degree program.

Because it is necessary to limit the numbers of students in this program and because paid teaching internship positions must be arranged in the public schools, students must be nominated by the Grand Valley faculty in order to be accepted as intern teachers. Students must pay tuition and fees for this.

## **Requirements for a Certificate**

### **Certification, endorsement, approval, and emphasis programs**

Programs are also available in the following areas:

Michigan Provisional Certification

Michigan Professional Certification

Early Childhood, Elementary, Middle Level, and Secondary Endorsement

Reading Endorsement: Elementary K-8, Secondary 6-12, Reading Specialist K-12

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

English as a Second Language: Elementary K-8, Secondary 6-12, and K-12

Library Media Endorsement: K-12

Special Education Endorsement K-12: Learning Disabilities, Emotional Impairment, and Cognitive Impairment

School Counseling: License and endorsement

Subject area majors and minors, usually at the undergraduate level

Special Education Approval: Directors and supervisors

### **Program Location**

Programs are offered at the L.V. Eberhard Center on Pew Grand Rapids Campus in Grand Rapids, MI.

## **Educational Specialist Degree in Leadership**

For additional information about opportunities your college offers, please refer to the College of Education and Community Innovation section in this catalog.

**Website:** [gvsu.edu/coe/grad](http://gvsu.edu/coe/grad)

### **Mission**

The educational leadership faculty prepares candidates as building and district leaders who are committed to the success of faculty and students P-12 through the engagement of relevant and rigorous experiences, intentional teaching, reflective practice, and authentic assessments which are aligned with the Educational Leadership Constituent Council (ELCC) standards.

### **Philosophy**

Believing that schools function as social and political entities as well as for the growth of individuals, the College of Education and Community Innovation prepares teachers and leaders a) to enhance the academic and personal potential of their students, and b) to evaluate the social and ethical implications of educational policies and practices.

### **Values**

Service to others: We value being relationally aware and respectful of our professional relationships while honoring differing perspectives of a collaborative, active working environment.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Scholarly research and professional learning: We value scholars who engage in critical thinking, intellectual curiosity, ethical behavior in decision making and lifelong learning as they produce scholarship and conduct research that inform the profession and can be applied in authentic P-12 settings.

Teaching: We provide access to a quality program that is student centered.

Leadership Development: We value all voices and diverse perspectives in leading with integrity and developing a growth mindset in all of our students to advocate for social justice.

We value reflective thinking and engaging in respectful discourse to challenge our thinking and enhance our practices.

We value faculty who are successful practitioners whose instruction is grounded in theory as well as delivered in authentic contexts.

## **Accreditation**

Nationally Recognized by the Specialty Program Association: Educational Leadership Constituent Council (ELCC) Michigan Department of Education.

**Minimum Number of Credit Hours for Graduation: 30**

## **Admission**

Admission to the educational specialist degree in leadership program requires the following:

A master's degree with at least a 3.0 GPA on a 4.0 scale.

Essay/personal statement indicating how this degree will support candidates' personal and career goals.

Three letters of recommendation. Two from a professional, addressing your leadership skills and success. One from an individual who can address your academic/scholarly capabilities.

Current resume must include the following:

Title of master's project or thesis, degrees received with dates, institutions, majors, and minors.

Listing of employment.

Description of leadership experience, dates, and location.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Presentations, publications, memberships, and professional development.

## **Graduate Outcomes**

Student success is measured using the Educational Leadership Constituent Council (ELCC) standards. These standards are applied throughout the program and within the final culminating "Theory into Practice" experience. Students demonstrate their success in the education specialist program through practitioner research, internship, and development of a professional portfolio demonstrating competence in national leadership standards.

## **Requirements**

### **Core Courses**

Requires 18 credits, including:

EDI 710 - Instructional Management and Supervision (3 credits)

EDL 700 - Educational Leadership and Change (3 credits)

EDL 705 - Organizational Behavior, Ethics and Decision-Making (3 credits)

EDL 715 - Data-Based Decision-Making and Technology (3 credits)

EDL 720 - Organizational and Community Relations (3 credits)

EDL 725 - Educational Law, Policy, and Practice (3 credits)

### **Educational Administration Cognate**

Requires nine credits, including:

EDL 740 - The Superintendency (3 credits)

EDL 742 - School Board Relations (3 credits)

EDL 744 - Educational Finance and Economic Issues (3 credits)

### **Culminating Experience**

This three-credit-hour culminating experience is likely to take the form of a practicum that will result in a portfolio, containing documents that address the standards and provide evidence of the understanding and ability to apply leadership concepts to practice.

EDL 770 - Leadership Theory into Practice (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Students must apply in advance for the culminating experience. Advisor approval is required. Application deadlines: May 15 for fall enrollment, September 15 for winter enrollment, and February 15 for spring/summer enrollment.

## **Graduate Certificate in Online/Blended Instruction and Assessment**

A certificate in online/blended instruction is available to GVSU College of Education and Community Innovation graduate-degree seeking students in good standing. The certificate consists of the following four-course sequence (12 credits):

EDT 626 - Assessment/Evaluation with Educational Technology (3 credits)

EDT 629 - Online Instructional Design/Development (3 credits)

EDT 635 - Instructional Systems Design (3 credits)

EDT 684 - Field Experience - Educational Technology (3 credits)

It is recommended that students take courses in the following order: EDT 635, EDT 629, EDT 684, and EDT 626. Students may not take courses concurrently.

Students must apply in advance for the field experience course. Advisor approval is required. Application deadlines (field experience): February 15 for spring/summer, May 15 for fall, September 15 for winter semester.

Interested students should contact their advisor or the graduate educational technology program director (email: [edtech@gvsu.edu](mailto:edtech@gvsu.edu)). This certificate is designed for K-12 classroom teachers who seek knowledge and expertise teaching in online or blended settings, faculty in higher education who seek knowledge and expertise teaching in online or hybrid settings, and corporate trainers or instructors interested in developing and implementing web-based, online instruction. Students must maintain a minimum grade of C and the cumulative GPA of 3.0 or higher for all four courses.

## **Graduate Programs in Education**

For additional information about opportunities your college offers, please refer to the College of Education and Community Innovation section in this catalog.

**Website:** [gvsu.edu/coe/grad](http://gvsu.edu/coe/grad)

### **Mission**

Teaching, leading, and learning in a democratic society.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Philosophy**

Believing that schools function as social and political entities as well as for the growth of individuals, the College of Education and Community Innovation prepares teachers and leaders a) to enhance the academic and personal potential of their students, and b) to evaluate the social and ethical implications of educational policies and practices.

## **Values**

The College of Education and Community Innovation values *expertise* to guide our practice, *equity* to guide our interactions, *liberal education* to guide our perspectives, and *social responsibility* to guide our commitment to democratic education. We value these ideals in our preparation of candidates, our development of faculty, and our relationships with the larger community we serve.

## **Graduate Studies in Education**

The College of Education and Community Innovation offers the Master of Education degree (M.Ed.), Michigan Standard Teaching Certification, School Counseling license and endorsement, programs leading to certificate renewals, certificate endorsements, special education approvals, and professional development.

The major function of the graduate program is to create opportunities for professional renewal and development. The graduate program attempts to increase knowledge and understanding of the learning process and the repertoire of teaching methods and skills.

## **Admission**

Admission to graduate study requires the following:

All students seeking degree, endorsement, approval, license, or certificate change at the graduate level must be formally admitted to graduate study.

A maximum of six graduate credits earned prior to graduate admission may apply to degree requirements.

In addition to the requirements listed in the Admissions section in this catalog, applicants must have an undergraduate GPA of 3.0 or higher calculated on the last 60 credits of undergraduate work taken from a regionally accredited college or university. Applicants must submit an application and three professional or academic recommendations on designated forms. Students are encouraged to identify their desired emphasis area with application submission.

Applicants with less than a 3.0 GPA calculated on the last 60 credits of undergraduate work may meet alternate criteria for admission, such as a prior master's degree from a regionally accredited institution, acceptable test scores on the GRE General Test, maintain a 3.0 GPA within the first six credit hours of graduate coursework, or a final appeal to the department chair with faculty support.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Alternate criteria do not apply to all graduate programs in the College of Education and Community Innovation.

The director of the Student Information and Services Center, based on faculty recommendations, will process admissions decisions.

### **Academic Policies**

All students seeking a degree, certification, additional endorsement, special education approval, school counseling license, or a change in certification status must establish a planned program of professional study with a graduate advisor that specifies program objectives, competencies, and course requirements. Degree candidates must complete the degree within eight years from the first course used for the master's program. A maximum of nine credits may be transferred toward the degree from other institutions. A maximum of six credits earned under nondegree-seeking status may be applied to the degree. Applicants for degree, endorsement, or approval must maintain a 3.0 GPA. Endorsement, approval, and professional certification programs require that at least half the credits be earned at Grand Valley. Due to stringent requirements being set forth by the State of Michigan Department of Education, students pursuing initial certification, renewal of their standard teaching certification, additional endorsement, school counseling license, and professional or administrator certification are now being held to a higher standard. Students who have certain misdemeanors, multiple misdemeanors, or a felony may be denied and/or not recommended for any level of certification by GVSU's College of Education and Community Innovation and/or the State of Michigan. If a student is recommended to the Michigan Department of Education for standard teaching certification, additional endorsement, school counseling license, professional or administrator certification, the conviction could have an adverse effect on being granted a certificate. If a certificate is granted, there is no guarantee of employability.

### **Responsible Conduct of Research**

Each College of Education and Community Innovation graduate student must complete Responsible Conduct of Research (RCR) training prior to completion of 50 percent of the graduate program or prior to engaging in any research activity.

Refer to The Graduate School section in this catalog for additional information.

### **Program Areas**

#### **Master of Education (M.Ed.)**

To obtain the M.Ed., students must successfully complete the university requirements for a graduate degree, the College of Education and Community Innovation's foundation requirements, and the requirements in one emphasis/focus area under a degree program (educational leadership, educational technology, higher education, instruction and curriculum, literacy studies, school counseling, and special education).

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Emphasis areas for the M.Ed. in higher education include adult and higher education and college student affairs leadership.

Emphasis areas for the M.Ed. in instruction and curriculum include early childhood education, educational differentiation, elementary education, and secondary level education.

Emphasis areas for the M.Ed. in educational leadership include educational leadership and special education administration.

Focus area for the M.Ed. in educational technology is educational technology integration.

Emphasis areas for the M.Ed. in literacy studies include reading/language arts.

Focus area for the M.Ed. in school counseling is school counseling.

Emphasis areas for the M.Ed. in special education include autism spectrum disorder, cognitive impairment, and learning disabilities.

### **Certification, Endorsement, Approval, and Emphasis Programs**

Programs are also available in the following areas:

Michigan standard teaching certification

Early childhood, elementary, and secondary endorsement

Reading endorsement: elementary K-8, secondary 6-12, reading specialist K-12

Special education endorsement K-12: autism spectrum disorder, learning disabilities, and cognitive impairment

School counseling: license and endorsement

Special education approval: directors and supervisors

Subject area majors and minors, usually at the undergraduate level.

Students may return to Grand Valley to obtain a postbaccalaureate endorsement to append to their teaching certificate by adding one or more content areas. Students may choose to add any endorsement for which Grand Valley has approval from the Michigan Department of Education (MDE). Students must meet all of the MDE requirements for an endorsement, which includes taking and passing all courses identified on the endorsement planned program (course substitutions will be permitted with prior departmental approval), meeting GVSU G.P.A. program requirements, taking and passing the associated subject area test for the endorsement

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

through the Michigan Test for Teacher Certification, and meeting any and all other requirements, which might include but not be limited to a criminal background check and providing other university transcripts.

Note: To be recommended to the Michigan Department of Education by Grand Valley to add a content area endorsement to an existing Michigan teaching certificate, the student must be certified at the appropriate level. Six credits of the planned program minor and 12 credits of the planned program major must be earned at Grand Valley. For a complete list of the content area endorsements that Grand Valley offers, visit [gvsu.edu/clasadvising/endorsements-87.htm](http://gvsu.edu/clasadvising/endorsements-87.htm).

## **Foundation Courses**

Foundations of education derive its methods from the humanities, social sciences, and a number of other academic disciplines. Its purpose is to understand, analyze, and critique education and schooling in light of their intent, effects, value orientations, and underlying assumptions.

Each candidate for the M.Ed. degree must complete six semester hours in foundation courses in the following areas: research and evaluation (EDF 660) and social foundations of education (EDF 671 or EDF 672).

## **Internships**

Students graduating from the Grand Valley State University undergraduate special education program may apply for a full-year paid teaching internship in special education. In addition to completing the required coursework, students must pass the Michigan Subject Area Test and maintain a 3.0 GPA to receive the K-12 endorsement in learning disabilities. Interns may apply the credit hours generated from this internship to the learning disabilities master's degree program.

Because it is necessary to limit the number of students in this program and because paid teaching internship positions must be arranged in the public schools, students must be nominated by Grand Valley faculty members to be accepted as intern teachers. Students must pay tuition and fees for this program.

## **Graduate Teacher Certification**

Candidates who already possess an approved baccalaureate degree may consider certification at either the undergraduate or graduate level. Because of the need for careful assessment in choosing the appropriate program, students should first contact the Student Information and Services Center to request background materials and register to attend one of the regularly scheduled information meetings. Candidates considering the graduate program must be able to undertake full-time study for approximately one calendar year. This program is offered partially online or fully online. See program advisor for program details.

## **Admission**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Minimum admission requirements for the graduate certification program include:

Submission of an official copy of student's passing SAT scores (administered March 2, 2016 or later) or alternative passing scores.

Completion of the baccalaureate degree from a regionally accredited institution at least one year prior to application with a GPA of 3.0 or higher for the final 60 semester credits.

Possession of completion of a teachable major with a GPA of 3.0 or higher. Secondary candidates must also possess or complete a teachable minor before final certification.

Successful completion of Michigan Subject Area Test in teachable major.

Documentation of 25 hours age-appropriate experience with children or youth.

Signed statement regarding criminal activity.

Completion of EDT 619 - Curricular Integration of Ed Technology (for elementary candidates only).

Admission to graduate studies.

Completion of application materials for graduate teacher certification program.

Completion (for elementary candidates) of PED 265 - Teaching Health in Elementary Schools and PED 266 - Move-Dance-Learn! PE and Dance for Elementary Education.

Note: Students seeking a major in world languages must pass the Oral Proficiency Interview (OPI) prior to their student teaching semester.

## **Exit Requirements**

Candidates will be eligible for Michigan Standard Teaching Certification after completion of the following:

Grades of B- or better in all GTC courses and positive recommendations in professional field courses.

G.P.A. of 3.0 in the major, minor, and professional requirements.

Passing scores on the Michigan Subject Area Tests (MTTC). Elementary candidates must pass the Elementary Test; if they also pass subject area tests in their approved major, these will also be added to their certificate. Secondary candidates must pass subject area tests in their major and minor.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

CPR (adult/child) instruction and first aid (standard or basic).

Updated criminal background information if any changes since original application for admission to the College of Education and Community Innovation; contact the GTC coordinator to confirm the change(s) are on file in the Student Information and Services Center.

## **Program Requirements for Graduate Teacher Certification - Secondary Education**

There are 27 credits required, detailed as follows.

Summer Semester:

EDI 635 - Development and Needs of Students (3 credits)

EDS 652 - Foundations of Special Education (3 credits)

Fall Semester:

EDI 638 - Facilitating School Environments (3 credits)

EDI 685 - Practicum/Graduate Field Experience (3 or 6 credits)

EDR 623 - Developmental Literacy for Adolescents (3 credits)

EDI 636 - Instruction in Middle and High Schools (3 credits)

Winter Semester:

EDI 685 - Practicum/Graduate Field Experience (3 or 6 credits)

EDT 627 - Technology Integration for Secondary Teachers (3 credits)

**PLUS** completion of 15 additional credits (EDI 637, EDI 639, EDF 660, either EDF 671 or EDF 672, and either EDI 693 or EDI 695) to fulfill M.Ed. degree requirements. See M.Ed. in Instruction and Curriculum - Secondary Education for details.

## **Program Requirements for Graduate Teacher Certification - Elementary Education**

There are 36 credits required, detailed as follows.

Summer Semester:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

EDI 631 - Teaching Science: K-8 (3 credits)

EDI 632 - Teaching Creative and Performing Arts (3 credits)

EDI 635 - Development and Needs of Students (3 credits)

EDI 633 - Teaching Social Studies and Diversity (3 credits)

EDR 622 - Developmental Literacy for Children (3 credits)

Fall Semester:

EDI 638 - Facilitating School Environments (3 credits)

EDI 685 - Practicum/Graduate Field Experience (3 or 6 credits)

EDI 630 - Teaching Mathematics: K-8 (3 credits)

EDR 627 - Literacy Strategies for Content Areas (3 credits)

Winter Semester:

EDI 685 - Practicum/Graduate Field Experience (3 or 6 credits)

EDS 652 - Foundations of Special Education (3 credits)

**PLUS** completion of 15 additional credits (EDI 637, EDI 639, EDF 660, either EDF 671 or EDF 672, and either EDI 693 or EDI 695) to fulfill M.Ed. degree requirements. See M.Ed. in instruction and curriculum - elementary education for details.

## **Master of Education in Educational Leadership - Educational Leadership Emphasis**

For additional information about opportunities your college offers, please refer to the College of Education and Community Innovation section in this catalog.

**Website:** [gvsu.edu/coe/grad](http://gvsu.edu/coe/grad)

### **Vision**

We prepare our educational leadership candidates to become top performing servant leaders who will positively impact teaching and learning through transformational leadership.

### **Mission**

The educational leadership faculty prepares candidates as building and district leaders who are committed to the success of faculty and students P-12 through the engagement of relevant and

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

rigorous experiences, intentional teaching, reflective practice, and authentic assessments which are aligned with the Educational Leadership Constituent Council (ELCC) standards.

### **Philosophy**

Believing that schools function as social and political entities as well as for the growth of individuals, the College of Education and Community Innovation prepares teachers and leaders a) to enhance the academic and personal potential of their students, and b) to evaluate the social and ethical implications of educational policies and practices.

### **Values**

We value being relationally aware and respectful of our professional relationships while honoring differing perspectives of a collaborative, active working environment (service to others).

We value scholars who engage in critical thinking, intellectual curiosity, ethical behavior in decision making and lifelong learning as they produce scholarship and conduct research that inform the profession and can be applied in authentic P-12 settings (scholarly research and professional learning).

We provide access to a quality program that is student centered (teaching).

We value all voices and diverse perspectives in leading with integrity and developing a growth mindset in all of our students to advocate for social justice (leadership development).

We value reflective thinking and engaging in respectful discourse to challenge our thinking and enhance our practices.

We value faculty who are successful practitioners whose instruction is grounded in theory as well as delivered in authentic contexts.

### **Accreditation**

Nationally Recognized by the Specialty Program Association: Educational Leadership Constituent Council (ELCC) Michigan Department of Education.

### **Program Location**

Program is offered at the DeVos Center on the Pew Grand Rapids Campus, located in downtown Grand Rapids, MI; the Detroit Center in downtown Detroit; and at the University Center in Traverse City, MI.

### **Requirements**

The M.Ed. degree in educational leadership requires a minimum of 33 credit hours. Each candidate for the M.Ed. degree in educational leadership must complete the following courses.

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

**Social Foundations of Education** (3 credits) Choose one:

EDF 671 - Educational Policy and Practice (3 credits)

EDF 672 - Social/Cultural Foundations of Education (3 credits)

**Research and Evaluation** (3 credits):

EDF 660 - Educational Inquiry and Evaluation (3 credits)

**Emphasis Area Courses** (18 credits):

EDL 665 - Educational Leadership (3 credits)

EDL 666 - Curriculum Leadership (3 credits)

EDL 668 - Personnel Administration (3 credits)

EDL 670 - School Law (3 credits)

EDL 677 - School and Community Relationships (3 credits)

**PLUS** one of the following:

EDL 667 - Elementary Supervision and Evaluation (3 credits)

EDL 671 - Secondary Supervision and Evaluation (3 credits)

**Practicum/Graduate Field Experience** (3 credits):

EDL 685 - Practicum/Graduate Field Experience (3 to 6 credits)

**Administrative Internship** (3 credits):

EDL 685 is a prerequisite.

EDL 687 - Administrative Internship (3 credits)

Students must apply in advance for each practicum course. Advisor approval is required. Application deadlines (practicum): February 15 for spring/summer, May 15 for fall, September 15 for winter semester.

**Capstone** (3 or 6 credits) Choose one:

EDF 660 is a prerequisite.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

EDL 693 - Master's Project (1 to 3 credits)

EDL 695 - Master's Thesis (1 to 6 credits)

Students should meet with their advisor midway through the program to decide on a Capstone and discuss plans for completion. Subject to department approval, Capstone courses may be taken in variable amounts from one to three credits (EDL 693) or one to six credits (EDL 695) and require continuous enrollment each semester until completed. Application deadlines (thesis/project): February 15 for spring/summer, May 15 for fall, September 15 for winter semester.

## **Master of Education in Educational Leadership - Special Education Administration Emphasis**

The special education administration program is known for its comprehensive approach to preparing individuals for the many facets of special education administration including special education law, finance, personnel administration, staff development, curriculum, and current issues. Students may choose to complete the approval/certificate program if they have previously completed a Master's degree program.

For additional information about opportunities your college offers, please refer to the College of Education and Community Innovation section in this catalog.

**Website:** [gvsu.edu/coe/grad](http://gvsu.edu/coe/grad)

### **Mission**

Teaching, leading and learning in a democratic society.

### **Philosophy**

Believing that schools function as social and political entities as well as for the growth of individuals, the College of Education and Community Innovation prepares teachers and leaders a) to enhance the academic and personal potential of their students, and b) to evaluate the social and ethical implications of educational policies and practices.

### **Values**

The College of Education and Community Innovation values expertise to guide our practice, equity to guide our interactions, liberal education to guide our perspectives, and social responsibility to guide our commitment to democratic education. We value these ideals in our preparation of candidates, our development of faculty, and our relationships with the larger community we serve.

### **Accreditation**

The programs are nationally recognized by the Specialty Program Association: Council for Exceptional Children (CEC).

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Program Location**

The programs are offered in DeVos Center on the Pew Grand Rapids Campus, located in downtown Grand Rapids, MI, and at the Wayne Regional Educational Services Agency, in Wayne, MI.

## **Requirements for the M.Ed. Degree in Educational Leadership - Emphasis in Special Education Administration**

The M.Ed. degree in educational leadership with an emphasis in special education administration requires a minimum of 45 credit hours. Candidates seeking a Master of Education (Ed.D.) degree in special education administration must complete the following.

### **Social Foundations Course** (3 credits) Choose one:

EDF 671 - Educational Policy and Practice (3 credits)

EDF 672 - Social/Cultural Foundations of Education (3 credits)

### **Research and Evaluation** (3 credits):

EDF 660 - Educational Inquiry and Evaluation (3 credits)

### **Emphasis Area Courses** (24 credits):

EDL 650 - Foundations of Special Education Administration (3 credits)

EDL 651 - Administration of Special Education Programs and Services (3 credits)

EDL 652 - Curriculum and Instruction Leadership in Special Education Administration (3 credits)

EDL 653 - Special Education Law (3 credits)

EDL 654 - Special Education Finance (3 credits)

EDL 668 - Personnel Administration (3 credits)

EDL 677 - School and Community Relationships (3 credits)

**PLUS** one of the following:

EDL 667 - Elementary Supervision and Evaluation (3 credits)

EDL 671 - Secondary Supervision and Evaluation (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

**Practicum/Graduate Field Experience** (12 credits):

EDL 685 - K-12 Principal Field Experience (3 credits)

EDL 685 - Special Education Supervisor (3 credits)

EDL 685 - Special Education Director (3 credits)

EDL 687 - Administrative Internship (3 credits)

Students must apply in advance for each practicum course. Advisor approval is required. Application deadlines (practicum): February 15 for spring/summer, May 15 for fall, September 15 for winter semester.

**Capstone** (3 or 6 credits) Choose one:

EDF 660 is prerequisite.

EDL 693 - Master's Project (1 to 3 credits)

EDL 695 - Master's Thesis (1 to 6 credits)

Students should meet with their advisor midway through their program to decide on a Capstone and discuss plans for completion. Subject to department approval, Capstone courses may be taken in variable amounts from one to three credits (EDL 693) or one to six credits (EDL 695) and require continuous enrollment each semester until completed. Application deadlines (thesis/project): February 15 for spring/summer, May 15 for fall, September 15 for winter semester.

**Requirements for the Special Education Supervisor and Director Approval and Administrator Certificate**

The special education supervisor and director approval and administrator certificate requires a minimum of 36 credit hours.

**Emphasis Area Courses** (24 credits):

EDL 650 - Foundations of Special Education Administration (3 credits)

EDL 651 - Administration of Special Education Programs and Services (3 credits)

EDL 652 - Curriculum and Instruction Leadership in Special Education Administration (3 credits)

EDL 653 - Special Education Law (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

EDL 654 - Special Education Finance (3 credits)

EDL 668 - Personnel Administration (3 credits)

EDL 677 - School and Community Relationships (3 credits)

Choose one (3 credits):

EDL 667 - Elementary Supervision and Evaluation (3 credits)

EDL 671 - Secondary Supervision and Evaluation (3 credits)

**Practicum/Graduate Field Experience** (12 credits):

EDL 685 - K-12 Principal Field Experience (3 credits)

EDL 685 - Special Education Supervisor (3 credits)

EDL 685 - Special Education Director (3 credits)

EDL 687 - Administrative Internship (3 credits)

Students must apply in advance for each practicum course. Advisor approval is required. Application deadlines (practicum): February 15 for spring/summer, May 15 for fall, September 15 for winter semester.

## **Master of Education in Educational Technology**

This program prepares educators at all levels to integrate technology into classroom settings. Program content includes the educational application of technology, including computers and the Internet, for a variety of professional and instructional purposes. Courses concentrate on pedagogical issues, curriculum integration, software and website evaluation, acquisition and use of instructional materials and media, social and ethical issues for technology use in K-12 settings, school and classroom adoption of technology, and Web-based and online instructional development.

Note: Students must take a self-assessment before registering for any courses that lead toward a M.Ed. in educational technology integration. The technology self-assessment is designed to ensure that students who enroll in graduate educational technology courses have the knowledge and skill required to be successful in these classes.

**Website:** [gvsu.edu/coe/grad](http://gvsu.edu/coe/grad)

### **Mission**

Teaching, leading, and learning in a democratic society.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Philosophy**

Believing that schools function as social and political entities as well as for the growth of individuals, the College of Education and Community Innovation prepares teachers, and leaders a) to enhance the academic and personal potential of their students, and b) to evaluate the social and ethical implications of educational policies and practices.

## **Values**

The College of Education and Community Innovation values *expertise* to guide our practice, *equity* to guide our interactions, *liberal education* to guide our perspectives, and *social responsibility* to guide our commitment to democratic education. We value these ideals in our preparation of candidates, our development of faculty, and our relationships with the larger community we serve.

## **Career Goals**

Educational technology integration is designed for educators and leaders who wish to integrate technology into teaching and learning, coordinate technology, manage technological resources, work in local or regional media centers, or explore the benefits of technology for instruction.

## **Program Objectives**

Students who complete the program should be able to

- a. use technology in their teaching and professional life;
- b. collaborate with others;
- c. select appropriate technology-based resources for instructional purposes;
- d. use technology for their own professional development;
- e. act as instructional leaders in their educational settings; and
- f. understand the social, ethical, and human issues in the area of educational technology.

The College of Education and Community Innovation offers graduate level courses online as part of the educational technology integration program. The courses are offered online using BlackBoard, a Web-based learning environment.

## **Program Location**

The program is offered at the DeVos Center on the Pew Grand Rapids Campus, located in downtown Grand Rapids, MI

## **Requirements for the M.Ed. in Educational Technology**

The M.Ed. degree in educational technology requires a minimum of 33 credit hours. Each candidate for the M.Ed. degree must complete the following:

**Social Foundations of Education** (3 credits) Choose one:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

EDF 672 - Social/Cultural Foundations of Education (3 credits)

EDF 671 - Educational Policy and Practice (3 credits)

**Research and Evaluation** (3 credits):

EDF 660 - Educational Inquiry and Evaluation (3 credits)

**Emphasis Area Courses** (21 credits):

EDT 619 - Curricular Integration of Ed Technology (3 credits)

EDT 620 - Evaluating and Applying Instructional Media (3 credits)

EDT 621 - Topics in Educational Technologies (3 credits)

EDT 626 - Assessment/Evaluation with Educational Technology (3 credits)

EDT 629 - Online Instructional Design/Development (3 credits)

EDT 634 - Planning/Managing Educational Technology (3 credits)

EDT 635 - Instructional Systems Design (3 credits)

**Elective Course** (3 credits):

Candidates for the M.Ed. degree who do not have a teaching certificate must take a three-credit elective.

**Practicum/Graduate Field Experience** (3 credits) required for certified teachers only:

EDT 685 - Practicum/Graduate Field Experience (3 credits)

Students must apply in advance for each practicum course. Advisor approval is required. Application deadlines (practicum): February 15 for spring/summer, May 15 for fall, September 15 for winter semester.

**Capstone** (3 or 6 credits) Choose one:

EDF 660 is prerequisite.

EDT 693 - Master's Project (1 to 3 credits)

EDT 695 - Master's Thesis (1 to 6 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Students should meet with their advisor midway through their program to decide on a Capstone and discuss plans for completion. Subject to department approval, Capstone courses may be taken in variable amounts from one to three credits (EDT 693) or one to six credits (EDT 695) and require continuous enrollment each semester until completed.

Application deadlines (thesis/project): February 15 for spring/summer, May 15 for fall, September 15 for winter semester.

## **Master of Education in Higher Education - Adult and Higher Education Emphasis**

For additional information about opportunities your college offers, please refer to the College of Education and Community Innovation section in this catalog.

**Website:** [gvsu.edu/coe/grad](http://gvsu.edu/coe/grad)

### **Mission**

Teaching, leading, and learning in a democratic society.

### **Philosophy**

Believing that schools function as social and political entities, as well as for the growth of individuals, the College of Education and Community Innovation prepares teachers and leaders a) to enhance the academic and personal potential of their students, and b) to evaluate the social and ethical implications of educational policies and practices.

### **Values**

The College of Education and Community Innovation values *expertise* to guide our practice, *equity* to guide our interactions, *liberal education* to guide our perspectives, and *social responsibility* to guide our commitment to democratic education. We value these ideals in our preparation of candidates, our development of faculty, and our relationships with the larger community we serve.

The Adult and Higher Education (AHE) curriculum is designed for students interested in developing competencies for working with adult and higher education students. This curriculum also offers an opportunity for administrative leadership development for those interested in working in institutions of higher education in a variety of student affairs functional areas such as admissions, student orientation, residence life, student life, academic advising, recreation and wellness, financial aid, multicultural affairs, career services, international affairs, and judicial affairs.

### **Minimum Number of Hours in Program**

The M.Ed. degree in higher education with an emphasis in adult and higher education requires a

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

minimum of 36 credit hours. Students may enroll part-time and start in the fall, winter, or spring/summer semester.

### **Program Location**

The program is offered at DeVos Center, on the Pew Grand Rapids Campus, located in downtown Grand Rapids, MI, as well as on the Allendale Campus.

### **Requirements for M.Ed. in Adult and Higher Education**

**Social Foundations of Education** (3 credits) Choose one:

EDF 671 - Educational Policy and Practice (3 credits)

EDF 672 - Social/Cultural Foundations of Education (3 credits)

**Research and Evaluation** (3 credits):

EDF 660 - Educational Inquiry and Evaluation (3 credits)

**Emphasis Area Requirements** (21 credits):

EDH 648 - The Adult Learner (3 credits)

EDH 650 - Materials and Methods for Adult and Continuing Education (3 credits)

EDH 651 - Higher Education and Student Affairs Functions (3 credits)

EDH 652 - The American College Student (3 credits)

EDH 656 - Organization and Administration in Higher Education (3 credits)

EDH 657 - The Community College (3 credits)

EDH 658 - Critical Issues in Higher Education (3 credits)

**Elective Courses** (3 or 6 credits) Advisor approval required:

Elective (3 credits)

Elective (3 credits)

**Capstone** (Choose one):

EDH 693 - Master's Project (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

## EDH 695 - Master's Thesis (1 to 6 credits)

Students should meet with their advisor midway through their program to decide on their Capstone and discuss plans for completion. Subject to department approval, Capstone courses may be taken in variable amounts from one to three credits (EDH 693) or one to six credits (EDH 695) and require continuous enrollment each semester until completed.

Application deadlines (thesis/project): February 15 for spring/summer, May 15 for fall, September 15 for winter semester.

## Master of Education in Higher Education - College Student Affairs Leadership Emphasis

For additional information about opportunities your college offers, please refer to the College of Education and Community Innovation section in this catalog.

**Website:** [gvsu.edu/coe/grad](http://gvsu.edu/coe/grad)

### Mission

Teaching, leading, and learning in a democratic society.

### Philosophy

Believing that schools function as social and political entities as well as for the growth of individuals, the College of Education and Community Innovation prepares teachers and leaders a) to enhance the academic and personal potential of their students, and b) to evaluate the social and ethical implications of educational policies and practices.

### Values

The College of Education and Community Innovation values *expertise* to guide our practice, *equity* to guide our interactions, *liberal education* to guide our perspectives, and *social responsibility* to guide our commitment to democratic education. We value these ideals in our preparation of candidates, our development of faculty, and our relationships with the larger community we serve.

The CSAL curriculum prepares students to become leaders and administrators in institutions of higher education in a variety of student affairs functional areas such as admissions, student orientation, residence life, student life, academic advising, recreation and wellness, financial aid, multicultural affairs, career services, international affairs, and judicial affairs.

### Admission and Minimum Number of Hours in Program

The M.Ed. degree in higher education with an emphasis in college student affairs leadership requires a minimum of 42 credit hours. This is a cohort-based emphasis in which students enroll as full-time students beginning in the fall semester.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Program Location**

The program is offered at DeVos Center on the Pew Grand Rapids Campus, located in downtown Grand Rapids, MI, as well as on Allendale Campus.

## **Requirements for M.Ed. in College Student Affairs Leadership**

Each candidate for the M.Ed. degree with CSAL emphasis must complete the following.

### **Social Foundations of Education** (3 credits) Choose one:

EDF 671 - Educational Policy and Practice (3 credits)

EDF 672 - Social/Cultural Foundations of Education (3 credits)

### **Research and Evaluation** (3 credits):

EDF 660 - Educational Inquiry and Evaluation (3 credits)

### **Emphasis Area Requirements** (18 credits):

EDH 647 - Theories of College Student Development (3 credits)

EDH 651 - Higher Education and Student Affairs Functions (3 credits)

EDH 652 - The American College Student (3 credits)

EDH 653 - Administration of Student Affairs Programs (3 credits)

EDH 654 - Student Affairs Administrators and the Law (3 credits)

EDH 655 - Intervention Strategies for Student Development (3 credits)

EDH 685 - Practicum/Graduate Field Experience in Higher Education I (3 credits)

EDH 686 - CSAL Practicum/Graduate Field Experience II (3 credits)

### **Elective Courses** (6 or 9 credits) Advisor approval required:

Elective (3 credits)

Elective (3 credits)

Elective (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

**Practicum** (6 credits):

EDH 685 - Practicum/Graduate Field Experience in Higher Education I (3 credits)

EDH 686 - CSAL Practicum/Graduate Field Experience II (3 credits)

Students must apply in advance for each practicum course. Advisor approval is required. Application deadlines (practicum): February 15 for spring/summer, May 15 for fall, September 15 for winter semester. Capstone (prerequisite: EDF 660), choose one (3 or 6 credits):

EDH 693 - Master's Project (3 credits)

EDH 695 - Master's Thesis (1 to 6 credits)

Students should meet with their advisor midway through their program to decide on a Capstone and discuss plans for completion. Subject to department approval, Capstone courses may be taken in variable amounts from one to three credits (EDH 693) or one to six credits (EDH 695) and require continuous enrollment each semester until completed. Application deadlines (thesis/project): February 15 for spring/summer, May 15 for fall, September 15 for winter semester.

## **Master of Education in Instruction and Curriculum - Early Childhood Education Emphasis**

For additional information about opportunities your college offers, please refer to the College of Education and Community Innovation section in this catalog.

**Website:** [gvsu.edu/coe/grad](http://gvsu.edu/coe/grad)

### **Mission**

Teaching, leading, and learning in a democratic society.

### **Philosophy**

Believing that schools function as social and political entities as well as for the growth of individuals, the College of Education and Community Innovation prepares teachers and leaders a) to enhance the academic and personal potential of their students, and b) to evaluate the social and ethical implications of educational policies and practices.

### **Values**

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Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

This program prepares teachers, supervisors, and directors in preschools, day care centers, child development centers, Head Start programs, and kindergartens, as well as researchers and program specialists in the field for general and high-risk students.

### **Accreditation**

Nationally recognized by Specialty Program Association: National Association for the Education of Young Children (NAEYC) Michigan Department of Education Approved.

### **Minimum Number of Hours in Program**

The M.Ed. degree in instruction and curriculum with an emphasis in early childhood education requires a minimum of 33 credit hours.

### **Program Location**

The program is offered at the DeVos Center, Pew Grand Rapids Campus, located in downtown Grand Rapids, MI.

### **Requirements for M.Ed. in Early Childhood Education**

**Social Foundations of Education** (3 credits) Choose one:

EDF 671 - Educational Policy and Practice (3 credits)

EDF 672 - Social/Cultural Foundations of Education (3 credits)

**Research and Evaluation** (3 credits):

EDF 660 - Educational Inquiry and Evaluation (3 credits)

**Emphasis Area Courses** (21 credits):

EDI 610 - Advanced Studies in Child Development Ages 0-8 (3 credits)

EDI 611 - Assessment of the Young School Child (3 credits)

EDI 612 - Curriculum Development for Early Childhood Education (3 credits)

EDI 613 - Administration and Supervision of Early Childhood Education (3 credits)

EDI 614 - Infant and Toddler Development and Curriculum (3 credits)

EDS 646 - Family and Community Collaboration in Early Childhood Education (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

EDS 647 - Serving Young Children with Diverse Needs (3 credits)

**Practicum/Graduate Field Experience** (3 credits) Choose one:

EDI 685- Early Childhood Education Practicum (3 credits)

EDS 685 - Early Childhood Developmental Delay Practicum (3 credits)

Students must apply in advance for each practicum course. Advisor approval is required. Application deadlines (practicum): February 15 for spring/summer, May 15 for fall, September 15 for winter semester.

**Capstone** (3 or 6 credits) Choose one:

EDF 660 is prerequisite.

EDI 693 - Master's Project (1 to 3 credits)

EDI 695 - Master's Thesis (1 to 6 credits)

Students should meet with their advisor midway through their program to decide on a Capstone and discuss plans for completion. Subject to department approval, Capstone courses may be taken in variable amounts from one to three credits (EDI 693) or one to six credits (EDI 695) and require continuous enrollment each semester until completed.

Application deadlines (thesis/project): February 15 for spring/summer, May 15 for fall, September 15 for winter semester.

## **Requirements for Endorsement in Early Childhood Education**

Students desiring only the early childhood endorsement (ZS), must complete the following program requirements for a total of 27 credit hours.

**Early Childhood Education Courses** (21 credits):

EDI 610 - Advanced Studies in Child Development Ages 0-8 (3 credits)

EDI 611 - Assessment of the Young School Child (3 credits)

EDI 612 - Curriculum Development for Early Childhood Education (3 credits)

EDI 613 - Administration and Supervision of Early Childhood Education (3 credits)

EDI 614 - Infant and Toddler Development and Curriculum (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

EDS 646 - Family and Community Collaboration in Early Childhood Education (3 credits)

EDS 647 - Serving Young Children with Diverse Needs (3 credits)

**Practicum/Graduate Field Experience (6 credits):**

EDI 685 - Practicum/Graduate Field Experience (3 or 6 credits)

EDS 685 - Practicum/Graduate Field Experience (3 or 6 credits)

Students must apply in advance for each practicum course. Advisor approval is required. Application deadlines (practicum): February 15 for spring/summer, May 15 for fall, September 15 for winter semester.

Notes: Candidate adding new endorsement must pass the Michigan Subject Area Test and maintain a 3.0 GPA.

**Educational Setting Appropriate to ZS Endorsement**

A teacher who has earned an early childhood prekindergarten general and special education (ZS) endorsement is qualified to teach in any prekindergarten general or special education program. The ZS endorsed teacher will be able to teach in general education early childhood classrooms, inclusive early childhood classrooms, and in early childhood special education programs. The ZS endorsed teacher who also holds an elementary certificate is authorized to teach in all elementary designated settings per the elementary certificate. The ZS endorsed teacher who holds a secondary certification with a categorical special education endorsement is authorized to teach in special education settings authorized by the categorical special education endorsement, and not in any general education elementary setting outside the categorical special education endorsement.

The ZS endorsed teacher has specialized training in early childhood, which is defined as birth through age eight. However, the ZS endorsement is not considered an initial categorical special education endorsement because the standards stipulated in the Michigan Administrative Rules for Special Education 340.1781 and 340.1782 are not met. Additionally, it does not qualify the ZS endorsed teacher to teach as the special education teacher of record beyond prekindergarten without a categorical K-12 special education endorsement.

**Master of Education in Instruction and Curriculum -  
Educational Differentiation Emphasis**

For additional information about opportunities your college offers, please refer to the College of Education and Community Innovation section in this catalog.

**Website:** [gvsu.edu/coe/grad](http://gvsu.edu/coe/grad)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

**Mission** - Teaching, leading, and learning in a democratic society.

**Philosophy** - Believing that schools function as social and political entities as well as for the growth of individuals, the College of Education and Community Innovation prepares teachers and leaders a) to enhance the academic and personal potential of their students, and b) to evaluate the social and ethical implications of educational policies and practices.

**Values** - The College of Education and Community Innovation values *expertise* to guide our practice, *equity* to guide our interactions, *liberal education* to guide our perspectives, and *social responsibility* to guide our commitment to democratic education. We value these ideals in our preparation of candidates, our development of faculty, and our relationships with the larger community we serve.

This program prepares classroom teachers and specialists to understand and meet the educational needs of students with exceptional abilities across the learning continuum within the mixed-ability classroom. The program focuses on assessment, methodology, materials, curriculum, and administration.

### **Minimum Number of Hours in Program**

The M.Ed. degree in instruction and curriculum with an emphasis in educational differentiation requires a minimum of 33 credit hours.

### **Program Location**

DeVos Center, Pew Grand Rapids Campus, located in downtown Grand Rapids, MI

## **Requirements for M.Ed. in Educational Differentiation**

**Social Foundations of Education** (3 credits) Choose one:

EDF 671 - Educational Policy and Practice (3 credits)

EDF 672 - Social/Cultural Foundations of Education (3 credits)

**Research and Evaluation** (3 credits):

EDF 660 - Educational Inquiry and Evaluation (3 credits)

**Core Courses** (9 credits):

EDI 639 - Curriculum Development (3 credits)

EDI 638 - Facilitating School Environments (3 credits)

EDI 637 - Assessment: K-12 Models and Practices (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

**Emphasis Area Courses** (9 credits) Choose 3 out of 4:

EDS 652 - Foundations of Special Education (3 credits)

EDI 640 - Fundamentals of Talent Development (3 credits)

EDI 641 - Teaching for Talent Development (3 credits)

EDS 625 - Inclusive Practices (3 credits)

**Elective** (3 credits) Choose one:

Elective Credits: 3

**Practicum/Graduate Field Experience** (3 credits):

EDI 685 - Educational Differentiation Field Experience Credits: 3

Students must apply in advance for each practicum course. Advisor approval is required.

Application deadlines (practicum): February 15 for spring/summer, May 15 for fall, September 15 for winter semester.

**Capstone (prerequisite: EDF 660)** (3 or 6 credits) Choose one:

EDI 693 - Master's Project (1 to 3 credits)

EDI 695 - Master's Thesis (1 to 6 credits)

Students should meet with their advisor midway through their program to decide on a capstone and discuss plans for completion. Subject to department approval, capstone courses may be taken in variable amounts from one to three credits (EDI 693) or one to six credits (EDI 695) and require continuous enrollment each semester until completed.

Application deadlines (thesis/project): February 15 for spring/summer, May 15 for fall, September 15 for winter semester.

## **Master of Education in Instruction and Curriculum - Elementary Education Emphasis**

For additional information about opportunities your college offers, please refer to the College of Education and Community Innovation section in this catalog.

**Website:** [gvsu.edu/coe/grad](http://gvsu.edu/coe/grad)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

**Mission**

Teaching, leading, and learning in a democratic society.

**Philosophy**

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**Values**

The College of Education and Community Innovation values *expertise* to guide our practice, *equity* to guide our interactions, *liberal education* to guide our perspectives, and *social responsibility* to guide our commitment to democratic education. We value these ideals in our preparation of candidates, our development of faculty, and our relationships with the larger community we serve.

This program helps teachers continue their professional growth and advance in competence in their work in elementary school classrooms. The program may be used to develop an academic specialization of work with elementary school children or to explore a field of specialization for present or future professional goals.

**Accreditation**

Nationally Recognized by Specialty Program Association: Association for Childhood Education International (ACEI) Michigan Department of Education approved.

**Minimum Number of Hours in Program**

The M.Ed. degree in instruction and curriculum with an emphasis in elementary education requires a minimum of 33 credit hours.

**Program Location**

The program is offered at DeVos Center, Pew Grand Rapids Campus, located in downtown Grand Rapids, MI.

**Requirements for M.Ed. in Elementary Education**

Each candidate for the M.Ed. degree must complete the following requirements.

**Social Foundations of Education (3 credits) Choose one:**

EDF 671 - Educational Policy and Practice (3 credits)

EDF 672 - Social/Cultural Foundations of Education (3 credits)

**Research and Evaluation (3 credits):**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

EDF 660 - Educational Inquiry and Evaluation (3 credits)

**Core Courses** (9 credits):

EDI 639 - Curriculum Development (3 credits)

EDI 637 - Assessment: K-12 Models and Practices (3 credits)

EDI 638 - Facilitating School Environments (3 credits)

**Emphasis Area Courses** (12 credits):

EDI 630 - Teaching Mathematics: K-8 (3 credits)

EDI 631 - Teaching Science: K-8 (3 credits)

EDI 633 - Teaching Social Studies and Diversity (3 credits)

Choose one:

EDR 626 - Field-based Literacy Assessment for Learning (3 credits)

EDR 628 - Literacy Instruction Across Disciplines (PK-6) (3 credits)

**Practicum/Graduate Field Experience** (3 credits):

EDI 685 - Elementary Education Field Experience Credits: 3

Students must apply in advance for each practicum course. Advisor approval is required. Application deadlines (practicum): February 15 for spring/summer, May 15 for fall, September 15 for winter semester.

**Capstone** (3 or 6 credits) Choose one:

EDF 660 is prerequisite.

EDI 693 - Master's Project (1 to 3 credits)

EDI 695 - Master's Thesis (1 to 6 credits)

Students should meet with their advisor midway through their program to decide on a Capstone and discuss plans for completion. Subject to department approval, Capstone courses may be taken in variable amounts from one to three credits (EDI 693) or one to six credits (EDI 695) and require continuous enrollment each semester until completed. Application deadlines

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

(thesis/project): February 15 for spring/summer, May 15 for fall, September 15 for winter semester.

## **Requirements for Initial Elementary Certification (Graduate Teacher Certification)**

This program is for postbaccalaureate candidates who do not hold a teaching certificate and wish to pursue elementary education certification. Initial elementary certification candidates must first be admitted to graduate teacher certification, then complete a minimum of 36 credit hours. See Graduate Teacher Certification section in this catalog for details.

## **Elementary Endorsement for Students Already Certified**

Students already certified and seeking an additional Michigan Elementary Endorsement must have Michigan secondary certification; then complete a minimum of 30 credit hours.

### **Reading Methodology (6 credits) Choose two:**

EDR 621 - Foundations of Literacy (3 credits)

EDR 626 - Field-based Literacy Assessment for Learning (3 credits)

EDR 628 - Literacy Instruction Across Disciplines (PK-6) (3 credits)

### **Mathematics (3 credits):**

EDI 630 - Teaching Mathematics: K-8 (3 credits)

### **Fine and Performing Arts and Movement (3 credits):**

EDI 632 - Teaching Creative and Performing Arts (3 credits)

### **Science (3 credits):**

EDI 631 - Teaching Science: K-8 (3 credits)

### **Social Studies (3 credits):**

EDI 633 - Teaching Social Studies and Diversity (3 credits)

### **Computer and Instruction (3 credits):**

EDT 619 - Curricular Integration of Ed Technology (3 credits)

### **Practicum/Graduate Field Experience (6 credits):**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

EDI 685 - Practicum/Graduate Field Experience (3 or 6 credits)

Students must apply in advance for each practicum course. Advisor approval is required. Application deadlines (practicum): February 15 for spring/summer, May 15 for fall, September 15 for winter semester. Candidates must receive a positive recommendation, maintain a 3.0 GPA, and pass the Michigan Elementary Test.

## **Master of Education in Instruction and Curriculum - Secondary Level Education Emphasis**

For additional information about opportunities your college offers, please refer to the College of Education and Community Innovation section in this catalog.

**Website:** [gvsu.edu/coe/grad](http://gvsu.edu/coe/grad)

### **Mission**

Teaching, leading, and learning in a democratic society.

### **Philosophy**

Believing that schools function as social and political entities as well as for the growth of individuals, the College of Education and Community Innovation prepares teachers and leaders a) to enhance the academic and personal potential of their students, and b) to evaluate the social and ethical implications of educational policies and practices.

### **Values**

The College of Education and Community Innovation values *expertise* to guide our practice, *equity* to guide our interactions, *liberal education* to guide our perspectives, and *social responsibility* to guide our commitment to democratic education. We value these ideals in our preparation of candidates, our development of faculty, and our relationships with the larger community we serve.

This program is designed for teachers who wish to develop their skills and competencies in teaching secondary school students.

### **Minimum Number of Hours in Program**

The M.Ed. degree in instruction and curriculum with an emphasis in secondary level education requires a minimum of 33 credit hours.

### **Program Location**

The program is offered in DeVos Center, Pew Grand Rapids Campus, located in downtown Grand Rapids, MI.

### **Requirements for M.Ed. in Secondary Level Education**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Each candidate for the M.Ed. degree must complete the following requirements.

**Social Foundations of Education** (3 credits) Choose one:

EDF 671 - Educational Policy and Practice (3 credits)

EDF 672 - Social/Cultural Foundations of Education (3 credits)

**Research and Evaluation** (3 credits):

EDF 660 - Educational Inquiry and Evaluation (3 credits)

**Core Courses** (9 credits):

EDI 637 - Assessment: K-12 Models and Practices (3 credits)

EDI 638 - Facilitating School Environments (3 credits)

EDI 639 - Curriculum Development (3 credits)

**Emphasis Area** (9 credits):

EDI 635 - Development and Needs of Students (3 credits)

EDI 636 - Instruction in Middle and High Schools (3 credits)

**AND** choose one:

EDR 623 - Developmental Literacy for Adolescents (3 credits)

EDR 625 - Secondary Literacy: Learners, Text, and the Environment (3 credits)

**Elective Course** (3 credits):

Elective (3 credits)

**Practicum/Graduate Field Experience** (3 credits):

EDI 685 - Secondary Education Field Experience (3 credits)

Students must apply in advance for each practicum course. Advisor approval is required.  
Application deadlines (practicum): February 15 for spring/summer, May 15 for fall, September 15 for winter semester.

**Capstone** (3 or 6 credits) Choose one:

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

EDF 660 is prerequisite.

EDI 693 - Master's Project (1 to 3 credits)

EDI 695 - Master's Thesis (1 to 6 credits)

Students should meet with their advisor midway through their program to decide on a Capstone and discuss plans for completion. Subject to department approval, Capstone courses may be taken in variable amounts from one to three credits (EDI 693) or one to six credits (EDI 695) and require continuous enrollment each semester until completed.

Application deadlines (thesis/project): February 15 for spring/summer, May 15 for fall, September 15 for winter semester.

### **Requirements for Initial Secondary Certification (Graduate Teacher Certification)**

This program is for postbaccalaureate candidates who do not have a teaching certificate and want to pursue secondary certification. Initial secondary certification candidates must first be admitted to graduate teacher certification, then complete a minimum of 27 credit hours. See Graduate Teacher Certification section of the catalog for details.

### **Secondary Level Endorsement for Students Already Certified**

Students already certified and seeking an additional secondary level endorsement must have Michigan elementary certification; have or complete a secondary teachable major or minor, and must complete a minimum of 24 credit hours.

#### **Reading Methodology (3 credits):**

EDR 623 - Developmental Literacy for Adolescents (3 credits)

#### **Computer and Instruction (3 credits):**

EDT 619 - Curricular Integration of Ed Technology (3 credits)

#### **Curriculum and Instruction (9 credits):**

EDI 636 - Instruction in Middle and High Schools (3 credits)

EDI 639 - Curriculum Development (3 credits)

**AND** choose one:

EDI 637 - Assessment: K-12 Models and Practices (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

EDS 625 - Inclusive Practices (3 credits)

**Student Development and Learning** (3 credits):

EDI 635 - Development and Needs of Students (3 credits)

**Practicum/Graduate Field Experience** (6 credits)

EDI 685 - Secondary Education Field Experience (6 credits)

Students must apply in advance for each practicum course. Advisor approval is required. Application deadlines (practicum): February 15 for spring/summer, May 15 for fall, September 15 for winter semester.

Candidates must obtain positive recommendation, maintain a 3.0 GPA, and pass appropriate Michigan Subject Area Tests if adding new subject areas.

## **Master of Education in Literacy Studies - Reading/Language Arts Emphasis**

For additional information about opportunities your college offers, please refer to the College of Education section in this catalog.

**Website:** [gvsu.edu/coe/grad](http://gvsu.edu/coe/grad)

### **Mission**

Teaching, leading, and learning in a democratic society.

### **Philosophy**

Believing that schools function as social and political entities as well as for the growth of individuals, the College of Education and Community Innovation prepares teachers and leaders a) to enhance the academic and personal potential of their students, and b) to evaluate the social and ethical implications of educational policies and practices.

### **Values**

The College of Education and Community Innovation values expertise to guide our practice, equity to guide our interactions, liberal education to guide our perspectives, and social responsibility to guide our commitment to democratic education. We value these ideals in our preparation of candidates, our development of faculty, and our relationships with the larger community we serve.

The reading/language arts program leading to the M.Ed. degree provides elementary and secondary teachers with the appreciation, theory, and practical skills needed to teach various areas of reading and language arts. The program is helpful for K-12 classroom teachers who

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

want to expand their abilities to work with students in language arts programs as well as for other professionals who support students' literacy acquisition.

### **Accreditation**

Nationally Recognized by Specialty Program Association: International Reading Association (IRA)  
Michigan Department of Education

### **Minimum Number of Hours in Program**

All degree-seeking students in the reading/language arts master's program are required to take a minimum of 33 credit hours. If a candidate is pursuing the reading specialist K-12 endorsement, they must complete the 36 credit hours of the reading specialist program.

### **Program Location**

The program is offered at DeVos Center on Pew Grand Rapids Campus, located in downtown Grand Rapids, MI.

## **Requirements for the M.Ed., Reading/Language Arts**

### **Requirements for the M.Ed., Reading/Language Arts with Elementary Endorsement**

The M.Ed. in reading/language arts with the elementary reading endorsement is a 33-credit hour program leading to state certification in reading at the K-8 school level. It is designed for classroom teachers who wish to develop expertise in the teaching of reading. The elementary reading teacher endorsement may be added only to an elementary teaching certificate.

Each candidate for the M.Ed. degree with the elementary reading endorsement must complete the following:

#### **Social Foundations of Education (3 credits) Choose one:**

EDF 671 - Educational Policy and Practice (3 credits)

EDF 672 - Social/Cultural Foundations of Education (3 credits)

#### **Research and Evaluation (3 credits):**

EDF 660 - Educational Inquiry and Evaluation (3 credits)

#### **Emphasis Area (18 credits):**

EDR 621 - Foundations of Literacy (3 credits)

EDR 624 - Elementary Literacy: Learners, Text, and the Environment (3 credits)

EDR 626 - Field-based Literacy Assessment for Learning (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

EDR 628 - Literacy Instruction Across Disciplines (PK-6) (3 credits)

EDR 631 - Writing, Teaching, and Learning (3 credits)

EDR 632 - Field-based Literacy and Language Interventions (3 credits)

**Practicum/Graduate Field Experience** (3 credits):

EDR 685 - Literacy Instruction Practicum (3 credits)

**Capstone** (3 or 6 credits) Choose one:

EDR 693 - Master's Project (1 to 3 credits)

EDR 695 - Master's Thesis (1 to 6 credits)

Students should meet with their advisor at the beginning of the program to sign a planned program and map out coursework. Additionally, students should communicate with their advisor throughout the program to decide on a Capstone and discuss plans for completion. Subject to department approval, Capstone courses may be taken in variable amounts from one to three credits (EDR 693) or one to six credits (EDR 695) and require continuous enrollment each semester until completed.

Applications are required for fieldwork courses (EDR 626 and EDR 685) and Capstone courses (EDR 693 and EDR 695). Application deadlines: February 15 for spring/summer, May 15 for fall, September 15 for winter semester. Candidates adding a new endorsement must pass the Michigan Subject Area Test and maintain a 3.0 G.P.A.

**Requirements for the M.Ed. - Reading/Language Arts with Secondary Endorsement**

The M.Ed. in reading/language arts with the secondary reading endorsement is a 33-credit hour program leading to state certification in reading at the secondary school level (6-12). It is designed for classroom teachers who wish to develop expertise in the teaching of reading. The secondary reading teacher endorsement may be added only to a secondary teaching certificate.

Each candidate for the M.Ed. degree with the secondary reading endorsement must complete the following:

**Social Foundations of Education** (3 credits) Choose one:

EDF 671 - Educational Policy and Practice (3 credits)

EDF 672 - Social/Cultural Foundations of Education (3 credits)

**Research and Evaluation** (3 credits):

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

EDF 660 - Educational Inquiry and Evaluation (3 credits)

**Emphasis Area** (18 credits):

EDR 621 - Foundations of Literacy (3 credits)

EDR 625 - Secondary Literacy: Learners, Text, and the Environment (3 credits)

EDR 626 - Field-based Literacy Assessment for Learning (3 credits)

EDR 630 - Literacy Instruction Across Disciplines (7-12) (3 credits)

EDR 631 - Writing, Teaching, and Learning (3 credits)

EDR 632 - Field-based Literacy and Language Interventions (3 credits)

**Elective** (3 credits)

Advisor approved EDR, EDI, EDS

**Practicum/Graduate Field Experience** (3 credits):

EDR 685 - Literacy Instruction Practicum (3 credits)

**Capstone** (3 or 6 credits) Choose one:

EDR 693 - Master's Project (1 to 3 credits)

EDR 695 - Master's Thesis (1 to 6 credits)

Students should meet with their advisor midway through their program to decide on a Capstone and discuss plans for completion. Subject to department approval, Capstone courses may be taken in variable amounts from one to three credits (EDR 693) or one to six credits (EDR 695) and require continuous enrollment each semester until completed.

Applications are required for fieldwork courses (EDR 626 and EDR 685) and Capstone courses (EDR 693 and EDR 695). Application deadlines: February 15 for spring/summer, May 15 for fall, September 15 for winter semester. Candidates adding a new endorsement must pass the Michigan Subject Area Test and maintain a 3.0 G.P.A.

**Requirements for Reading Specialist Endorsement, K-12**

The reading specialist endorsement is a 36 to 39-credit-hour program leading to state endorsement as a K-12 reading specialist. It is designed for persons who are interested in administration and supervision of school or district-wide reading/language arts programs and will enable the bearer to be employed as a school reading consultant/literacy coach, to teach in

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

special remedial or developmental programs, and to teach reading as a special subject. The reading specialist endorsement may be added to either an elementary or secondary teaching certificate. The state requires a master's degree in reading for this endorsement.

**Social Foundations of Education** (3 credits) Choose one:

EDF 671 - Educational Policy and Practice (3 credits)

EDF 672 - Social/Cultural Foundations of Education (3 credits)

**Research and Evaluation** (3 credits):

EDF 660 - Educational Inquiry and Evaluation (3 credits)

**Capstone** Choose one:

EDR 693 - Master's Project (1 to 3 credits)

EDR 695 - Master's Thesis (1 to 6 credits)

**Emphasis Area** (21 credits):

EDR 621 - Foundations of Literacy (3 credits)

EDR 626 - Field-based Literacy Assessment for Learning (3 credits)

EDR 631 - Writing, Teaching, and Learning (3 credits)

EDR 632 - Field-based Literacy and Language Interventions (3 credits)

**AND** choose one:

EDR 628 - Literacy Instruction Across Disciplines (PK-6) (3 credits)

EDR 630 - Literacy Instruction Across Disciplines (7-12) (3 credits)

**AND** choose one:

EDR 624 - Elementary Literacy: Learners, Text, and the Environment (3 credits)

EDR 625 - Secondary Literacy: Learners, Text, and the Environment (3 credits)

**Practicum/Graduate Field Experience** (6 credits):

EDR 685 - Literacy Instruction Practicum (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

EDR 687 - Reading/Literacy Specialist and Literacy Coach Practicum (3 credits)

EDR 689 - Professional Development and Leadership Practicum (3 credits)

Students should meet with their advisor at the beginning of the program to sign a planned program and map out coursework. Additionally, students should communicate with their advisor throughout the program to decide on a Capstone and discuss plans for completion. Subject to department approval, Capstone courses may be taken in variable amounts from one to three credits (EDR 693) or one to six credits (EDR 695) and require continuous enrollment each semester until completed.

Applications are required for fieldwork courses (EDR 626, EDR 687, and EDR 689) and Capstone courses (EDR 693 and EDR 695). Application deadlines: February 15 for spring/summer, May 15 for fall, September 15 for winter semester. Candidates adding a new endorsement must pass the Michigan Subject Area Test and maintain a 3.0 G.P.A.

### **Requirements for M.Ed. Reading/Language Arts Without Endorsement**

Each candidate for the (non-endorsement) M.Ed. degree must complete the following.

**Social Foundations of Education** (3 credits) Choose one:

EDF 671 - Educational Policy and Practice (3 credits)

EDF 672 - Social/Cultural Foundations of Education (3 credits)

**Research and Evaluation** (3 credits):

EDF 660 - Educational Inquiry and Evaluation (3 credits)

**Capstone** Choose one:

EDR 693 - Master's Project (1 to 3 credits)

EDR 695 - Master's Thesis (1 to 6 credits)

**Emphasis Area** (21 credits):

EDR 621 - Foundations of Literacy (3 credits)

EDR 626 - Field-based Literacy Assessment for Learning (3 credits)

EDR 628 - Literacy Instruction Across Disciplines (PK-6) (3 credits)

EDR 631 - Writing, Teaching, and Learning (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

**AND** choose one of the following:

EDR 622 - Developmental Literacy for Children (3 credits)

EDR 623 - Developmental Literacy for Adolescents (3 credits)

**AND** choose one of the following:

EDR 624 - Elementary Literacy: Learners, Text, and the Environment (3 credits)

EDR 625 - Secondary Literacy: Learners, Text, and the Environment (3 credits)

**Supplemental Courses** (3 credits) Choose one:

EDF 633 - Race, Class, and Language (3 credits)

EDF 634 - Teaching the At-Risk Student (3 credits)

EDI 641 - Teaching for Talent Development (3 credits)

EDR 620 - English as a Second Language Methodologies (3 credits)

EDR 620 - English as a Second Language Methodologies (3 credits)

EDS 625 - Inclusive Practices (3 credits)

Elective Credits: 3 (Advisor approval required)

**Practicum/Graduate Field Experience** (3 credits):

EDR 685 - Literacy Instruction Practicum (3 credits)

**Capstone** (3 or 6 credits) Choose one:

EDF 660 is prerequisite.

EDR 693 - Master's Project (1 to 3 credits)

EDR 695 - Master's Thesis (1 to 6 credits)

Students should meet with their advisor midway through their program to decide on a Capstone and discuss plans for completion. Subject to department approval, Capstone courses may be taken in variable amounts from one to three credits (EDR 693) or one to six credits (EDR 695) and require continuous enrollment each semester until completed.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Applications are required for fieldwork courses (EDR 626 and EDR 685) and Capstone courses (EDR 693 and EDR 695). Application deadlines: February 15 for spring/summer, May 15 for fall, September 15 for winter semester. Candidates adding a new endorsement must pass the Michigan Subject Area Test and maintain a 3.0 G.P.A.

### **Requirements for Elementary Reading Teacher Endorsement, K-8**

The elementary reading endorsement is a 24-credit hour program leading to state certification in reading at the K-8 school level. It is designed for classroom teachers who wish to develop expertise in the teaching of reading. The elementary reading endorsement may be added only to an elementary teaching certificate.

EDR 621 - Foundations of Literacy (3 credits)

EDR 624 - Elementary Literacy: Learners, Text, and the Environment (3 credits)

EDR 626 - Field-based Literacy Assessment for Learning (3 credits)

EDR 628 - Literacy Instruction Across Disciplines (PK-6) (3 credits)

EDR 631 - Writing, Teaching, and Learning (3 credits)

EDR 632 - Field-based Literacy and Language Interventions (3 credits)

#### **Practicum/Graduate Field Experience (3 credits):**

EDR 685 - Literacy Instruction Practicum (3 credits)

Students must apply in advance for fieldwork courses (EDR 626 and EDR 685). Advisor approval is required. Application deadlines: February 15 for spring/summer, May 15 for fall, September 15 for winter semester. Candidates adding a new endorsement must pass the Michigan Subject Area Test and maintain a 3.0 G.P.A.

### **Requirements for Secondary Reading Teacher Endorsement, 6-12**

The secondary reading endorsement is a 24-credit hour program leading to state certification in reading at the secondary school level (6-12). It is designed for classroom teachers who wish to develop expertise in the teaching of reading. The secondary reading endorsement may be added only to a secondary teaching certificate.

#### **Emphasis Area (21 credits):**

EDR 621 - Foundations of Literacy (3 credits)

EDR 625 - Secondary Literacy: Learners, Text, and the Environment (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

EDR 626 - Field-based Literacy Assessment for Learning (3 credits)

EDR 630 - Literacy Instruction Across Disciplines (7-12) (3 credits)

EDR 631 - Writing, Teaching, and Learning (3 credits)

EDR 632 - Field-based Literacy and Language Interventions (3 credits)

**Practicum/Graduate Field Experience** (3 credits):

EDR 685 - Literacy Instruction Practicum (3 credits)

Students must apply in advance for fieldwork courses (EDR 626 and EDR 685). Advisor approval is required. Application deadlines: February 15 for spring/summer, May 15 for fall, September 15 for winter semester.

Candidates adding a new endorsement must pass the Michigan Subject Area Test and maintain a 3.0 GPA.

## **Master of Education in School Counseling**

For additional information about opportunities your college offers, please refer to the College of Education and Community Innovation section in this catalog.

**Website:** [gvsu.edu/coe/grad](http://gvsu.edu/coe/grad)

### **Mission**

Teaching, leading, and learning in a democratic society.

### **Philosophy**

Believing that schools function as social and political entities as well as for the growth of individuals, the College of Education and Community Innovation prepares teachers and leaders a) to enhance the academic and personal potential of their students, and b) to evaluate the social and ethical implications of educational policies and practices.

### **Values**

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Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

School counseling prepares students to work as school counselors in K-12 public and private school systems. It leads to a school counselor endorsement or a school counselor license in Michigan. Students accepted into the M.Ed. in school counseling must have completed coursework in their undergraduate degree in advanced child development, school learning, and classroom management or coursework in these areas will be required as part of their planned program.

### **Accreditation**

Michigan Department of Education Approval  
Specialty Program Standards: MED Counseling and Guidance Services Standards

### **Minimum Number of Hours in Program**

All degree-seeking students in the school counseling master's program are required to take a minimum of 36 credit hours.

### **Program Location**

DeVos Center, Pew Grand Rapids Campus, located in downtown Grand Rapids, MI.

### **Requirements for M.Ed. in School Counseling**

The master's degree in school counseling prepares students to work as school counselors in K-12 public and private school systems. It leads to a school counselor endorsement or a school counselor license in Michigan. No endorsement or school counseling license will be approved without completion of the Master of Education in school counseling degree. Students are required to complete a minimum of 36 credit hours. Students are also required to complete 100 practicum hours and 600 internship hours. The 100 practicum hours are dispersed through five emphasis area courses prior to the internship.

Each candidate for the M.Ed. degree in school counseling must complete the following:

### **Required Courses**

#### **Social Foundations of Education (3 credits)**

Choose one:

EDF 671 - Educational Policy and Practice (3 credits)

EDF 672 - Social/Cultural Foundations of Education (3 credits)

#### **Research and Evaluation (3 credits)**

EDF 660 - Educational Inquiry and Evaluation (3 credits)

### **Emphasis Area**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Requires 21 credits, including:

EDC 621 - The Profession of School Counseling (3 credits)

EDC 623 - Social/Emotional Development (3 credits)

EDC 625 - Academic Development (3 credits)

EDC 649 - Career Development (3 credits)

EDC 651 - School Counseling Curriculum and Techniques (3 credits)

EDI 635 - Development and Needs of Students (3 credits)

SW 600 - Cultural Competency for Social Work (3 credits)

### **Internship**

Requires six credits:

EDC 685 - Internship in School Counseling (3 to 6 credits)

Internship credits may be completed in one or two semesters. Students must apply in advance for each internship course. Advisor approval is required. Application deadlines (internship): February 15 for spring/summer, May 15 for fall, September 15 for winter semester.

### **Capstone**

Requires three or six credits. Choose one of the following:

EDC 693 - Master's Project (1 to 3 credits)

EDC 695 - Master's Thesis (1 to 6 credits)

Students should meet with their advisor midway through their program to decide on a capstone and discuss plans for completion. Subject to department approval, Capstone courses may be taken in variable amounts from one to three credits (EDC 693) or one to six credits (EDC 695) and require continuous enrollment each semester until completed. Application deadlines (thesis/project): February 15 for spring/summer, May 15 for fall, September 15 for winter semester. Students seeking the school counseling endorsement or school counseling license must pass the State of Michigan Test for Teacher Certification (Subtest 51). The School Counseling License (SCL) is for counseling in school settings only.

## **Master of Education in Special Education - Autism Spectrum Disorder Emphasis**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

For additional information about opportunities your college offers, please refer to the College of Education and Community Innovation section in this catalog.

**Website:** [gvsu.edu/coe/grad](http://gvsu.edu/coe/grad)

### **Mission**

Teaching, leading, and learning in a democratic society.

### **Philosophy**

Believing that schools function as social and political entities as well as for the growth of individuals, the College of Education and Community Innovation prepares teachers and leaders a) to enhance the academic and personal potential of their students, and b) to evaluate the social and ethical implications of educational policies and practices.

### **Values**

The College of Education and Community Innovation values *expertise* to guide our practice, *equity* to guide our interactions, *liberal education* to guide our perspectives, and *social responsibility* to guide our commitment to democratic education. We value these ideals in our preparation of candidates, our development of faculty, and our relationships with the larger community we serve.

### **Accreditation**

Nationally Recognized by Specialty Program Association: Council for Exceptional Children  
Michigan Department of Education Approved.

### **Minimum Number of Hours in Program**

All degree-seeking students are required to take a minimum of 33 credit hours, including foundations, emphasis courses, and Capstone.

### **Admission**

Students who are degree seeking and are working for special education endorsement are required to take additional courses beyond the normal requirements for the master's degree. Students who want to enroll in a master's degree program and are not seeking special education endorsement should select a master's degree emphasis program and consult with a special education graduate advisor to develop a program consisting of foundations and emphasis coursework, including research applications.

### **Program Location**

Program is offered at DeVos Center on the Pew Grand Rapids Campus, located in downtown Grand Rapids, MI.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Requirements for M.Ed. in Special Education - Autism Spectrum Disorder**

Candidates for the M.Ed. must complete the following courses as outlined.

### **Social Foundations of Education**

Choose one course (three credits) from the following, to be completed early in the program:

EDF 671 - Educational Policy and Practice (3 credits)

EDF 672 - Social/Cultural Foundations of Education (3 credits)

### **Research and Evaluation**

The following course (three credits) should be completed early in the program:

EDF 660 - Educational Inquiry and Evaluation (3 credits)

### **Special Education**

Requires six or nine credits. Candidates completing the ASD emphasis as an additional endorsement must choose two courses from EDS 610, EDS 627, EDS 629.

Candidates completing their first endorsement must complete three of the following:

EDS 652 - Foundations of Special Education (3 credits) Required for ASD candidates who **DO NOT** hold a special education endorsement. This course should be taken first.

EDS 610 - Positive Behavioral Interventions and Supports (3 credits) Required for ASD candidates who **DO NOT** hold a special education endorsement and ASD Internship candidates.

EDS 627 - Technology and Professional Practice (3 credits)

EDS 629 - Transition Practices (3 credits) Required for ASD candidates who **DO NOT** hold a special education endorsement and ASD Internship candidates.

### **Autism Spectrum Disorder**

Requires 15 credits, including:

PSY 540 - Introduction to Autism Spectrum Disorder (3 credits)

PSY 542 - Behavior Support for Students with Autism Spectrum Disorder (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

PSY 615/EDS 615 - Educational Assessment and Interventions for Autism (3 credits)

EDS 616 - Language and Communication Assessment and Instruction for Autism (3 credits)

EDS 623 - Collaboration in Special Education (3 credits)

### **Practicum Coursework**

The following course (three credits) is required for all ASD candidates:

EDS 685 - Practicum/Graduate Field Experience

### **Capstone**

Choose one of the following three- or six-credit options:

EDS 693 - Master's Project (1 to 3 credits)

EDS 695 - Master's Thesis (1 to 6 credits)

Students should meet with their advisor midway through their program to decide on a Capstone and discuss plans for completion. Subject to department approval, Capstone courses may be taken in variable amounts from one to three credits (EDS 693) or one to six credits (EDS 695) and require continuous enrollment each semester until completed. Advisor approval is required.

Application deadlines (thesis/project): February 15 for spring/summer, May 15 for fall, September 15 for winter semester.

### **Requirements for Autism Spectrum Disorder K-12 Single Endorsement**

Candidates for this program must possess a valid Michigan teaching certificate. Candidates adding a new endorsement must pass the Michigan Subject Area Test and maintain a 3.0 G.P.A.

### **Special Education**

Requires six or nine credits. Candidates completing the ASD emphasis as an additional endorsement must choose two courses from EDS 610, EDS 627, EDS 629.

Candidates completing their first endorsement must complete three of the following:

EDS 652 - Foundations of Special Education (3 credits) Required for ASD candidates who **DO NOT** hold a special education endorsement. This course should be completed first.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

EDS 610 - Positive Behavioral Interventions and Supports (3 credits) Required for ASD candidates who DO NOT hold a special education endorsement and ASD Internship candidates.

EDS 627 - Technology and Professional Practice (3 credits)

EDS 629 - Transition Practices (3 credits) Required for ASD candidates who DO NOT hold a special education endorsement and ASD Internship candidates.

### **Preteaching**

Requires six credits, including:

EDS 550 - Preteaching and Methods of Teaching Special Education (6 credits) Required for ASD candidates who **DO NOT** hold a special education endorsement. Application required. Candidates with approved special education experiences may seek a waiver of the EDS 550 requirement.

### **Autism Spectrum Disorder**

The following courses (15 credits) are required for all ASD candidates:

PSY 540 - Introduction to Autism Spectrum Disorder (3 credits)

PSY 542 - Behavior Support for Students with Autism Spectrum Disorder (3 credits)

PSY 615/EDS 615 - Educational Assessment and Interventions for Autism (3 credits)

EDS 616 - Language and Communication Assessment and Instruction for Autism (3 credits)

EDS 623 - Collaboration in Special Education (3 credits)

### **Practicum/Graduate Field Experience**

Requires three or six credits, including:

EDS 685 - Practicum/Graduate Field Experience Six credits required for first endorsement candidates.

Students must apply in advance for each practicum course. Advisor approval is required. Application deadlines (practicum): February 15 for spring/summer, May 15 for fall, September 15 for winter semester.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

# **Master of Education in Special Education - Cognitive Impairment Emphasis**

For additional information about opportunities your college offers, please refer to the College of Education and Community Innovation section in this catalog.

**Website:** [gvsu.edu/coe/grad](http://gvsu.edu/coe/grad)

## **Mission**

Teaching, leading, and learning in a democratic society.

## **Philosophy**

Believing that schools function as social and political entities as well as for the growth of individuals, the College of Education and Community Innovation prepares teachers and leaders a) to enhance the academic and personal potential of their students, and b) to evaluate the social and ethical implications of educational policies and practices.

## **Values**

The College of Education and Community Innovation values expertise to guide our practice, equity to guide our interactions, liberal education to guide our perspectives, and social responsibility to guide our commitment to democratic education. We value these ideals in our preparation of candidates, our development of faculty, and our relationships with the larger community we serve.

## **Accreditation**

Nationally Recognized by Specialty Program Association: Council for Exceptional Children  
Michigan Department of Education Approved.

## **Minimum Number of Hours in Program**

All degree-seeking students are required to take a minimum of 33 credit hours, including foundations, emphasis courses, and Capstone.

## **Admission**

Students who are degree seeking and are working for special education endorsement are required to take additional courses beyond the normal requirements for the master's degree. Students who want to enroll in a master's degree program and are not seeking special education endorsement should select a master's degree emphasis program and consult with a special education graduate advisor to develop a program consisting of foundations and emphasis coursework, including research applications.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

### **Program Location**

Program is offered at DeVos Center on the Pew Grand Rapids Campus, located in downtown Grand Rapids, MI.

### **Requirements for M.Ed. in Special Education - Cognitive Impairment**

Candidates for the M.Ed. degree must complete the following courses as outlined.

#### **Social Foundations of Education (3 credits)**

Choose one course from the following, to be completed early in the program:

EDF 671 - Educational Policy and Practice (3 credits)

EDF 672 - Social/Cultural Foundations of Education (3 credits)

#### **Research and Evaluation**

EDF 660 - Educational Inquiry and Evaluation (3 credits)

#### **Special Education**

Nine credits first endorsement; six credits additional endorsement.

Choose two from EDS 610, EDS 627, EDS 629:

EDS 652 - Foundations of Special Education (3 credits) Required for CI candidates who **DO NOT** hold a special education endorsement. This course should be taken early in the program.

EDS 610 - Positive Behavioral Interventions and Supports (3 credits) Required for CI candidates who **DO NOT** hold a special education endorsement.

EDS 627 - Technology and Professional Practice (3 credits)

EDS 629 - Transition Practices (3 credits) Required for CI candidates who **DO NOT** hold a special education endorsement.

#### **Cognitive Impairment (15 credits):**

EDS 616 - Language and Communication Assessment and Instruction for Autism (3 credits)

EDS 618 - Understanding Students with Cognitive Impairment (3 credits)

EDS 619 - Educational Interventions for Mild Cognitive Impairment (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

EDS 620 - Educational Interventions for Severe Cognitive Impairment (3 credits)

EDS 622 - Assessment for Placement and Program: CI (3 credits)

**Practicum/Graduate Field Experience** (3 credits):

EDS 685 - Practicum/Graduate Field Experience (3 or 6 credits)

Students must apply in advance for each practicum course. Advisor approval is required. Application deadlines (practicum): February 15 for spring/summer, May 15 for fall, September 15 for winter semester.

**Capstone** (3 or 6 credits) Choose one:

EDF 660 is prerequisite.

EDS 693 - Master's Project (1 to 3 credits)

EDS 695 - Master's Thesis (1 to 6 credits)

Students should meet with their advisor midway through their program to decide on a Capstone and discuss plans for completion. Subject to department approval, Capstone courses may be taken in variable amounts from one to three credits (EDS 693) or one to six credits (EDS 695) and require continuous enrollment each semester until completed. Advisor approval is required.

Application deadlines (thesis/project): February 15 for spring/summer, May 15 for fall, September 15 for winter semester.

**Requirements for Cognitive Impairment K-12 Single Endorsement**

Candidates for this program must possess a valid Michigan teaching certificate. Candidates adding a new endorsement must pass the Michigan Subject Area Test and maintain a 3.0 GPA.

**Special Education**

Nine credits first endorsement; six credits additional endorsement.

Choose two from EDS 610, EDS 627, EDS 629:

EDS 652 - Foundations of Special Education (3 credits) Required for CI candidates who **DO NOT** hold a special education endorsement. This course should be completed first.

EDS 610 - Positive Behavioral Interventions and Supports (3 credits) Required for CI candidates who **DO NOT** hold a special education endorsement.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

EDS 627 - Technology and Professional Practice (3 credits)

EDS 629 - Transition Practices (3 credits) Required for CI candidates who **DO NOT** hold a special education endorsement.

### **Preteaching**

EDS 550 - Preteaching and Methods of Teaching Special Education (6 credits) Required for CI candidates who **DO NOT** hold a special education endorsement (application required); Candidates with approved special education experiences may seek a waiver of the EDS 550 requirement.

**Cognitive Impairment** (15 credits) Required for **ALL** CI candidates:

EDS 616 - Language and Communication Assessment and Instruction for Autism (3 credits)

EDS 618 - Understanding Students with Cognitive Impairment (3 credits)

EDS 619 - Educational Interventions for Mild Cognitive Impairment (3 credits)

EDS 620 - Educational Interventions for Severe Cognitive Impairment (3 credits)

EDS 622 - Assessment for Placement and Program: CI (3 credits)

**Practicum/Graduate Field Experience** (3 credits):

EDS 685 - Practicum/Graduate Field Experience (3 or 6 credits) Six required for first endorsement candidates.

Students must apply in advance for each practicum course. Advisor approval is required. Application deadlines (practicum): February 15 for spring/summer, May 15 for fall, September 15 for winter semester.

## **Master of Education in Special Education - Learning Disabilities Emphasis**

For additional information about opportunities your college offers, please refer to the College of Education section in this catalog.

**Website:** [gvsu.edu/coe/grad](http://gvsu.edu/coe/grad)

### **Mission**

Teaching, leading, and learning in a democratic society.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Philosophy**

Believing that schools function as social and political entities as well as for the growth of individuals, the College of Education and Community Innovation prepares teachers and leaders a) to enhance the academic and personal potential of their students, and b) to evaluate the social and ethical implications of educational policies and practices.

## **Values**

The College of Education and Community Innovation values expertise to guide our practice, equity to guide our interactions, liberal education to guide our perspectives, and social responsibility to guide our commitment to democratic education. We value these ideals in our preparation of candidates, our development of faculty, and our relationships with the larger community we serve.

## **Accreditation**

Nationally Recognized by Specialty Program Association: Council for Exceptional Children  
Michigan Department of Education Approval.

## **Minimum Number of Hours in Program**

The M.Ed. degree in special education with an emphasis in learning disabilities requires a minimum of 33 credit hours.

## **Admission**

Students who are degree seeking and are working for special education endorsement are required to take additional courses beyond the normal requirements for the master's degree. Students who want to enroll in a master's degree program and are not seeking special education endorsement should select a master's degree emphasis program and consult with a special education graduate advisor to develop a program consisting of foundations and emphasis coursework, including research applications.

## **Program Location**

Program is offered at DeVos Center on the Pew Grand Rapids Campus, located in downtown Grand Rapids, MI.

## **Requirements for M.Ed. in Learning Disabilities**

Candidates for the M.Ed. degree must complete the following courses.

### **Social Foundations of Education**

Choose one of the following (three credits) to be completed early in program:

EDF 671 - Educational Policy and Practice (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

EDF 672 - Social/Cultural Foundations of Education (3 credits)

### **Research and Evaluation**

Complete the following (three credits) early in program:

EDF 660 - Educational Inquiry and Evaluation (3 credits)

### **Special Education**

Requires six or 12 credits. Candidates completing the LD emphasis as an additional endorsement must choose two courses from EDS 610, EDS 627, EDS 629.

Candidates completing their first endorsement must complete all of the following:

EDS 652 - Foundations of Special Education (3 credits) Required for LD candidates who DO NOT hold a special education endorsement. This course must be taken first.

EDS 610 - Positive Behavioral Interventions and Supports (3 credits) Required for LD candidates who DO NOT hold a special education endorsement and LD Internship candidates.

EDS 627 - Technology and Professional Practice (3 credits) Required for LD candidates who DO NOT hold a special education endorsement.

EDS 629 - Transition Practices (3 credits) Required for LD candidates who DO NOT hold a special education endorsement.

### **Learning Disabilities**

Requires 15 credits, including:

EDS 625 - Inclusive Practices (3 credits)

EDS 636 - Diagnostic and Interpretative Procedures (3 credits)

EDS 637 - Explicit Language Instruction (3 credits)

EDS 638 - Instructional Practices: Learning Disabilities II (3 credits)

EDS 640 - Diagnostic-Teaching Clinic (3 credits) Complete after EDS 636, EDS 637, and EDS 638.

### **Practicum/Graduate Field Experience**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Requires three credits, including:

EDS 685 - Practicum/Graduate Field Experience (3 or 6 credits)

Students must apply in advance for each practicum course. Advisor approval is required.

Application deadlines (practicum): February 15 for spring/summer, May 15 for fall, September 15 for winter semester.

### **Capstone**

Choose one (three or six credits):

EDS 693 - Master's Project (1 to 3 credits)

EDS 695 - Master's Thesis (1 to 6 credits)

Students should meet with their advisor midway through their program to decide on a Capstone and discuss plans for completion. Subject to department approval, Capstone courses may be taken in variable amounts from one to three credits (EDS 693) or one to six credits (EDS 695) and require continuous enrollment each semester until completed.

Application deadlines (thesis/project): February 15 for spring/summer, May 15 for fall, September 15 for winter semester.

### **Requirement for Learning Disabilities K-12 Single Endorsement**

Candidates for this program must possess a valid Michigan teaching certificate. Candidates adding a new endorsement must pass the Michigan Subject Area Test and maintain a 3.0 G.P.A. Completion of both EDS 636 and EDS 638 satisfy the state reading requirement PA 118.

### **Special Education Courses**

Requires six or 12 credits. Candidates completing the LD emphasis as an additional endorsement must choose two courses from EDS 610, EDS 627, EDS 629.

Candidates completing their first endorsement must complete all of the following:

EDS 652 - Foundations of Special Education (3 credits) Required for LD candidates who **DO NOT** hold a special education endorsement. This course must be taken first.

EDS 610 - Positive Behavioral Interventions and Supports (3 credits) Required for LD candidates who **DO NOT** hold a special education endorsement.

EDS 627 - Technology and Professional Practice (3 credits) Required for LD candidates who **DO NOT** hold a special education endorsement.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

EDS 629 - Transition Practices (3 credits) Required for LD candidates who DO NOT hold a special education endorsement.

### **Preteaching Course**

Requires six credits, including:

EDS 550 - Preteaching and Methods of Teaching Special Education (6 credits) Required for LD candidates who **DO NOT** hold a special education endorsement. Application required. Candidates with approved special education experiences may seek a waiver of the EDS 550 requirement.

### **Learning Disabilities Coursework**

Requires 15 credits. All LD candidates must complete the following:

EDS 625 - Inclusive Practices (3 credits)

EDS 636 - Diagnostic and Interpretative Procedures (3 credits)

EDS 637 - Explicit Language Instruction (3 credits)

EDS 638 - Instructional Practices: Learning Disabilities II (3 credits)

EDS 640 - Diagnostic-Teaching Clinic (3 credits)

### **Practicum/Graduate Field Experience**

Requires three or six credits, including:

EDS 685 - Practicum/Graduate Field Experience (3 or 6 credits) Six credits required for first endorsement candidates.

Students must apply in advance for each practicum course. Advisor approval is required. Application deadlines (practicum): February 15 for spring/summer, May 15 for fall, September 15 for winter semester.

## **Group Social Studies**

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

The major in social studies is designed for students seeking teacher certification. The major coursework is in history, economics, geography, and political science as well as in the social studies specific pedagogy.

The **social studies major with elementary emphasis** prepares students to teach social studies in Michigan kindergarten through grade eight. Students must also complete the elementary education minor and the education major for elementary certification. The social studies major meets State of Michigan content standards for teacher preparation in social studies.

The **social studies major with secondary emphasis** prepares students to teach social studies in Michigan grades six through 12. Students are not required to complete a teaching minor but may choose to do so. Students must also complete the education major for secondary certification. Students may also choose to pursue a second major in history. The social studies major meets State of Michigan content standards for teacher preparation in social studies.

Students must complete a substantial portion of the major, including SST 309 or SST 310 and SST 311, before admission to the College of Education and Community Innovation. The College of Education and Community Innovation requires that candidates for admission present an overall GPA of 2.7 as well as a GPA of 3.0 in the major and minor.

Students who decide not to seek teacher certification may complete the group social studies major and receive a bachelor's degree without completing the professional program in education by meeting the university's minimum requirements.

Transfer and postgraduate students seeking a teachable major in group social studies should consult the CLAS Advising Center for an evaluation of their previous work. Post-baccalaureate students must present a record substantially equivalent to that required of Grand Valley State University undergraduates; such students whose previous academic work is not equivalent to the Grand Valley program must take additional courses to meet those requirements. Post-baccalaureate students seeking admission to the College of Education and Community Innovation's undergraduate professional program must also take SST 309 or SST 310 and SST 311 before admission to the College of Education and Community Innovation.

## **Bachelor of Arts or Bachelor of Science in Group Social Studies**

### **Requirements for a Major in Social Studies - Secondary Emphasis**

Students seeking certification must have a 3.0 GPA in the social studies major with secondary emphasis to be eligible to enter the College of Education.

#### **B.A. Degree Requirements**

Students seeking the B.A. degree must demonstrate third-semester proficiency in a foreign language.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **B.S. Degree Requirements**

Students seeking the B.S. degree must complete the following:

STA 215 - Introductory Applied Statistics (3 credits)

HST 290 - Research Methods in History (3 credits)

SST 311 - Data Literacy for Social Studies Teachers (3 credits)

## **Required Courses**

### **Social Studies**

The following courses must be taken before admission to the College of Education:

SST 310 - Teaching Social Studies: Secondary (3 credits)

SST 311 - Data Literacy for Social Studies Teachers (3 credits)

The following course must be taken with or after student assisting or student teaching:

SST 495 - Education in Plural Societies (Capstone) (3 credits)

### **Political Science**

PLS 103 - Issues in World Politics (3 credits)

PLS 206 - American Constitutional Foundations (3 credits)

PLS 211 - International Relations (3 credits)

### **Economics**

ECO 210 - Introductory Macroeconomics (3 credits)

ECO 211 - Introductory Microeconomics (3 credits)

Students must complete one of the following:

ECO 349 - Emerging Markets Issues (3 credits)

ECO 365 - Comparative Economic Systems (3 credits)

ECO 369 - International Economic Issues (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Geography**

GPY 100 - Physical and Environmental Geography (3 credits)

GPY 220 - Cultural Geography (3 credits)

GPY 235 - Geography for a Changing World (3 credits)

## **History**

Students must complete the following courses:

HST 203 - World History to 1500 A.D. (3 credits)

HST 204 - World History since 1500 (3 credits)

HST 205 - American History to 1877 (3 credits)

HST 206 - American History since 1877 (3 credits)

Students must complete one of the following courses in the U.S. category:

HST 303 - Era of Sectional Conflict, Civil War, and Reconstruction (3 credits)

HST 305 - America Confronts Modernity (3 credits)

HST 306 - The 'American Century': From the Great Depression to Vietnam (3 credits)

HST 307 - United States since 1970 (3 credits)

HST 311 - History of Religion in the United States (3 credits)

HST 312 - History of American Women (3 credits)

HST 314 - African American History (3 credits)

HST 315 - Latinos: The Forging of Ethnic Identities (3 credits)

HST 316 - U.S. Civil Rights Movement History (3 credits)

HST 317 - History of American Foreign Relations (3 credits)

HST 318 - History of Democracy in America (3 credits)

HST 320 - American Indians (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

HST 322 - American Identity and Sports (3 credits)

HST 327 - History of United States Urban Society (3 credits)

HST 328 - U.S. Constitutional and Legal History (3 credits)

HST 329 - U.S. Intellectual History (3 credits)

## **REGIONAL CATEGORIES**

Students must complete four additional history courses chosen from four of the six regional categories. Only one course (out of the four) may be at the 200-level.

### **Europe Category**

HST 207 - European Civilization to the Later Middle Ages (3 credits)

HST 208 - European Civilization since the Later Middle Ages (3 credits)

HST 350 - Ancient Greece (3 credits)

HST 351 - Ancient Rome (3 credits)

HST 355 - Medieval Europe (3 credits)

HST 360 - Tudor and Stuart England (3 credits)

HST 361 - Modern Britain (3 credits)

HST 364 - Renaissance and Reformation Europe (3 credits)

HST 377 - History of Warfare (3 credits)

HST 386 - 20th Century Europe (3 credits)

HST 387 - Modern Germany (3 credits)

HST 389 - Russian History (3 credits)

HST 390 - Soviet History (3 credits)

### **East Asia Category**

HST 240 - A History of East Asia to 1800 (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

HST 241 - A History of East Asia since 1800 (3 credits)

HST 333 - Modern China (3 credits)

HST 342 - History of Buddhism and East Asian Religions (3 credits)

### **South and SW Asia Category**

HST 211 - History of Islamic Civilization (3 credits)

HST 212 - India: History and Civilization (3 credits)

HST 332 - Emergence of Modern India and South Asia (3 credits)

HST 337 - The Age of Islamic Empire (3 credits)

HST 338 - Modern Middle East (3 credits)

HST 339 - Modern Iran (3 credits)

### **Africa Category**

HST 335 - Africa Before 1870 (3 credits)

HST 336 - Africa After 1870 (3 credits)

HST 343 - History of South Africa (3 credits)

HST 331 - Modern Latin America (3 credits)

HST 334 - The Making of the Caribbean (3 credits)

### **Latin America Category**

HST 230 - Latin America in World History (3 credits)

HST 330 - Colonial Latin America (3 credits)

HST 372 - From Slavery to Freedom (3 credits)

HST 374 - Revolution in the Americas (3 credits)

HST 375 - History of Mexico (3 credits)

### **U.S. Category**

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

HST 303 - Era of Sectional Conflict, Civil War, and Reconstruction (3 credits)

HST 305 - America Confronts Modernity (3 credits)

HST 306 - The 'American Century': From the Great Depression to Vietnam (3 credits)

HST 307 - United States since 1970 (3 credits)

HST 311 - History of Religion in the United States (3 credits)

HST 312 - History of American Women (3 credits)

HST 314 - African American History (3 credits)

HST 315 - Latinos: The Forging of Ethnic Identities (3 credits)

HST 316 - U.S. Civil Rights Movement History (3 credits)

HST 317 - History of American Foreign Relations (3 credits)

HST 318 - History of Democracy in America (3 credits)

HST 320 - American Indians (3 credits)

HST 322 - American Identity and Sports (3 credits)

HST 327 - History of United States Urban Society (3 credits)

HST 328 - U.S. Constitutional and Legal History (3 credits)

HST 329 - U.S. Intellectual History (3 credits)

## **Health Administration**

For additional information about opportunities your college offers, please refer to the College of Education and Community Innovation section in this catalog.

The mission of the School of Public, Nonprofit, Health, Hospitality, and Tourism Management is to educate students for lives of active citizenship as contributing members of their local, regional, national and global communities, and for professional careers in public and nonprofit organizations. We are dedicated to developing in our graduates the capacities for ethical judgment, critical thinking and the core competencies necessary to fulfill multiple roles as effective public servants and healthcare managers and leaders.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

The mission of the Master of Health Administration program (M.H.A.) is to develop new, early, and mid-career students into leaders who combine the essential knowledge, specific competencies, and practical experiences for a management career in nonprofit and governmental healthcare organizations in the Midwest, nation, and world. We actively engage the healthcare community to prepare ethical and effective practitioners for healthcare management and leadership.

An advanced degree in health administration opens up career opportunities that span the diverse components that make up the health care delivery system including: hospitals, ambulatory care practices, assisted living communities, skilled nursing facilities, home health agencies, and hospice care. In addition to direct health service providers, M.H.A. graduates are qualified for management positions in marketing, human resources, finance, and planning in pharmaceutical, medical device and supplies, and insurance companies.

**Minimum Hours for Graduation:** 48 to 54 credit hours

**Website:** [gvsu.edu/spnha](http://gvsu.edu/spnha)

### **Admission to Master of Health Administration Program**

An undergraduate grade point average of at least 3.0 on a 4.0 scale calculated on the last 60 credit hours of undergraduate coursework

Three letters of reference from informed sources

A detailed resume

An essay on career and educational objectives (250-750 words)

A demonstrated commitment to community and public service. Ideally this would be five or more years of professional work experience since receiving a baccalaureate degree.

Submitting a GRE score is recommended for applicants who have neither a 3.0 undergraduate GPA nor five years of professional experience. The GRE is also recommended for applicants applying for a graduate assistantship with SPNHA.

## **Master of Health Administration**

### **Requirements**

The curriculum is multidisciplinary (includes health administration, health professions, public and nonprofit management, business, and computing science) and consists of a large required core and a choice of concentration. Other courses, such as PNH 680 - Special Topics in Public and Nonprofit Administration (1 to 3 credits), PNH 693 - Research Project (3 or 6 credits) or PNH 699 - Directed Readings (3 credits) may be substituted for concentration or core courses

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

with advisor approval. The program consists of a total of 48 to 54 credit hours depending on student status.

Student status is determined after program entry. Students are classified as precareer (little or no experience working in the field of health care), early career (some experience working in the field of health care but little or no management experience), and midcareer (several years of experience working in the field of health care and currently holding a management position in the field). Precareer students must complete two internships (6 credits), early career students must complete one internship (3 credits), and midcareer students are not required to complete an internship.

### **Core Courses**

There are 36 credits required, including:

PNH 611 - Research Methods (3 credits)

PNH 612 - Human Resources in Organizations (3 credits)

PNH 614 - Organization Theory (3 credits)

PNH 630 - Health Administration and Service (3 credits)

PNH 631 - U.S. Health Policy and Politics (3 credits)

PNH 632 - Health Services Financial Management (3 credits)

PNH 633 - Health Economics (3 credits)

PNH 634 - Health Care Law and Ethics (3 credits)

PNH 636 - Health Care Quality Improvement (3 credits)

PNH 640 - Marketing Health and Human Services (3 credits)

PNH 643 - Strategic Management and Planning (3 credits)

CIS 665 - Clinical Information Systems (3 credits)

### **Concentrations**

There are nine credits required.

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

There are four concentrations available: one in hospital administration, one in long term care administration, one self-directed concentration for mid-career students, and one concentration in finance.

### **1. Hospital Administration**

Prerequisites: PNH 611 and PNH 630 may be concurrent.

Required courses include:

PNH 635 - Hospital Organization and Management (3 credits)

PNH 639 - Community Benefits Assessment and Management (3 credits)

PNH 646 - Managerial Epidemiology for Health Administrators (3 credits)

### **2. Long-term Care Administration**

Prerequisites: PNH 611 and PNH 630 may be concurrent.

Required courses include:

PNH 638 - Continuing Care Organization and Management (3 credits)

PNH 645 - Opportunities in Aging Societies (3 credits)

PNH 646 - Managerial Epidemiology for Health Administrators (3 credits)

### **3. Self-directed Concentration**

Prerequisites: PNH 611 and PNH 630 may be concurrent.

Required: Nine credits selected and preapproved by advisor.

### **4. Finance**

ACC 611 - Contemporary Managerial Accounting (3 credits)

FIN 626 - Advanced Managerial Finance (3 credits) **OR** ECO 641 - Business Economics and Strategy (3 credits)

PNH 646 - Managerial Epidemiology for Health Administrators (3 credits)

### **5. Practice Management**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

PNH 637 - Healthcare Practice Management (3 credits)

PNH 639 - Community Benefits Assessment and Management (3 credits)

PNH 646 - Managerial Epidemiology for Health Administrators (3 credits)

### **Capstone**

There are nine credits required.

Prerequisites: PNH 611 and PNH 630 and one additional core course.

PNH 619 is the Capstone course for the M.H.A. program. It may be substituted with PNH 693 - Research Project (3 or 6 credits).

PNH 690 and PNH 691 are required for students with fewer than three years of professional experience. Early and mid-career students may, based on health care management experience, have one or both internships waived.

Special topics courses (PNH 680) or other graduate-level courses may be substituted for specialization courses with advisor's permission.

Students must complete the following courses:

PNH 619 - Public Management Seminar (3 credits)

PNH 690 - Public Administration Internship I (3 credits)

PNH 691 - Public Administration Internship II (3 credits)

## **Health and Physical Education**

For additional information about opportunities your college offers, please refer to your College of Liberal Arts and Sciences section in this catalog.

**Website:** [gvsu.edu/physicaleducation](http://gvsu.edu/physicaleducation)

The Department of Movement Science offers students the opportunity to obtain a B.S. in health and physical education teacher education. The health and physical education program is designed to prepare physical education teaching professionals to promote quality physical education, lifelong skills, and developmentally appropriate activities. Students will incorporate health and physical literacy into the broader goal of both health and physical education curricula. As such, the faculty prepare future health and physical educators through excellent teaching, scholarly activity, and service which reflect the programs commitment to the Society of Health and Physical Education (SHAPE America) Standards. These standards include competencies in

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

scientific and theoretical knowledge; abilities in movement performance and health enhancing fitness; skills in planning and implementing developmentally appropriate activities; digital literacy skills; effective communication and pedagogical skills; strong health and physically literacy skills and the ability to assess student learning. Students will also engage and demonstrate the characteristics to become effective professionals. Students will have experience teaching at both the elementary and secondary levels in health and physical education as well as opportunities in working with students who have movement differences. With a degree in health and physical education teacher education, our students are prepared to teach in the PK-12 environment.

Students majoring in health and physical education teacher education PK-12 may obtain a Michigan certification to teach health and physical education. In addition to the health and physical education content, those seeking teacher certification must complete a 39-credit professional education program from the College of Education and Community Innovation (see the GVSU College of Education and Community Innovation website for more information). Secondary admission to the College of Education and Community Innovation requires at least a 2.7 GPA overall and in the major.

## **Bachelor of Science in Health and Physical Education**

The health and physical education teacher education PK-12 degree is designed to prepare professionals who promote quality health and physical education, lifelong skills and developmentally appropriate activities. As such, the faculty prepare future health and physical educators through excellent teaching, scholarly activity, and service which reflect the program's commitment to the Society of Health and Physical Education (SHAPE America) Standards.

**Website:** [gvsu.edu/physicaleducation](http://gvsu.edu/physicaleducation)

### **Accreditation**

The College of Education and Community Innovation maintains CAEP accreditation for all teacher preparation programs. The health and physical education teacher education degree maintains approval from the Michigan Department of Education.

### **Requirements for a Major in Health and Physical Education**

Students majoring in health and physical education teacher education PK-12 may obtain a Michigan certification to teach health and physical education. In addition, to the health and physical education content, those seeking teacher certification must complete a 39-credit professional education program from the College of Education and Community Innovation (see the GVSU College of Education and Community Innovation website for more information). Secondary admission to the College of Education and Community Innovation requires at least a 2.7 GPA overall and in the major.

### **Requirements for a Major in Health and Physical Education Teacher Education**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Students in the health and physical education teacher education program at Grand Valley State University must follow all general education requirements as defined by the Grand Valley State University Undergraduate and Graduate Catalog.

### **Health and Physical Education Teacher Education B.S. Course Requirements**

The following must be completed for the major in physical education (nine credits):

HPE 309 - Assessment in Health and Physical Education (3 credits)

MOV 300 - Kinesiology (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

### **Health and Physical Education Teacher Education Major Courses (credits: 60)**

BMS 105 - Basic Nutrition (3 credits)

BMS 202 - Anatomy and Physiology (4 credits)

FIT 150 - Swimming: Strokes and Drills (1 credit) **OR** FIT 151 - Fitness Swimming (1 credit)

HPE 195 - Introduction to Teaching Health and Physical Education (3 credits)

HPE 200 - Methods of Teaching Dance (2 credits)

PED 207 - Personal Health and Wellness (3 credits)

HPE 220 - Methods of Teaching Net/Wall/Target Activities (2 credits)

HPE 230 - Methods of Teaching Invasive Games (2 credits)

HPE 240 - Methods for Teaching Health Related Fitness (3 credits)

HPE 260 - Methods of Teaching Outdoor Pursuits (3 credits)

HPE 264 - Methods of Teaching Early Childhood Movement and Health (2 credits)

HPE 270 - Methods of Teaching Skills-Based Health Education (3 credits)

HPE 272 - Methods of Teaching Reproductive Health (2 credits)

HPE 301 - Methods of Teaching Secondary Health Education (3 credits)

HPE 302 - Methods of Teaching Adapted Physical Education (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

HPE 306 - Methods of Teaching Elementary Physical Education (3 credits)

HPE 307 - Methods of Teaching Secondary Physical Education (3 credits)

HPE 401 - Professionalism in Health and Physical Education (Capstone) (3 credits)

MOV 101 - Foundations of Human Movement Science (3 credits)

MOV 304 - Introduction to Exercise Physiology (3 credits)

MOV 310 - Motor Skill Development (3 credits)

SOC 252 - Sociology of Drug Use and Abuse (3 credits)

## **Suggested Order of Coursework for Health and Physical Education Teacher Education**

### **Year One**

FIT 150 - Swimming: Strokes and Drills (1 credit) **OR** FIT 151 - Fitness Swimming (1 credit)

HPE 195 - Introduction to Teaching Health and Physical Education (3 credits)

PED 207 - Personal Health and Wellness (3 credits)

HPE 264 - Methods of Teaching Early Childhood Movement and Health (2 credits)

MOV 101 - Foundations of Human Movement Science (3 credits)

PSY 101 - Introductory Psychology (3 credits)

### **Year Two**

BMS 105 - Basic Nutrition (3 credits)

BMS 202 - Anatomy and Physiology (4 credits)

HPE 200 - Methods of Teaching Dance (2 credits)

HPE 220 - Methods of Teaching Net/Wall/Target Activities (2 credits)

HPE 240 - Methods for Teaching Health Related Fitness (3 credits)

HPE 260 - Methods of Teaching Outdoor Pursuits (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MOV 300 - Kinesiology (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

### **Year Three**

HPE 230 - Methods of Teaching Invasive Games (2 credits)

HPE 270 - Methods of Teaching Skills-Based Health Education (3 credits)

HPE 272 - Methods of Teaching Reproductive Health (2 credits)

HPE 301 - Methods of Teaching Secondary Health Education (3 credits)

MOV 304 - Introduction to Exercise Physiology (3 credits)

MOV 310 - Motor Skill Development (3 credits)

PSY 301 - Child Development (3 credits)

SOC 252 - Sociology of Drug Use and Abuse (3 credits)

### **Year Four**

EDF 315 - Diverse Perspectives on Education (3 credits)

EDI 338 - Teachers as Decision Makers: Instruction and Assessment in Elementary Schools (3 credits) **OR** EDI 339 - Teachers as Decision Makers: Instruction and Assessment in Secondary Schools (3 credits)

EDS 378 - Universal Design for Learning: Elementary (3 credits) **OR** EDS 379 - Universal Design for Learning: Secondary (3 credits)

HPE 302 - Methods of Teaching Adapted Physical Education (3 credits)

HPE 306 - Methods of Teaching Elementary Physical Education (3 credits)

HPE 307 - Methods of Teaching Secondary Physical Education (3 credits)

HPE 309 - Assessment in Health and Physical Education (3 credits)

HPE 401 - Professionalism in Health and Physical Education (Capstone) (3 credits)

### **Year Five**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

EDF 485 - The Context of Educational Issues (3 credits)

EDI 310 - Building and Sustaining Positive Learning Environments (3 credits)

EDI 331 - Methods and Strategies of Secondary Teaching (5 credits)

EDI 431 - Student Teaching, Secondary (8 credits)

EDI 432 - Student Teaching, Secondary Content Practicum (2 credits)

EDR 321 - Content Area Literacy (3 credits)

EDT 370 - Technology in Education (3 credits)

Please note that one semester during your fifth year will be in an elementary setting and the other semester will be in the secondary setting. During the secondary semester, students will teach both health and physical education.

## Physical Education Minor

### Requirements

Students seeking a teachable minor in secondary physical education must complete the following (23 credits):

MOV 201 - Psychosocial Aspects of Physical Education and Sport (3 credits)

**OR** SPM 202 - Social Cultural Dimensions of Sport (3 credits)

MOV 300 - Kinesiology (3 credits)

MOV 304 - Introduction to Exercise Physiology (3 credits)

MOV 310 - Motor Skill Development (3 credits)

HPE 302 - Methods of Teaching Adapted Physical Education (3 credits)

HPE 307 - Methods of Teaching Secondary Physical Education (3 credits)

**AND** two of the following courses:

HPE 200 - Methods of Teaching Dance (2 credits)

HPE 220 - Methods of Teaching Net/Wall/Target Activities (2 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

HPE 230 - Methods of Teaching Invasive Games (2 credits)

HPE 240 - Methods for Teaching Health Related Fitness (3 credits)

## School Health Education Minor

### Requirements

This 24-credit hour minor is approved by the State of Michigan for secondary education majors. This minor prepares school health education candidates to teach health education in grades six through 12. Students seeking a teachable minor in school health education must complete the following requirements:

BMS 105 - Basic Nutrition (3 credits)

BMS 202 - Anatomy and Physiology (4 credits)

HPE 270 - Methods of Teaching Skills-Based Health Education (3 credits)

HPE 272 - Methods of Teaching Reproductive Health (2 credits) Online.

HPE 301 - Methods of Teaching Secondary Health Education (3 credits)

PED 207 - Personal Health and Wellness (3 credits) Online.

PH 222 - Public Health Concepts (3 credits) **OR** BMS 223 - Infectious Human Diseases; Prevention and Control (3 credits)

SOC 252 - Sociology of Drug Use and Abuse (3 credits)

## Health Communication

For additional information about opportunities your college offers, please refer to the School of Communication web site.

**Website:** [gvsu.edu/soc](http://gvsu.edu/soc)

The need for professional communicators in the health care industry has never been greater or more urgent. This industry, one of the largest in the United States, is expanding. It is also changing, so that the nature of health care delivery in the 21st century will be drastically different from what it is today.

Hospital-based health care under the supervision of a physician in private practice is being replaced by a complex system of health maintenance organizations (HMOs). These old and new

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

components of health care, in keen competition with each other, have turned to techniques used by other industries. They are retailing their services to the public, using marketing, advertising, direct sales, public relations, and information activities.

The health communicator has the vital role of facilitating communications between aware but technically naive consumers and a system that is operated by highly skilled, deeply educated technical professionals whom the public does not fully understand. Thus, the skills and competency of the health communicator have become central to the success of the health care industry and, indeed, to its success in maintaining wellness and conquering disease.

Health communicators are well-educated college graduates who have a foundation in biomedical sciences and who understand the principles and techniques of human communication. They are adept at written and visual communication and are skilled in public relations, advertising, and marketing. Health communicators also know the health care industry and its markets of potential patients.

Note: The health communication major requires COM 201 to be taken in the School of Communication core.

## **Bachelor of Arts or Bachelor of Science in Health Communication**

### **Requirements for a Major in Health Communication**

#### **Core Courses**

All students majoring in the School of Communications must complete the following core courses, for a total of nine credits:

COM 101 - Concepts of Communication (3 credits)

COM 295 - Communication Theory (3 credits)

Select one of two:

COM 201 - Speech (3 credits)

COM 215 - Story Making (3 credits)

Capstone requirement:

COM 495 - Issues in Communication (Capstone) (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

All students majoring in Health Communication must take COM 495 (three credits) during their senior year. This Capstone course offers a synthesis of ideas and theories about one or more current critical issues in communication.

## **B.A. and B.S. Degree Requirements**

All undergraduate programs in the School of Communications offer both the B.A. degree and the B.S. degree. All students selecting majors in the School of Communications must choose either the B.A. degree requirements or the B.S. degree requirements for a particular undergraduate program.

### **B.A. in Health Communication**

The B.A. degree in health communication requires a third-semester proficiency in a classical or modern foreign language of the student's choice.

### **B.S. in Health Communication**

The Bachelor of Science degree in health communication requires the following three courses:

COM 275 - Foundations of Communication Research (3 credits)

COM 375 - Communication Research (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

### **Biomedical Sciences Core**

There are 19 credits required.

A higher-level laboratory biology class (such as BIO 120) can be substituted for BIO 104. A higher-level laboratory chemistry class (such as CHM 115) can be substituted for CHM 109. See the School of Communications for an evaluation and further recommendations.

BMS 202 - Anatomy and Physiology (4 credits)

BMS 223 - Infectious Human Diseases; Prevention and Control (3 credits)

CHM 109 - Introductory Chemistry (4 credits)

AHS 340 - Health Care Management (3 credits)

AHS 100 - Medical Terminology (3 credits)

BIO 104 - Biology for the 21st Century (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Health Communication**

Core courses include 27 credits.

CAP 209 - Advertising Basics (3 credits)

CAP 219 - Public Relations Basics (3 credits)

CAP 321 - Media Relations Writing (3 credits)

CMJ 256 - News Reporting (3 credits)

CMJ 390 - Technical Writing (3 credits)

COM 209 - Health Communication Systems (3 credits)

COM 410 - Senior Seminar in Health Communication (3 credits)

COM 490 - Internship (1 to 6 credits)

MKT 300 - Fundamentals of Marketing for Non-Business Majors (3 credits)

## **Elective Courses**

There are six elective credits required. Choose two courses from the list or consult with your faculty advisor for assistance in choosing elective courses.

ANT 320 - Culture and Disease (3 credits)

COM 210 - Nonverbal Communication (3 credits)

COM 378 - Intercultural Communication (3 credits)

COM 438 - Communication Ethics (3 credits)

PH 222 - Public Health Concepts (3 credits)

SOC 286 - Sociology of Health Care (3 credits)

## **Capstone**

COM 495 - Issues in Communication (Capstone) (3 credits)

# **Health Informatics and Bioinformatics**

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

For additional information about opportunities your college offers, please refer to the Seymour and Esther Padnos College of Engineering and Computing section in this catalog.

**Website:** [gvsu.edu/grad/bioinfo](http://gvsu.edu/grad/bioinfo)

The Master of Science degree in health informatics and bioinformatics was developed in parallel with two other closely related M.S. programs, one in biostatistics and another in biotechnology. Recently a data science and analytics PSM program has been added. The curriculum for each of the four programs is interdisciplinary, shares a common core, has a similar curriculum design, has a mandatory business/industry internship component, and can be characterized as a "professional science master's degree."

The professional science master's (PSM) degree is an innovative graduate degree to allow students to pursue advanced training in science and technology, while simultaneously developing workplace skills valued by employers. PSM programs consist of two years of academic training in an emerging interdisciplinary area, closely tied to the scientific workforce needs of business/industry, with an intensive internship experience. The health informatics and bioinformatics Master of Science degree consists of 12 varied-credit courses (totaling 36 credit hours). Classes are in downtown Grand Rapids (Pew Grand Rapids Campus) at the Eberhard Center.

### **Mission**

The mission of the professional science masters (PSM) program in health informatics and bioinformatics is to educate and train graduates for leadership roles in healthcare and research institutions, pharma- and biotechnology industries and other sectors of the life sciences by providing them with interdisciplinary knowledge, skills and experience to use computer technology in managing and analyzing information in healthcare and the life sciences to create a qualified workforce for the future needs of the regional industry. We also require training in understanding ethical, social, and legal issues. We serve health and bioinformatics professionals and consumers by participating in relevant professional societies and continuing education programs, while maintaining informatics leadership in the community. We seek to attract diverse candidates from all backgrounds and experiences.

To enable students to attain this goal, the faculty have three primary responsibilities. First, we will offer a solid conceptual foundation required for a career in health informatics and bioinformatics. Second, we will provide direct, experiential knowledge of the technology necessary to be a productive user/producer of information technology in healthcare and the life sciences. Third, we will instill attitudes essential to all health informatics and bioinformatics professionals.

To achieve these goals, we:

- work continuously to keep our curriculum relevant to our mission;

- ensure that work-relevant experience is part of every class;

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

establish and nurture industrial contacts; and

establish an integrated, supported internship experience for our health informatics and bioinformatics students.

## **Admission to the Master of Science in Health Informatics and Bioinformatics Program**

U.S. students including international students with an undergraduate degree from a U.S. university must have an overall undergraduate grade point average of at least 3.0 on a 4-point scale or a satisfactory score on the GRE or GMAT test. All international students must have a satisfactory score on the GRE or GMAT test, regardless of their undergraduate GPA.

Submit a resume detailing work experiences and accomplishments.

Submit a personal statement of career goals and background experiences, including an explanation of how this program will help achieve educational and professional objectives.

Submit written recommendations from at least two individuals who are in positions to attest to the applicant's potential for successful completion of the program.

Applicants must have a base of underlying knowledge relevant to graduate study in the health informatics or bioinformatics fields. This can be demonstrated by previous academic study or work experience. Consultation with a program faculty advisor is necessary to verify appropriateness of work experience as a substitute for academic preparation. Candidates without sufficient relevant background experience may satisfy any deficiency with appropriate graduate or undergraduate courses, as recommended by a faculty advisor in the program and approved by the health informatics and bioinformatics admissions committee and the program director.

A health informatics and bioinformatics program Admissions Committee will determine admission to the program. Admission to the M.S. in health informatics and bioinformatics status may be full or conditional; conditional admission may be granted to applicants with deficiencies in their background. When identified deficiencies are satisfactorily met, the applicant will be granted full admission to the program. Applications for admission will be reviewed as they are submitted.

## **Curriculum Design**

Each of the PSM degree programs share courses common to all five programs, specific courses for critical content in each discipline, laboratory experiences essential for the development of requisite skill and knowledge sets, a common seminar series, a Capstone course, and internships to provide essential hands-on learning in the field. All five programs are interdisciplinary, non-

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thesis, and involve both the university and its industry partners. All five programs emphasize teamwork, problem solving, communication, and scientific knowledge and technical skills. Each program is designed to integrate university coursework with business and industrial internships to better prepare students for the variety of career pathways associated with the life science and health science industries.

### **Internships**

A minimum of four credits of internship is a required component of the health informatics and bioinformatics program.

## **Master of Science in Health Informatics and Bioinformatics**

### **Requirements**

Overall requirements for the M.S. in health informatics and bioinformatics consist of 36 credits, with a cumulative GPA of 3.0. Consistent with Grand Valley policy, all courses must be completed within eight consecutive years from entry into the first graduate course.

Specific course requirements are included as follows.

### **Common Core Courses**

Four courses are required (12 credits), including:

CMB 610 - Foundations of Biotechnology (3 credits)

CIS 661 - Introduction to Health and Bioinformatics (3 credits)

PSM 650 - Ethics and Professionalism in Applied Science (3 credits)

STA 610 - Applied Statistics for Health Professions (3 credits) **OR** STA 622 - Statistical Methods for Biologists (3 credits)

### **Seminar Course**

Two credits are required:

PSM 662 - Seminar in Professional Science Practice (2 credits)

### **Directed Courses**

There are five directed courses (15 credits) required, including:

CIS 635 - Knowledge Discovery and Data Mining (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

CIS 660 - Information Management and Science (3 credits)

CIS 671 - Information Visualization (3 credits)

**AND** choose one group from the following two-course sequences:

Group One

CIS 677 - High-performance Computing (3 credits)

CIS 678 - Machine Learning (3 credits)

Group Two

CIS 665 - Clinical Information Systems (3 credits)

**AND** one of the following:

PNH 630 - Health Administration and Service (3 credits)

PNH 635 - Hospital Organization and Management (3 credits)

**Internship**

Four credits are required:

PSM 691 - Internship (1 to 9 credits)

**Capstone**

Three credits are required:

CIS 691 - Medical and Bioinformatics Capstone (3 credits)

# **Health Information Management**

## **Health Information Management Major with a Minor in Health Care Information Systems**

**Faculty:** Julie Alles, DHA, RHIA, FAHIMA; Janna Pacey, DHA, RHIA

**Website:** [gvsu.edu/ahs/health-information-management-36.htm](http://gvsu.edu/ahs/health-information-management-36.htm)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Health information management (HIM) is the practice of acquiring, analyzing, and protecting digital and traditional medical information vital to providing quality patient care. HIM organizes and manages health information data by ensuring its quality, accuracy, accessibility, and security. Health information managers regularly communicate with physicians and other healthcare professionals to clarify diagnoses or to obtain additional information.

The increasing use of electronic health records (EHR) will continue to broaden and alter the job responsibilities of HIM. HIM administrators must be familiar with EHR computer software, maintaining EHR security, and analyzing electronic data to improve healthcare information. HIM uses EHR software to maintain data on patient safety and disease treatment and outcome. Administrators also may assist with improving EHR software usability and contribute to the development and maintenance of health information networks.

Students pursuing the health information management program will also complete the minor in health care information systems through the Computer Information Systems (CIS) department ([cis.gvsu.edu](http://cis.gvsu.edu)).

### **Program Accreditation**

The baccalaureate degree in health information management at Grand Valley State University is accredited by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM).

### **Secondary Admissions Criteria for the Health Information Management (HIM) Program:**

The HIM program is a secondary admission. The health information management courses and the minor in health care information systems courses will be delivered in a completely online format. The admissions process will take place winter semester and will require a HIM application be completed and submitted, prior to the fall entry of the same year. The minimum criteria for admission will be:

Completion of the HIM application form

A minimum overall GPA of 2.5

Completion of 45 semester hours, which includes current enrollment, verified by transcript(s)

Grade of C or better in BMS 250, BMS 251, and AHS 100

Completion of Prerequisite and General Education coursework prior to the practicum phase of the program

Students are strongly encouraged to meet periodically with their academic advisor in the College of Health Professions (CHP) to determine progress toward and eligibility for admission into the

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health information management program. Refer to [gvsu.edu/chpss](http://gvsu.edu/chpss) for advisor appointments. Upon admission into the program students are assigned to a HIM faculty advisor.

## **Bachelor of Science in Health Information Management**

### **Required Courses**

AHS 100 - Medical Terminology (3 credits)

AHS 110 - Introduction to Health Care (3 credits)

AHS 301 - Introduction to Health Care Research (3 credits)

PH 222 - Public Health Concepts (3 credits)

BMS 250 - Anatomy and Physiology I (4 credits)

BMS 251 - Anatomy and Physiology II (4 credits)

CIS 150 - Introduction to Computing (3 credits)

CIS 160 - Learn to Code in Python (3 credits)

CIS 231 - Problem Solving Using Spreadsheets (3 credits)

CIS 233 - Concepts of Database Systems (3 credits)

CIS 237 - Introduction to Network Management (3 credits)

CIS 340 - Health Care Information Systems (3 credits)

HIM 301 - Introduction to Health Information Management (3 credits)

HIM 302 - Health Care Law (3 credits)

HIM 304 - Advanced Med Terms of Disease (3 credits)

HIM 310 - Functional and Administrative Practices in Health Information Management (3 credits)

HIM 311 - CPT/HCPCS Coding (3 credits)

HIM 320 - Applications of Organizational Planning for Health Information Management (3 credits)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

HIM 345 - Orientation to Health Information Management Practicum (1 credit)

HIM 361 - Disease Classification System I (3 credits)

HIM 362 - Disease Classification System II (3 credits)

HIM 364 - Financial Reimbursement (3 credits)

HIM 365 - Quality Management in Health Care (3 credits)

HIM 366 - Health Information Data Systems and Statistics (3 credits)

HIM 402 - Health Information Management Review (1 credit)

HIM 470 - Field Practicum in Health Information Management (11 credits)

SOC 286 - Sociology of Health Care (3 credits)

Total Prerequisite creditsC	22
Total HIM Major/CIS Minor Credits	76
Total General Education Credits (unduplicated)	31
<b>Total Credits</b>	<b>129</b>

The minor in CIS health information systems is required in this program. Students must take two courses with the Supplemental Writing Skills (SWS) designation. Math 110 is a prerequisite to courses in the mathematical foundations. The health information and reimbursement emphasis under the allied health sciences major will be replaced by the health information management program.

## **Suggested Order of Coursework**

### **Year One**

Fall Semester (14 credits):

General education Arts (3 credits)

General education Philosophy and Literature (3 credits)

BIO 120 - General Biology I (4 credits)

WRT 150 - Strategies in Writing (4 credits)

Winter Semester (15 credits):

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

General education U.S. Diversity (3 credits)

General education Social and Behavioral Sciences (3 credits)

General education Physical Sciences (3 credits)

AHS 110 - Introduction to Health Care (3 credits)

CIS 150 - Introduction to Computing (3 credits)

## **Year Two**

Fall Semester (16 credits):

General education History (3 credits) HST 203 SWS is advised.

AHS 100 - Medical Terminology (3 credits)

BMS 250 - Anatomy and Physiology I (4 credits)

CIS 160 - Learn to Code in Python (3 credits)

CIS 231 - Problem Solving Using Spreadsheets (3 credits)

Winter Semester (16 credits):

General education Social and Behavioral Sciences (3 credits)

BMS 251 - Anatomy and Physiology II (4 credits)

CIS 233 - Concepts of Database Systems (3 credits)

CIS 237 - Introduction to Network Management (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

## **Year Three**

Fall Semester (15 credits):

General education Global Perspectives - Issues (3 credits)

PH 222 - Public Health Concepts (3 credits)

CIS 340 - Health Care Information Systems (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

HIM 301 - Introduction to Health Information Management (3 credits)

HIM 304 - Advanced Med Terms of Disease (3 credits)

Winter Semester (15 credits):

General education Issues (3 credits)

HIM 361 - Disease Classification System I (3 credits)

HIM 364 - Financial Reimbursement (3 credits)

HIM 365 - Quality Management in Health Care (3 credits)

HIM 366 - Health Information Data Systems and Statistics (3 credits)

Sprint/Summer Semester (9 credits):

AHS 301 - Introduction to Health Care Research (3 credits)

HIM 302 - Health Care Law (3 credits)

HIM 362 - Disease Classification System II (3 credits)

## **Year Four**

Fall Semester (13 credits):

HIM 310 - Functional and Administrative Practices in Health Information Management (3 credits)

HIM 311 - CPT/HCPCS Coding (3 credits)

HIM 320 - Applications of Organizational Planning for Health Information Management (3 credits)

HIM 345 - Orientation to Health Information Management Practicum (1 credit)

SOC 286 - Sociology of Health Care (3 credits)

Winter Semester (13 credits):

HIM 402 - Health Information Management Review (1 credit)

HIM 470 - Field Practicum in Health Information Management (11 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

# History

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

**Website:** [gvsu.edu/history](http://gvsu.edu/history)

The study of the past has captivated generations of people around the globe. As historical beings, we wonder about the ways our ancestors lived, the origins of our cultural and political practices, the causes of important events (both local and global), and the reasons for technological and economic disparities between peoples in our modern world. History explores the past in order to seek answers to such questions and to better understand our world.

As one of the liberal arts, history provides the opportunity to explore the past through a careful consideration of the evidence our forebears have left behind. Historians make critical contributions to society in diverse areas, such as teaching, the law, business, foreign and civil service, archival work, museum studies, professional writing and editing, and library science, just to name a few. In sum, a historian possesses the primary training for any job that requires analytical writing and reading skills and an ability to communicate ideas knowledgeably and clearly.

## **Degrees Offered:**

Bachelor of Arts, Bachelor of Science in history, major and minor for secondary teaching certification, minor in history, minor in history of science.

## **Mission**

The Department of History advances public knowledge and understanding of the past as it informs the present and future. We offer a multidisciplinary approach that combines our global cultural heritage with long-neglected voices, uses a range of tools and perspectives, and provides the knowledge and skills necessary for informed decision making.

## **Vision**

We provide a student-centered program that is committed to excellent teaching, scholarship, and service. Through our commitment to the liberal arts tradition, we help students develop skills of inquiry, reflection, critical analysis, dialogue, and expression. We are dedicated to inspiring all our students, be they our history and group social studies majors or students we encounter in our general education courses, to pursue excellence in their chosen professions and serve the broader local, regional, national, and international communities in which they live.

As a community of scholars, we help to enlarge the state of knowledge in our field through our active engagement in intellectual and creative pursuits. We recognize that active scholarship enriches our teaching and enables us to serve students, the university, and the broader

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community. We bring the historian's perspective to courses in the Meijer Honors College and other interdisciplinary programs, and we participate actively in preparing teachers of history and social studies, as well as preparing our majors for further study and careers in a variety of fields. We promote faculty and student participation in national and international inquiry and discourse. We are dedicated to serving the broader West Michigan community through our engagement in local and regional history forums.

## **Participating Programs**

The history department participates with the following:

African/African American studies

Archaeology

Art history

Classics

College of Education

East Asian studies

Frederik Meijer Honors College

Group social studies

International relations

Integrative studies

Latin American studies

Middle East studies

Women, gender, and sexuality studies

## **Honors Organization**

### **Phi Alpha Theta**

The local chapter of this international history honor society promotes the study of history by honoring students who have maintained high academic standards throughout their college careers. Members participate in a variety of intellectual and social activities throughout the academic year. Students who have completed at least four history classes at Grand Valley State University with a minimum GPA of 3.25 in those history classes, and an overall GPA of at least

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3.25 are encouraged to apply. Contact Professor Alice Chapman, chapter advisor, for more information.

## **Bachelor of Arts or Bachelor of Science in History**

### **Requirements for a History Major**

#### **Without Secondary Teaching Certification**

Students majoring in history are required to complete at least 39 credit hours, including a course in writing history (HST 200 - Introduction to the Study of History), any three 200-level foundation courses, six 300-level electives, two junior seminars, and the Capstone.

The electives in history for all majors must include at least one 300-level course in U.S. history, one 300-level course in European history, and one 300-level course in non-Western history. All students must also take three additional upper-division history courses from among HST 300-399, HSC 399, HST 405, HST 415, HST 420, and HST 490. Students will select those courses in consultation with their major advisor. Majors must maintain a GPA of at least 2.0 in courses in the department and must receive a grade of C or better in HST 200 and HST 495.

#### **With Secondary Teaching Certification**

Students majoring in history with secondary teaching certification are required to complete at least 39 credit hours, including a course in writing history (HST 200 - Introduction to the Study of History), two World history courses (HST 203 - World History to 1500 A.D. and HST 204 - World History since 1500), two American history courses (HST 205 - American History to 1877 and HST 206 - American History since 1877), and the Capstone. Students pursuing teacher certification must also take SST 310 and six 300-level electives in history. Only one of the foundation courses can come from the 100-level.

The electives in history for all majors must include at least one 300-level course in United States history, one 300-level course in European history, and one 300-level course in non-Western history. All students must also take three additional 300-level history courses. An internship, HST 490 or HST 415, may be substituted for a 300-level elective. Students will select those courses in consultation with their major advisor. Majors must maintain a GPA of at least 2.0 in courses in the department and must receive a grade of C or better in HST 200 and HST 495. Majors seeking teacher certification must maintain a GPA of at least 3.0 in the major.

### **B.A. or B.S. Degree Requirements**

Students planning to enter a program of graduate study in history should earn a B.A. degree. Candidates for the B.A. degree must demonstrate third-semester proficiency in a foreign language, either by completing successfully a 201-level language course or by passing a proficiency examination in the language chosen.

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

History and social studies majors will have the opportunity to complete a B.S. degree. The B.S. option is designed to give students training in scientific analysis that they can apply to their careers in teaching and historical research. A B.S. in history can be fulfilled by taking the following courses.

Please note that STA 215 is a prerequisite for HST 290 (or EDT 370 if student is majoring in group social studies or fulfilling requirements for a secondary certification).

Students who choose to earn a B.S. degree must complete the following sequence:

STA 215 - Introductory Applied Statistics (3 credits)

HST 290 - Research Methods in History (3 credits)

HST 400 - Junior Seminar in History (3 credits)

Students who choose to earn a B.S. degree with secondary certification must complete the following sequence:

STA 215 - Introductory Applied Statistics (3 credits)

EDT 370 - Technology in Education (3 credits)

HST 290 - Research Methods in History (3 credits)

### **Writing History**

HST 200 - Introduction to the Study of History (3 credits)

### **History Foundation Courses**

The following restrictions apply to the history foundation requirements:

Students who take HST 101 may only count one of the following foundation courses toward the major: HST 203 or HST 204.

Students who take HST 102 may only count one of the following foundation courses toward the major: HST 207 or HST 208.

Students who take HST 103 may only count one of the following courses toward the major: HST 205 or HST 206.

HST 101 - Introduction to World Civilizations (3 credits)

HST 102 - Introduction to European Civilizations (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

HST 103 - Introduction to American Civilizations (3 credits)

HST 203 - World History to 1500 A.D. (3 credits)

HST 204 - World History since 1500 (3 credits)

HST 205 - American History to 1877 (3 credits)

HST 206 - American History since 1877 (3 credits)

HST 207 - European Civilization to the Later Middle Ages (3 credits)

HST 208 - European Civilization since the Later Middle Ages (3 credits)

HST 211 - History of Islamic Civilization (3 credits)

HST 212 - India: History and Civilization (3 credits)

HST 230 - Latin America in World History (3 credits)

HST 240 - A History of East Asia to 1800 (3 credits)

HST 241 - A History of East Asia since 1800 (3 credits)

HSC 201 - The Scientific Revolution (3 credits)

HSC 202 - The Technological Revolution (3 credits)

\*Students seeking teacher certification are required to take:

SST 310 - Teaching Social Studies: Secondary (3 credits)

## **Elective Courses**

### **Category One: U.S. History**

HST 301 - Colonial America (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

HST 302 - Revolutionary America (3 credits)

HST 303 - Era of Sectional Conflict, Civil War, and Reconstruction (3 credits)

HST 305 - America Confronts Modernity (3 credits)

HST 306 - The 'American Century': From the Great Depression to Vietnam (3 credits)

HST 307 - United States since 1970 (3 credits)

HST 308 - Cultural and Social Topics in U.S. History (3 credits)

HST 311 - History of Religion in the United States (3 credits)

HST 312 - History of American Women (3 credits)

HST 314 - African American History (3 credits)

HST 315 - Latinos: The Forging of Ethnic Identities (3 credits)

HST 316 - U.S. Civil Rights Movement History (3 credits)

HST 317 - History of American Foreign Relations (3 credits)

HST 318 - History of Democracy in America (3 credits)

HST 320 - American Indians (3 credits)

HST 323 - Michigan History (3 credits)

HST 327 - History of United States Urban Society (3 credits)

HST 328 - U.S. Constitutional and Legal History (3 credits)

HST 329 - U.S. Intellectual History (3 credits)

HST 370 - History of Medicine and Health (3 credits)

HST 378 - Contesting Human Rights (3 credits)

**Category Two: European History**

HST 309 - Cultural and Social Topics in European History (3 credits)

HST 350 - Ancient Greece (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

HST 351 - Ancient Rome (3 credits)

HST 355 - Medieval Europe (3 credits)

HST 360 - Tudor and Stuart England (3 credits)

HST 361 - Modern Britain (3 credits)

HST 364 - Renaissance and Reformation Europe (3 credits)

HST 370 - History of Medicine and Health (3 credits)

HST 377 - History of Warfare (3 credits)

HST 378 - Contesting Human Rights (3 credits)

HST 386 - 20th Century Europe (3 credits)

HST 387 - Modern Germany (3 credits)

HST 390 - Soviet History (3 credits)

### **Category Three: Non-Western History**

HST 310 - Cultural and Social Topics in Nonwestern History (3 credits)

HST 330 - Colonial Latin America (3 credits)

HST 331 - Modern Latin America (3 credits)

HST 332 - Emergence of Modern India and South Asia (3 credits)

HST 333 - Modern China (3 credits)

HST 334 - The Making of the Caribbean (3 credits)

HST 335 - Africa Before 1870 (3 credits)

HST 336 - Africa After 1870 (3 credits)

HST 337 - The Age of Islamic Empire (3 credits)

HST 338 - Modern Middle East (3 credits)

HST 339 - Modern Iran (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

HST 342 - History of Buddhism and East Asian Religions (3 credits)

HST 343 - History of South Africa (3 credits)

HST 372 - From Slavery to Freedom (3 credits)

HST 374 - Revolution in the Americas (3 credits)

HST 375 - History of Mexico (3 credits)

HST 389 - Russian History (3 credits)

HST 393 - Study Abroad: Jamaica (1 to 6 credits)

### **Course Options**

Depending on the topic studied, these courses may be used for any of the three categories. Consult with your advisor.

HST 325 - Topics in the History of Sport (3 credits)

HST 371 - Historical Perspectives on Gender and Sexualities (3 credits)

HST 376 - History of Witch Hunts (3 credits)

HST 378 - Contesting Human Rights (3 credits)

HST 380 - Special Topics in History (1 to 4 credits)

HST 399 - Independent Study (1 to 3 credits)

HST 420 - Public History (3 credits)

HST 490 - History Internship (1 to 3 credits)

HSC 399 - Readings in the History of Science (1 to 3 credits)

### **Junior Seminar in History**

History majors (nonteaching certification) are required to take either two junior seminars **OR** one junior seminar plus completion of a senior thesis.

HST 400 - Junior Seminar in History (3 credits)

HST 498 - Senior Thesis (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Capstone**

All history majors are required to take the Capstone:

HST 495 - Varieties of History (Capstone) (3 credits)

## **Transfer Students**

Transfer students seeking a major in history must complete at least 12 credits in history at Grand Valley, including a minimum of two upper-level courses. Ordinarily, transfer students will complete the Capstone course (HST 495) at Grand Valley.

## **Suggested Order of Coursework for a History Major**

### **Without Secondary Teaching Certification**

#### **Year One**

MTH 110 - Algebra (4 credits)

WRT 150 - Strategies in Writing (4 credits)

General education Foundations (three courses)

Two foreign language courses (B.A. candidates) **OR** STA 215 - Introductory Applied Statistics (3 credits) **AND** HST 290 - Research Methods in History (3 credits) (B.S. candidates)

HST 200 - Introduction to the Study of History (3 credits)

HST 290 - Research Methods in History (3 credits)

Any 200-level history course

#### **Year Two**

General education Foundations (four courses)

Any two 200-level history courses

Three 300-level history elective courses

One foreign language course (B.A. candidates)

#### **Year Three**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Three 300-level history courses

One history junior seminar

Four elective courses

General education Issues

### **Year Four**

Three 300-level history courses

General education Issues

One history junior seminar or senior thesis

Five elective courses

HST 495 - Varieties of History (Capstone) (3 credits)

### **With Secondary Teaching Certification**

### **Year One**

MTH 110 - Algebra (4 credits)

WRT 150 - Strategies in Writing (4 credits)

General education Foundations (two courses)

Two foreign language courses (B.A. candidates) **OR** STA 215 - Introductory Applied Statistics (3 credits) **AND** HST 290 - Research Methods in History (3 credits) (B.S. candidates)

HST 200 - Introduction to the Study of History (3 credits)

HST 203 - World History to 1500 A.D. (3 credits)

HST 204 - World History since 1500 (3 credits)

### **Year Two**

General education Foundations (five courses)

HST 205 - American History to 1877 (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

HST 206 - American History since 1877 (3 credits)

Two elective courses

One foreign language course (B.A. candidates)

### **Year Three**

Three 300-level history courses

Five elective courses

SST 310 - Teaching Social Studies: Secondary (3 credits)

Four elective courses

General education Issues

### **Year Four**

Three 300-level history courses

General education Issues

Six elective courses

HST 495 - Varieties of History (Capstone) (3 credits)

### **Additional Course Information**

Courses at the 100-level are introductory courses designed to fulfill the general education requirement in historical perspectives. Courses at the 200-level are introductory courses designed to prepare students for advanced study in history; HST 203 and HSC 201 also fulfill the general education requirement in Historical Perspectives. Courses at the 300-level focus on particular regions, eras or themes; they are intended for history majors and minors, social studies majors, and other interested students. All 300- and 400-level courses have prerequisites; 600-level courses are intended for graduate students and very well-qualified seniors.

We strongly encourage students to seriously contemplate taking advantage of the various semester and year-long study abroad opportunities offered by Grand Valley. History courses taken abroad may count toward the major or minor if granted prior permission by the Department of History chairperson.

### **Teacher Certification**

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

Postgraduate students seeking teacher certification with a major in history must present a history major that includes courses in American, European, and world history and **must have obtained a major GPA of at least 3.0 in previous work**. Postgraduate students whose degree in history was completed more than three years prior to Grand Valley admission must demonstrate currency by completing at least two upper-level history courses at Grand Valley; such students **must maintain a minimum GPA of 3.0 in those courses**. Students should also consult the chair or the assistant chair for an evaluation of their previous work and to discuss appropriate courses.

## History Minor

### Requirements for a Minor in History (non-teaching)

Students who minor in history must complete at least 20 credit hours, including:

HST 200 - Introduction to the Study of History (3 credits)

### Additional Courses

The remaining six history courses must be selected and meet the following requirements:

No more than three credits can be taken at the 100-level

No more than six credits can be taken at the 200-level (exclusive of HST 200)

At least nine credits must be taken at the 300- or 400-level

Minors must maintain a GPA of at least 2.0 (cumulative) in courses in the department.

Students may also count up to three credit hours of HST 490 - History Internship. We encourage students to take advantage of the various semester- and year-long study abroad opportunities led by Grand Valley faculty members. History courses taken abroad may count toward the major or minor if granted prior permission by the Department of History chairperson.

Students may count HSC 201 or HSC 202 toward HST 200-level courses, and they may count HSC 399 toward HST 300-level courses.

Transfer students seeking a minor in history must complete at least six credits from among the Grand Valley history offerings at the 300- or 400-level.

### Requirements for a Minor in History (teaching)

To complete requirements for the teachable minor, students are required to take two courses that fulfill general education requirements from the social studies core and eight courses that make up the teachable minor. Two elective courses are chosen from HST 211 and the department's upper-division courses (HST 301- HST 399). One of these two electives must be either European or

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

non-Western history; the other course may be in any area of history. HST 211 counts as a non-Western history course.

\*Note: If you are planning a social studies major with an emphasis in history, as well as a history minor, please work with your social studies advisor to ensure that you have enough unduplicated credits. In order to meet state certification requirements for nonduplication of credits in the major and the minor (36 unduplicated in a group major and 20 unduplicated in the minor), you may only use two history courses from the social studies major toward the history minor.

### **Required Courses**

Required to be taken in fulfillment of general education SBS requirements:

GPY 235 - Geography for a Changing World (3 credits)

Required to be taken as part of the history minor:

HST 200 - Introduction to the Study of History (3 credits)

HST 203 - World History to 1500 A.D. (3 credits)

HST 204 - World History since 1500 (3 credits)

HST 205 - American History to 1877 (3 credits)

HST 206 - American History since 1877 (3 credits)

PLS 206 - American Constitutional Foundations (3 credits)

SST 310 - Teaching Social Studies: Secondary (3 credits)

### **Additional Courses**

Require two electives, at least one in European or non-Western history:

HST 3\_\_ - \_\_\_\_\_

HST 3\_\_ - \_\_\_\_\_

**OR**

HST 211 - History of Islamic Civilization (3 credits)

**Minors seeking teacher certification must maintain a GPA of at least 3.0 in the minor.**

Students may also count up to three credit hours of HST 490 - History Internship. We encourage students to take advantage of the various semester- and year-long study abroad opportunities led by Grand Valley faculty members. History courses taken abroad may count toward the major or minor if granted prior permission by the Department of History chairperson.

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

Transfer students seeking a minor in history must complete at least six credits from among the Grand Valley history offerings listed in categories one, two, and three.

## **History of Science Minor**

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

In today's technological society no person can be considered to be truly educated unless he or she has an understanding of the role of science in the world. The history of science program offers students the opportunity to go beyond the accumulation of scientific facts and to gain an understanding of the historical roots of science and technology as well as the interaction between scientific history and social, literary, economic, and political history. Thus, scientists can understand the history of their discipline as a part of the progress of human civilization. Nonscientists, on the other hand, can see that science is not a frightening series of facts and formulas that appeared from the chaos, fully developed in the brain of an Einstein or a Newton.

In this regard, the history of science is no different from any other branch of intellectual history. However, because new scientific theories by their very nature render earlier theories obsolete and worthless (at least to practicing scientists), interest in scientific history has been a relatively recent phenomenon.

### **Requirements for a Minor in History of Science**

A student choosing history of science as a minor program must complete 20 hours of study in the history of science, normally including HSC 201, HSC 202, HSC 399, and related courses from other units. Courses not regularly offered may be available through independent study. Such a minor is not recognized as a teachable minor.

## **Undergraduate Certificate in Medical and Health Humanities**

Medical and health humanities is a multidisciplinary investigation of medical and health-related topics. This certificate program allows students pursuing careers in health or health-related majors, premedicine, nursing, athletic training, child life, and social work to broaden their understanding of medicine and health by incorporating the diverse perspectives of a variety of disciplines in the liberal arts and sciences. Completion of courses in the student's plan of study will result in award of the certificate in medical humanities. This shall be noted on the student's official university transcript. Students must apply for an audit for a nonteaching certificate upon completion. Visit this webpage for the certificate request form: [gvsu.edu/s/MI](http://gvsu.edu/s/MI).

### **Requirements for a Certificate in Medical and Health Humanities**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

The medical and humanities certificate requires 11 to 12 credits from the courses listed as follows. No more than two courses can have the same department prefix. Students can only apply two courses from the certificate toward a major and another two to a minor.

### **Core Course**

HST 370 - History of Medicine and Health (3 credits) (I-H, SWS)

### **Elective Courses**

The additional eight to nine credits are to be completed by taking one course from each of the three categories:

Perspectives on Human Health and Development

Perspectives Related to End of Life

Ethics in Health and Medicine

I = Issues courses: I-H = Humanities, I-I = Identity, I-HR = Human Rights, I-S = Sustainability

### **Perspectives on Human Health and Development**

AHS 352 - Introduction to Holistic Health Care (3 credits)

ANT 320 - Culture and Disease (3 credits)

COM 209 - Health Communication Systems (3 credits)

INT 325 - LGBTQ Identities (3 credits) Identity (I-I)

PED 207 - Personal Health and Wellness (3 credits)

PSY 364 - Life Span Developmental Psychology (3 credits)

PSY 367 - Health Psychology (3 credits) Health (I-H)

SOC 286 - Sociology of Health Care (3 credits)

WGS 335 - Women, Health and Environment (3 credits) Sustainability (I-S)

### **Perspectives Related to End of Life**

ENG 386 - Literary Responses to Death and Dying (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

HNR 280 - Honors Special Topics (1 to 3 credits) Evaluated case-by-case; HNR 280 may only be used once in the certificate program.

INT 314 - Life Journeys (3 credits) Identity (I-I)

NUR 344 - Healthy Aging: A Lifelong Journey (3 credits)

NUR 354 - Living with Life-Limiting Illness (3 credits) Health (I-H)

PHI 341 - Philosophy of Death and Dying (3 credits)

SOC 386 - Death and Dying (3 credits)

SOC 388 - Middle Age and Aging (3 credits)

### **Ethics in Health and Medicine**

AHS 321 - Ethical and Legal Responsibilities in Health Care (3 credits)

BIO 328 - Biomedical Ethics (3 credits) Health (I-H)

COM 438 - Communication Ethics (3 credits) Identity (I-I)

HNR 280 - Honors Special Topics (1 to 3 credits) Evaluated case-by-case; HNR 280 may only be used once in the certificate program.

HNR 312 - Honors Junior Seminar (3 credits)

PH 222 - Public Health Concepts (3 credits)

**OR** BMS 223 - Infectious Human Diseases; Prevention and Control (3 credits)

PHI 202 - Philosophy and Ethics of Health (3 credits)

PHI 325 - Ethics in Professional Life (3 credits) Human Rights (I-HR)

PLS 310 - Politics and Health Policy (3 credits)

With permission, additional special topics courses can be counted toward the medical humanities certificate.

### **Transfer Students**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

A maximum of two courses can be credited by transfer toward completion of the medical humanities certificate. Students must complete at least two of the courses for the certificate at GVSU.

### **Honors Students**

Some HNR 280 courses can be used to fulfill the certificate requirements. Sign-off will be handled on a case-by-case basis. HNR 280 can only be used to fulfill one of the elective categories.

Examples:

Ethics: HNR 280 - Food for Thought (semester 2)

End-of-Life Perspectives: HNR 280 - Live, Learn, Lead: Saging and Aging

### **Certificate Checklist**

Track the 11 to 12 credit requirements using the following list:

\_\_\_\_\_ Core Course: HST 370 - History of Medicine and Health

\_\_\_\_\_ Perspectives on Human Health and Development course: \_\_\_\_\_

\_\_\_\_\_ Perspectives Related to End of Life course: \_\_\_\_\_

\_\_\_\_\_ Ethics in Health and Medicine course: \_\_\_\_\_

## **Hospitality and Tourism Management**

For additional information about opportunities your college offers, please refer to the School of Public, Nonprofit, Health, Hospitality, and Tourism Management section in this catalog.

**Website:** [gvsu.edu/htm](http://gvsu.edu/htm)

### **Degree Offered**

B.S. in hospitality and tourism management.

### **Mission**

To provide outstanding community focused hospitality and tourism professionals with dynamic management and leadership skills grounded in significant, contemporary industry experience.

### **Adventure Tourism Management Minor**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Requirements**

Students in HTM and other majors may minor in adventure tourism management by completing 12 credits in the required core, two credits from the FIT courses, and seven elective credits as per the following plan.

### **Foundation Courses**

Complete the following 12 credits:

HTM 268 - Adventure Tourism (3 credits)

HTM 235 - Tourism and Recreation Management (3 credits)

HTM 368 - Geotourism (3 credits)

NRM 420 - Wildland Recreation Management (3 credits) Offered in fall only.

### **FIT Courses**

Choose two from the following:

FIT 119 - Outdoor Skills (1 credit)

FIT 128 - Rock Climbing (1 credit)

FIT 153 - Sailing-Large Boat (1 credit)

**OR** choose from other FIT courses with approval of department chair/assistant chair.

### **Electives**

To complete the adventure tourism management minor, students must also undertake a minimum of seven additional credits from the following:

HTM 202 - International Tourism (3 credits)

NRM 451 - Natural Resource Policy (3 credits)

NRM 300 - Ethical Recreation: Leave No Trace (1 credit)

MGT 345 - Team Building (3 credits)

MGT 330 - Entrepreneurship and Small Business Management (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MGT 364 - Service Operations Management (3 credits)

\*HTM 290/HTM 390/HTM 490 Field Experience (2 credits) Adventure tourism-based.

\*Students minoring in adventure tourism management are encouraged to consider including at least one field experience course in their program. MGT, NRM, MOV appropriate adventure-based internships may be included.

Interested students should meet with the HTM chair or assistant chair to establish a specific minor plan.

## **Bachelor of Science in Hospitality and Tourism Management**

### **Requirements**

#### Business Cognates

ACC 201 - Accounting for Non-Business Majors 1 (1.5 credits)

ACC 202 - Accounting for Non-Business Majors 2 (1.5 credits)

BUS 201 - Legal Environment for Business (3 credits)

MKT 300 - Fundamentals of Marketing for Non-Business Majors (3 credits) **OR** MKT 350 - Marketing Management (3 credits)

The hospitality and tourism program offers a Bachelor of Science (B.S.) degree. The program combines a directed sequence of field experiences with a comprehensive interdisciplinary curriculum consisting of courses in the arts and sciences, business, and hospitality and tourism.

### **Degree Requirements**

Students must complete the general university degree requirements as identified in the General Academic Regulations section of the Grand Valley State University Undergraduate and Graduate Catalog.

### **Core Management Courses**

There are 38 core credits required.

CIS 150 - Introduction to Computing (3 credits)

HTM 101 - Introduction to Hospitality and Tourism (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

HTM 213 - Introduction to Food and Beverage Management (3 credits)

HTM 222 - Introduction to Lodging Management (3 credits)

HTM 273 - Hospitality and Tourism Financial Decision Making (3 credits)

HTM 343 - Human Resource Management (4 credits)

HTM 361 - Hospitality Law and Legislation (3 credits)

HTM 373 - Hospitality Information Analysis (4 credits)

HTM 375 - Hospitality and Tourism Research (3 credits)

HTM 452 - Hospitality and Tourism Marketing (3 credits)

HTM 495 - Hospitality Management (Capstone) (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

### **Field Courses**

There are seven credits required.

HTM 190 - Field Preparation (1 credit)

HTM 290 - HTM Field Experience I (2 credits)

HTM 390 - HTM Field Experience II (2 credits)

HTM 490 - HTM Senior Internship (2 credits)

### **Concentrations**

There are a minimum of 18 credits\* required.

Complete two of the following six concentrations:

#### 1. Meeting and Event Management

HTM 240 - Introduction to Meeting and Event Management (3 credits)

\*HTM 253 - Convention Sales and Service (3 credits)

HTM 440 - Advanced Meeting and Event Management (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

## 2. Tourism Management

HTM 202 - International Tourism (3 credits)

HTM 268 - Adventure Tourism (3 credits) **OR** HTM 368 - Geotourism (3 credits)

HTM 402 - Tourism Policy Issues (3 credits)

## 3. Lodging Management

\*HTM 318 - Responsible Beverage Management (3 credits) **OR** \*HTM 253 - Convention Sales and Service (3 credits)

HTM 333 - Hospitality Facilities Management (3 credits)

HTM 422 - Advanced Lodging Management (3 credits)

## 4. Food and Beverage Management

HTM 250 - Food Production and Kitchen Management (4 credits) **OR** HTM 350 - Banquet and Catering Management (3 credits)

\*HTM 318 - Responsible Beverage Management (3 credits)

HTM 413 - Advanced Food and Beverage Management (3 credits)

## 5. Recreation and Leisure Management

HTM 235 - Tourism and Recreation Management (3 credits)

HTM 237 - Fundamentals of Recreation and Leisure Programming (3 credits)

HTM 437 - Leadership in Recreation and Leisure (3 credits)

## 6. Department Approved Customized Concentration (example as follows)

HTM 175 - International Food and Culture (3 credits)

HTM 323 - Festival and Special Event Management (3 credits)

HTM 330 - International Event Management (3 credits)

Please consult the HTM department chair or assistant chair to obtain a program of study for concentration number six. \*Note: HTM 253 and HTM 318 can only be taken once and cannot be counted in more than one concentration (no double dipping).

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Suggested Order of Coursework**

### **Year One**

CIS 150 - Introduction to Computing (3 credits)

HTM 101 - Introduction to Hospitality and Tourism (3 credits)

HTM 190 - Field Preparation (1 credit)

HTM 290 - HTM Field Experience I (2 credits)

MTH 110 - Algebra (4 credits)

WRT 150 - Strategies in Writing (4 credits)

Five general education courses

### **Year Two**

ACC 201 - Accounting for Non-Business Majors 1 (1.5 credits)

ACC 202 - Accounting for Non-Business Majors 2 (1.5 credits)

BUS 201 - Legal Environment for Business (3 credits)

HTM 213 - Introduction to Food and Beverage Management (3 credits)

HTM 222 - Introduction to Lodging Management (3 credits)

HTM 273 - Hospitality and Tourism Financial Decision Making (3 credits)

HTM 390 - HTM Field Experience II (2 credits)

STA 215 - Introductory Applied Statistics (3 credits)

Two HTM concentrations/core courses

Two general education courses

### **Year Three**

HTM 343 - Human Resource Management (4 credits)

HTM 373 - Hospitality Information Analysis (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

HTM 375 - Hospitality and Tourism Research (3 credits)

HTM 490 - HTM Senior Internship (2 credits)

MKT 350 - Marketing Management (3 credits)

Two HTM concentration courses

Two general education courses

### **Year Four**

HTM 361 - Hospitality Law and Legislation (3 credits)

HTM 452 - Hospitality and Tourism Marketing (3 credits)

HTM 495 - Hospitality Management (Capstone) (3 credits)

Two HTM concentration courses

Two general education courses

Three open electives

## **Badge in Food and Beverage Service**

The HTM badge in food and beverage service provides students with the knowledge and skills to work responsibly and productively in the food and beverage industry. Upon completion of the badge (not a degree or certificate), students will be able to perform the following:

Identify strategies to provide superior service to guests.

Apply best practices in food safety.

Develop procedures for proper ordering, receiving, storing and issuing of food and supplies.

Apply standard equipment purchasing and layout principles

Calculate and apply food and beverage cost and revenue control systems.

Explain basic nutritional issues associated with food production.

Explain important social concerns associated with food production, preparation and consumption.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Demonstrate how various ingredients react to different forms of cookery.

Explain food safety regulations, regulatory agencies, and inspection processes.

Explain licensing issues related to food and beverage management.

Develop a labor schedule.

### **Program Location**

The program is offered online, except for HTM 250 lab sessions held at the Meadows in Allendale, Michigan.

### **Contact**

Scott Rood, Assistant Director, Department of Hospitality and Tourism Management

### **Admission**

Candidates can apply for admission as a degree-seeking or nondegree-seeking student.

### **Requirements**

The digital badge is comprised of three courses (eight credits), including:

HTM 201 - Good Food Gone Bad: Food Safety for Everyone (1 credit)

HTM 213 - Introduction to Food and Beverage Management (3 credits)

HTM 250 - Food Production and Kitchen Management (4 credits)

## **Hospitality and Tourism Management Minor**

### **Requirements for a Minor in Hospitality and Tourism Management**

Students in other majors may minor in hospitality and tourism management by completing a minimum of seven courses in HTM, including HTM 101 - Introduction to Hospitality and Tourism, totaling a minimum of 21 credits, with approval of department chair/assistant chair. Students minoring in HTM are encouraged to consider including at least one field experience course in their program. Interested students should meet with the HTM chair or assistant chair to establish a specific plan.

For courses, curriculum, other degree related information, and faculty listings, please visit the Grand Valley State University catalog online at [gvsu.edu/catalog](http://gvsu.edu/catalog).

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

# Human Resource Management

## Bachelor of Business Administration in Human Resource Management

This major emphasizes the relationship between an organization and its employees. Human resource specialists play a strategic and critical role by designing policies, programs, processes, and systems that build efficient, effective, and sustainable organizations. Our curriculum includes learning how organizations design and administer policies in recruiting and selection, training, diversity and equal opportunity, performance management, compensation and benefits, employee rights and discipline, and labor relations.

### Requirements for the B.B.A.

#### Core Courses

All business core courses acquaint you with various fields in business and help you learn to communicate, to interact, and to assume responsible positions in your chosen field.

For the B.B.A., you must complete the following courses.

ACC 212 - Principles of Financial Accounting (3 credits)

ACC 213 - Principles of Managerial Accounting (3 credits)

BUS 201 - Legal Environment for Business (3 credits)

**BOTH** ECO 210 - Introductory Macroeconomics (3 credits) **AND** ECO 211 - Introductory Microeconomics (3 credits)

**OR ONLY** ECO 200 - Business Economics (3 credits)

Upper-division economics course, other than ECO 490 (3 credits)

FIN 320 - Managerial Finance (3 credits)

MGT 268 - Business Processes and Management Information Systems (3 credits)

MGT 331 - Managing People and Organizations (3 credits)

MGT 366 - Operations Management (3 credits)

MGT 495 - Administrative Policy (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MKT 350 - Marketing Management (3 credits)

Students are required to select one class from the following list. This course may count toward the major or minor if applicable.

ACC 333 - Corporate Governance and Accounting Ethics (3 credits)

ECO 440 - Public Economics and Ethics (3 credits)

FIN 330 - Ethics in Finance (3 credits)

MGT 340 - Ethics and Business, Social Justice and Sustainability (3 credits)

MGT 438 - Business Ethics (3 credits)

MKT 375 - Marketing Ethics (3 credits)

### **Required Business Electives**

Three upper-division business courses are not applied to the major or minor (nine credits total). However, these courses can be applied toward a second business major if one is declared.

### **Elective Courses**

Students may elect nonbusiness or business courses to fulfill their elective course requirements. Students may apply up to six hours of internship and independent research credit, in any combination, toward their degree requirements. Business majors may not take any of the major courses, except the internship and study abroad courses, on a credit/no-credit basis.

### **Required Courses**

Business core and the following:

STA 215 - Introductory Applied Statistics (3 credits)

MGT 333 - Human Resource Management (3 credits)

MGT 334 - Employment and Labor Law (3 credits)

MGT 336 - Compensation and Benefits Management (3 credits)

MGT 429 - Staffing and Development (3 credits)

MGT 431 - Strategic Human Resources Management (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Quantitative group - choose one:

MTH 122 - College Algebra (3 credits)

MTH 125 - Survey of Calculus (3 credits)

MTH 201 - Calculus I (4 credits)

PHI 103 - Logic (3 credits)

MGT 361 - Management Science (3 credits)

**AND** one of the following:

MGT 355 - The Diversified Workforce (3 credits)

MGT 430 - Organizational Development (3 credits)

MGT 432 - Grievance Administration, Arbitration, and Collective Bargaining (3 credits)

MGT 433 - International Human Resource Management (3 credits)

## **Human Rights Minor**

Human rights have become the moral language of today in fields as disparate as philosophy, international politics and health care, as well as other service professions. This program provides students with both intellectual and practical opportunities to engage with human rights in preparation for encountering a wide variety of 21st century political issues, social problems, and employment opportunities.

The human rights curriculum is distinctively interdisciplinary, mirroring the world of human rights today. Completing the minor will equip students with key concepts and opportunities within this world, such as:

The political, philosophical, and legal development of human rights concepts within academic scholarship and political practice

The role of human rights in international relations and law

The growth of human rights institutions, courts, tribunals, and the emergence of human rights law as a profession

The explosive growth of humanitarian organizations and nongovernmental organizations (NGOs) dedicated to human rights activism and practice.

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

The incorporation of human rights concerns in the corporate world regarding job relocation, human resources, and international investment.

## **Admission**

Anyone admitted to GVSU as a degree-seeking student can declare the human rights minor.

## **Minor Requirements**

Students must complete 19 credits, including the introductory and Capstone courses, two courses from the core courses, and three additional elective courses. A maximum of three of the core and elective courses may be from the same prefix.

## **Required Courses**

There are four credits required.

HRT 105/PLS 105 - Introduction to Human Rights (3 credits)

HRT 450 - Reflection on Human Rights (1 credit)

## **Core Courses**

Take two courses (three credits each) from the core; each course must have a different prefix.

CJ 325 - Criminal Justice and Human Rights (3 credits)

HST 378 - Contesting Human Rights (3 credits)

PLS 316/HRT 316 - Human Rights in International Politics (3 credits)

HST 319/INT 319/HRT 319 - Human Traffic and Trafficking (3 credits)

INT 320/HRT 320 - Voices of the Civil Rights Movement in the United States (3 credits)

PLS 335/HRT 335 - Theory of Human Rights (3 credits)

PLS 240 - The Holocaust (3 credits)

SOC 306 - The Sociology of Human Rights (3 credits)

GSI 215/PLS 215 - Global Migration (3 credits)

## **Elective Courses**

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

There are nine credits required. Take three courses (three credits each) from the electives list that follows, with no more than two courses from a single major/designator. Courses from the core courses list may also be counted as electives, but a single course may not count both as a core course and an elective.

AAA 319 - African Politics (3 credits)

AAA 352 - Black Women's Culture and Communities (3 credits)

ANT 345 - Perspectives on Globalization (3 credits)

ANT 370 - Cross-cultural Perspectives on Gender (3 credits)

CLA 367 - Thinking Like a (Roman) Lawyer (3 credits)

CJ 305 - Constitutional Rights and Civil Liberties (3 credits)

CJ 320 - Crimes Against Women (3 credits)

CJ 482 - Culture, Crime and Justice (3 credits)

ECO 350 - Economics of Gender (3 credits)

ENG 335 - Literature of American Minorities (3 credits)

ENG 336 - Lesbian, Gay and Queer Literature (3 credits)

ENG 392 - Language and Power (3 credits)

GPY 335 - Globalization and Development (3 credits)

GPY 351 - Geography of Africa (3 credits)

HRT 380 - Special Topics in Human Rights (1 to 3 credits)

HRT 389 - Study Abroad in Human Rights (3 credits)

HRT 399 - Independent Studies in HRT (1 to 3 credits)

HRT 490 - Internship in Human Rights (3 credits)

HRT 499 - Independent Study in HRT (1 to 3 credits)

HST 316 - U.S. Civil Rights Movement History (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

HST 318 - History of Democracy in America (3 credits)

HST 332 - Emergence of Modern India and South Asia (3 credits)

HST 333 - Modern China (3 credits)

HST 336 - Africa After 1870 (3 credits)

HST 371 - Historical Perspectives on Gender and Sexualities (3 credits)

HST 386 - 20th Century Europe (3 credits)

IDS 350 - Civil Discourse (3 credits)

LAS 325 - Human Rights in Latin America (3 credits)

LS 370 - Women and the Law (3 credits)

INT 325 - LGBTQ Identities (3 credits)

INT 342 - Food Matters (3 credits)

INT 350 - The Immigrant Experience in the U.S. (3 credits)

MES 370 - Contemporary Issues in the Middle East: The Model Arab League (3 credits)

PHI 320 - Power, Justice, and Freedom: Social and Political Philosophy (3 credits)

PHI 370 - Sex Matters: Feminist Philosophy in the Contemporary World (3 credits)

PLS 302 - Women, Politics, and Public Policy (3 credits)

PLS 319 - African Politics (3 credits)

PLS 325 - Human Rights and Democracy in Russia and the Post-Communist World (3 credits)

PLS 334 - Sex, Power, and Politics (3 credits)

PLS 338 - Citizenship (3 credits)

SOC 313 - Race and Ethnicity (3 credits)

SOC 315 - Social Class Inequality (3 credits)

SOC 317 - Sociology of Gender (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

SOC 318 - Sociology of Sexuality (3 credits)

SOC 333 - Sociology of the Civil Rights Movement (3 credits)

SOC 350 - Family and Gender in the Developing World (3 credits)

WGS 302 - Women, Politics, and Public Policy (3 credits)

WGS 310 - LGBTQ Rights and the Law (3 credits)

WGS 317 - Sociology of Gender (3 credits)

WGS 318 - Sociology of Sexuality (3 credits)

WGS 320 - Crimes Against Women (3 credits)

WGS 334 - Sex, Power, and Politics (3 credits)

WGS 336 - Lesbian, Gay and Queer Literature (3 credits)

WGS 350 - Family and Gender in the Developing World (3 credits)

WGS 352 - Black Women's Culture and Communities (3 credits)

WGS 370 - Women and the Law (3 credits)

WGS 371 - Historical Perspectives on Gender and Sexualities (3 credits)

## Information Systems

For additional information about opportunities your college offers, please refer to the Seymour and Esther Padnos College of Engineering and Computing section in this catalog.

**Website:** [cis.gvsu.edu/information-systems-major](http://cis.gvsu.edu/information-systems-major)

### Degrees Offered

Undergraduate and graduate computing programs at Grand Valley State University are offered by the School of Computing. Computing programs prepare students for a rewarding career that is in high-demand.

One of the strengths of the computing programs at Grand Valley is flexibility. We offer B.S. degrees in computer science, information systems and information technology. All programs share faculty, courses, and laboratory resources. Also, by choosing electives and minors in

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

related subject areas, students can further tailor their degrees to fit their individual needs and career goals. We offer minors in computer engineering, computer science, data science, healthcare information systems, information security systems, information systems, and information technology.

Computers play important roles in virtually every aspect of our lives. Technological advances are extending the influences of the computer even further and many more applications of the computer remain to be discovered. For example, expert systems model the knowledge and strategies of experts in an area so others may benefit. Such systems have been developed for medical diagnosis and treatment, automotive engine analysis, and many other fields.

Information systems majors study the use of computers in organizing and processing information. This includes such topics as database management systems, networking and distributed computing, network management, and systems analysis. Cognate courses emphasize communication skills and business fundamentals. The degree includes the equivalent of a minor in business.

## **Mission**

The mission of the School of Computing is to provide the GVSU student community with the intellectual foundations and experiences necessary to use information technology effectively in their chosen careers.

To enable students to attain this goal, the computing faculty have two primary responsibilities. First, we will offer a solid conceptual foundation required for a career in information technology. Second, we will provide direct, experiential knowledge of technology necessary to be a productive user/producer of information technology.

To achieve these goals, we

- work continuously to keep our curriculum relevant to our mission;

- ensure that work-relevant experience is part of every class;

- establish and nurture industrial contacts;

- establish an integrated, supported internship experience for computing majors; and

- provide all students, regardless of their major interests, fundamental knowledge of computers and information processing.

## **Information Systems Student Outcomes**

Three years after graduation, our typical computer science alumni are expected to be computing professionals who:

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

use technical communication and teamwork skills to solve problems and develop software systems;

continue to develop their professional knowledge and skills; and

behave ethically while contributing to their profession and to society.

By the time of graduation, information systems students will be able to do the following:

Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.

Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.

Communicate effectively in a variety of professional contexts.

Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.

Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.

Support the delivery, use, and management of information systems within an information systems environment.

### **Accreditation**

The information systems major is accredited under the General Criteria and Information Systems Criteria by the Computing Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012. Telephone (410) 347-7700. Website: [abet.org](http://abet.org)

### **School of Computing Advisory Board**

The School of Computing Advisory Board (CISAB) is composed of the school's director and leading computing experts in West Michigan. The board meets twice each year and advises the school on curriculum development and continuing education. It serves as an important interface between the school and the computing community.

### **Admission**

Admission to major standing in information systems (IS) is competitive and requires an application for admittance into the major. Applicants must meet the following criteria:

Overall GPA of 2.5 or above in all Grand Valley State University coursework.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Completion of each course in the IS Foundation with a grade of C or above (C- is not sufficient).

GPA of 2.5 or above in the IS Foundation.

The IS foundation includes CIS 160, CIS 162; CIS 230; MTH 125; STA 215, or STA 312 or STA 318; and COM 201. Completing the IS foundation courses require programming, analytical reasoning, and communication skills. These skills are important to excel in the computing field.

The IS foundation GPA is calculated on no more than one repeat per course. Achievement of the minimum requirements does not guarantee admission to the major. The School of Computing will also consider internship availability and the applicant's suitability for internships before granting admission. Transfer students must complete at least six hours of CIS coursework before applying, but should consult with a School of Computing advisor before scheduling their first semester.

Note: While admission to major standing in information systems may be achieved with completion of the computer science or information technology foundation instead of the IS foundation, it is still necessary to complete all the required courses of the information systems major.

## **Bachelor of Science in Information Systems**

### **Requirements**

Students who wish to major in information systems must complete the following.

#### **1. Degree Requirements**

Students must complete the general university degree requirements as identified in the General Academic Policies section of the catalog.

#### **2. Admission**

Admission to major standing in information systems (IS) is competitive and requires an application. See the information systems program description for more information regarding admission to the major.

#### **3. Information Systems Major**

All information systems majors must complete the following 47.5 to 50.5 credit hours of CIS courses with a minimum 2.0 GPA:

CIS 160 - Learn to Code in Python (3 credits)

CIS 162 - Computer Science I (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CIS 221 - Excel Concepts and Applications I (1.5 credits)

CIS 230 - Hardware and Software (3 credits)

CIS 238 - Internet Media and Programming (3 credits)

CIS 250 - Principles of Information Systems (3 credits)

CIS 260 - Application Development in Visual Basic (4 credits)

CIS 290 - Professional Responsibilities and Practices (3 credits)

CIS 330 - Systems Analysis and Design (3 credits)

CIS 333 - Database Management and Implementation (3 credits)

CIS 337 - Network Systems Management (3 credits)

CIS 358 - Information Assurance (3 credits)

CIS 450 - IS Project Management (3 credits)

CIS 460 - Management of Information Systems (3 credits)

CIS 463 - Information Systems Project (3 credits) (Capstone)

CIS 490 - Internship (2 to 5 credits)

Select One:

Information systems majors must select one of the following three-course tracks:

Software Development

CIS 443 - Software Development Tools (3 credits)

**AND** choose two of the following:

CIS 241 - System-level Programming and Utilities (3 credits) **OR** CIS 253 - COBOL (4 credits)  
**OR** CIS 371 - Web Application Programming (3 credits) **OR** CIS 163 - Computer Science II  
(4 credits)

Network Management and Security

CIS 437 - Distributed Computing (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CIS 458 - System Security (3 credits)

**AND** choose one of the following:

CIS 338 - Wide Area Network Engineering (3 credits) **OR** CIS 375 - Wireless Networks and Security (3 credits)

#### Data Analysis

CIS 320 - Visualization of Data and Information (3 credits)

CIS 331 - Data Analysis Tools and Techniques (3 credits)

**AND** choose one of the following:

CIS 335 - Data Mining (3 credits) **OR** CIS 365 - Artificial Intelligence (3 credits)

#### IS Specialization

A list of nine credit hours are required to customize a concentration in specialized areas to complement the student's program goals. The selection of this option and a list of three courses must be approved prior to courses being taken in the track. Courses in the core cannot be counted again in this IS specialization track.

#### **Bachelor of Science Course Requirements**

Completion of MTH 125, and either STA 215 or STA 312, and either CIS 330, or CIS 333, or CIS 337 satisfies the B.S. degree requirement courses for information systems majors.

All information systems majors must complete the following cognate courses (36 credits):

ACC 212 - Principles of Financial Accounting (3 credits)

ACC 213 - Principles of Managerial Accounting (3 credits)

BUS 201 - Legal Environment for Business (3 credits)

COM 201 - Speech (3 credits)

FIN 300 - Fundamentals of Finance for Non-Business Majors (3 credits) **OR** FIN 320 - Managerial Finance (3 credits)

MGT 300 - Fundamentals of Management for Non-Business Majors (3 credits) **OR** MGT 331 - Managing People and Organizations (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MKT 300 - Fundamentals of Marketing for Non-Business Majors (3 credits) **OR** MKT 350 - Marketing Management (3 credits)

MTH 125 - Survey of Calculus (3 credits)

WRT 350 - Business Communication (3 credits)

Select one from each of the following two groupings:

ECO 210 - Introductory Macroeconomics (3 credits) **OR**  
ECO 211 - Introductory Microeconomics (3 credits)

STA 215 - Introductory Applied Statistics (3 credits) **OR**  
STA 312 - Probability and Statistics (3 credits)

### **Suggested Order of Coursework for a Major in Information Systems**

This suggested order of coursework assumes that students will complete the IS foundation and general education courses with the help of their advisor and apply for admission during the winter semester of their first year. The following course sequence also assumes a strong mathematics background for the entering student. If deficiencies exist, completing the mathematics prerequisites should be the student's top priority.

#### **Year One**

CIS 160 - Learn to Code in Python (3 credits)

CIS 162 - Computer Science I (4 credits)

CIS 230 - Hardware and Software (3 credits)

COM 201 - Speech (3 credits)

MTH 125 - Survey of Calculus (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

WRT 150 - Strategies in Writing (4 credits)

#### **Year Two**

ACC 212 - Principles of Financial Accounting (3 credits)

ACC 213 - Principles of Managerial Accounting (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CIS 250 - Principles of Information Systems (3 credits)

CIS 238 - Internet Media and Programming (3 credits)

CIS 260 - Application Development in Visual Basic (4 credits)

CIS 290 - Professional Responsibilities and Practices (3 credits)

CIS 333 - Database Management and Implementation (3 credits)

Appropriate general education coursework

### **Year Three**

BUS 201 - Legal Environment for Business (3 credits)

CIS 330 - Systems Analysis and Design (3 credits)

CIS 337 - Network Systems Management (3 credits)

CIS 358 - Information Assurance (3 credits)

ECO 210 - Introductory Macroeconomics (3 credits) **OR** ECO 211 - Introductory  
Microeconomics (3 credits)

MGT 300 - Fundamentals of Management for Non-Business Majors (3 credits) **OR** MGT 331 -  
Managing People and Organizations (3 credits)

MKT 300 - Fundamentals of Marketing for Non-Business Majors (3 credits) **OR** MKT 350 -  
Marketing Management (3 credits)

WRT 350 - Business Communication (3 credits)

IS track course elective (3 credits)

Appropriate general education coursework

### **Year Four**

IS track course elective (3 credits)

Appropriate general education coursework

CIS 450 - IS Project Management (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

CIS 460 - Management of Information Systems (3 credits)

CIS 490 - Internship (2 to 5 credits)

IS track course elective (3 or 4 credits)

CIS 463 - Information Systems Project (3 credits)

FIN 300 - Fundamentals of Finance for Non-Business Majors (3 credits) **OR** FIN 320 -  
Managerial Finance (3 credits)

## **Combined Bachelor of Science in Information Systems and Master of Science in Applied Computer Science**

Qualified undergraduates may be admitted to a combined bachelor's/master's program and obtain both a B.S. in information systems and an M.S. in applied computer science within an accelerated time frame. Students admitted to this program will count up to 12 credits of graduate work in partial satisfaction of the requirements for the undergraduate. After completing 120 credits and all requirements for the bachelor's degree, students are awarded a bachelor's degree. A minimum of 21 graduate credits must be completed after the 120 credits of the bachelor's degree. All other master's degree requirements must be met, including a graduate Capstone.

### **Admission**

We encourage students to apply for the combined B.S./M.S. program in their second year. It is also possible to apply in the third year, but students in their fourth year typically do not receive the benefits of the combined program.

Application requirements include:

Overall GPA of 3.25 or greater

Student must have been admitted to the information systems program

60 hours of academic credit have been completed or are in progress

Two letters of recommendation

Academic transcripts (unofficial transcripts are allowable)

Admission decisions will be made by the school admissions committee based on the student's previous academic success in the school of computing, as indicated by GPA and grades in the foundation computing courses, as well as potential success in the graduate program, as indicated by the letters of recommendation, and the student's letter of intent. Decisions will normally be

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

communicated to students within four weeks of submitting a complete application to the combined degree program.

## **Requirements**

### **During Undergraduate Studies**

All university requirements, including general education courses, must be completed before the final (graduate) year of the combined B.S./M.S. program. In the final undergraduate year, students will normally take 12 credits of graduate-level courses. If any courses are dual-listed, students in the combined B.S./M.S. program must complete all assignments expected of graduate students and they will be evaluated in the same way as graduate students.

Students will be considered undergraduates for tuition, academic requirements and financial aid purposes until all requirements for the undergraduate degree are completed. Following this they will be considered graduate students, will pay graduate tuition, and will be eligible for graduate financial aid.

The school has identified the following courses that students may dual-count toward the B.S. and M.S. degrees. Up to 12 credits can be dual counted. Students are strongly encouraged to work with the graduate program director in ACS to ensure all undergraduate and graduate requirements are met.

CIS 641 in lieu of CIS 330\*

CIS 642 in lieu of CIS 450

CIS 643 in lieu of CIS 460

CIS 654 in lieu of CIS 337

CIS 658 in lieu of CIS 371

CIS 656 in lieu of CIS 437

CIS 660 in lieu of CIS 360

CIS 673 in lieu of CIS 333

CIS 693 in lieu of CIS 463

\* CIS 330 is an SWS course but CIS 641 is not. Students are reminded that a bachelor's degree requires two SWS courses.

### **During Graduate Studies**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

A student shall be considered a graduate student for all purposes upon either of the following events: the award of a baccalaureate degree or the completion of 120 credit hours.

### **Graduation Without Completion of the Program**

If a student decides at some point to pursue only the undergraduate portion of the combined degree, the school will still recognize the graduate courses taken in lieu of undergraduate courses. Credit from the undergraduate degree cannot be used toward a graduate degree at a later date.

Please note that awarding of the B.S. in information systems requires a Capstone course, either CIS 463, or CIS 693, or both CIS 690 and CIS 695. Awarding of the M.S. in applied computer science requires a graduate Capstone course: CIS 693, or both CIS 690 and CIS 695.

### **Suggested Order of Coursework**

This sample order of coursework assumes that students will complete the IS foundation and general education courses with the help of their advisor and apply for undergraduate admission at the end of the winter semester of their second year. The following course sequence also assumes a strong mathematics background for the entering student. If mathematics deficiencies exist, completing the mathematics prerequisites should be the student's top priority.

This is only one of many possible sequences of courses. Students are strongly encouraged to work with the graduate program director in ACS to ensure all undergraduate and graduate requirements are met, and to customize the combined program to their areas of interest.

The following sequence makes no attempt to minimize credits. For example, the sequence assumes that all general education courses are distinct, and no double dipping is done.

### **Year One**

No change from IS sample curriculum (30 credits):

General education Arts (3 credits)

General education Historical Perspectives (3 credits)

CIS 150 - Introduction to Computing (3 credits)

CIS 162 - Computer Science I (4 credits)

CIS 260 - Application Development in Visual Basic (4 credits)

COM 201 - Speech (3 credits)

MTH 125 - Survey of Calculus (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

STA 215 - Introductory Applied Statistics (3 credits)

WRT 150 - Strategies in Writing (4 credits)

## **Year Two**

No change from IS sample curriculum (31 to 32 credits):

General education Natural Science, Philosophy and Literature, Social and Behavioral Sciences (9 credits)

ACC 212 - Principles of Financial Accounting (3 credits)

ACC 213 - Principles of Managerial Accounting (3 credits)

CIS 238 - Internet Media and Programming (3 credits)

CIS 253 - COBOL (4 credits) **OR** CIS 371 - Web Application Programming (3 credits) **OR** CIS 163 - Computer Science II (4 credits)

CIS 290 - Professional Responsibilities and Practices (3 credits)

CIS 230 - Hardware and Software (3 credits)

MGT 268 - Business Processes and Management Information Systems (3 credits)

STA 216 - Intermediate Applied Statistics (3 credits) **OR** STA 318 - Statistical Computing (3 credits)

## **Year Three**

Requires 21 undergraduate credits, plus three graduate credits (30 credits):

General education U.S. Diversity and Natural Sciences (6 credits)

BUS 201 - Legal Environment for Business (3 credits)

CIS 333 - Database Management and Implementation (3 credits)

CIS 337 - Network Systems Management (3 credits)

CIS 641 - Systems Analysis and Design (3 credits)

ECO 210 - Introductory Macroeconomics (3 credits) **OR** ECO 211 - Introductory Microeconomics (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MKT 350 - Marketing Management (3 credits)

MGT 331 - Managing People and Organizations (3 credits)

WRT 350 - Business Communication (3 credits)

## **Year Four**

Requires 20 to 24 undergraduate credits, plus 12 graduate credits (32 to 36 credits):

General education Global Perspectives and two Issues courses (9 credits)

IS track course elective one (3 credits)

IS track course elective one (3 to 4 credits)

CIS 490 - Internship (2 to 5 credits)

CIS 612 - Requirements Specification (3 credits)

CIS 642 - IS Project Management (3 credits)

CIS 654 - Computer Networking (3 credits)

CIS 656 - Distributed Systems (3 credits)

FIN 320 - Managerial Finance (3 credits)

## **Year Five**

Requires 18 graduate credits:

CIS 623 - Graphical User Interface Design (3 credits)

CIS 643 - Information Systems Policy and Strategy (3 credits)

CIS 658 - Web Architectures (3 credits)

CIS 661 - Introduction to Health and Bioinformatics (3 credits)

CIS 677 - High-performance Computing (3 credits)

CIS 693 - Master's Project (3 credits)

## **Credits**

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

Undergraduate credits that count toward B.S.	111 to 116
Graduate credits that count toward B.S. and M.S.	12
Graduate credits that count toward M.S.	21
<b>Total credits</b>	<b>144 to 149</b>

## **Combined Bachelor of Science in Information Systems and Master of Science in Cybersecurity**

Qualified undergraduates may be admitted to a combined bachelor's/master's program and obtain both a B.S. in information systems and an M.S. in cybersecurity within an accelerated time frame. Students admitted to this program will count up to 12 credits of graduate work in partial satisfaction of the requirements for the undergraduate. After completing 123 credits and all requirements for the bachelor's degree, students are awarded a bachelor's degree. A minimum of 21 graduate credits must be completed after the 123 credits of the bachelor's degree. All other master's degree requirements must be met.

### **Admission**

We encourage information systems students to apply for the combined B.S./M.S. program in information systems and cybersecurity in their second year. It is also possible to apply in the third year but students in their fourth year typically do not receive the benefits of the combined program. Application requirements include:

- Overall GPA of 3.25 or greater

- Student must have been admitted to the information systems program

- 60 hours of academic credit have been completed or are in progress

- Two letters of recommendation

- Academic transcripts (unofficial transcripts are allowable)

Admission decisions will be made by the school admissions committee based on the student's previous academic success in information systems, as indicated by GPA and grades in the foundation information systems courses, as well as potential success in the graduate program, as indicated by the letters of recommendation. Decisions will normally be communicated to students within four weeks of submitting a complete application to the combined degree program.

### **Requirements**

#### **During Undergraduate Studies**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

All university requirements, including general education courses, must be completed before the final (graduate) year of the combined B.S./M.S. program. In the final undergraduate year, students will normally take 12 credits of graduate-level courses. If any courses are dual-listed, students in the combined B.S./M.S. program must complete all assignments expected of graduate students and they will be evaluated in the same way as graduate students.

The school has identified the following courses that students may dual-count toward the B.S. and M.S. degrees. Up to 12 credits can be dual counted. Students are strongly encouraged to work with the graduate program director in cybersecurity to ensure all undergraduate and graduate requirements are met.

CIS 518 in lieu of CIS Elective

CIS 555 in lieu of CIS Elective

CIS 617 in lieu of CIS Elective

CIS 654 in lieu of CIS 337

### **During Graduate Studies**

A student shall be considered a graduate student for all purposes upon either of the following events: the award of a baccalaureate degree, or the completion of 12 graduate credit hours.

### **Graduation Without Completion of the Program**

If a student decides at some point to pursue only the undergraduate portion of the combined degree, the school will still recognize the graduate courses taken in lieu of undergraduate courses. Credit from the undergraduate degree cannot be used toward a graduate degree at a later date.

The student will still be responsible for completing all of their information systems degree requirements.

### **Sample Order of Coursework**

This sample order of coursework assumes that students will complete the IS foundation and general education courses with the help of their advisor and apply for graduate admission at the end of the winter semester of their second year. The following course sequence also assumes a strong mathematics background for the entering student. If mathematics deficiencies exist, completing the mathematics prerequisites should be the student's top priority.

Notes:

This is only one of many possible sequences of courses. Students are strongly encouraged to work with the graduate program director in cybersecurity to ensure all undergraduate

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

and graduate requirements are met, and to customize the combined program to their areas of interest.

The following sequence makes no attempt to minimize credits. For example, the sequence assumes that all general education courses are distinct, and no double dipping is done.

### **Year One**

CIS 150 - Introduction to Computing (3 credits)

CIS 162 - Computer Science I (4 credits)

CIS 260 - Application Development in Visual Basic (4 credits)

COM 201 - Speech (3 credits)

MTH 125 - Survey of Calculus (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

WRT 150 - Strategies in Writing (4 credits)

Appropriate general education coursework

Appropriate general education coursework

### **Year Two**

CIS 230 - Hardware and Software (3 credits)

CIS 238 - Internet Media and Programming (3 credits)

CIS 241 - System-level Programming and Utilities (3 credits) **OR** CIS 253 - COBOL (4 credits)

**OR** CIS 371 - Web Application Programming (3 credits)

**OR** CIS 163 - Computer Science II (4 credits)

CIS 290 - Professional Responsibilities and Practices (3 credits)

ACC 212 - Principles of Financial Accounting (3 credits)

ACC 213 - Principles of Managerial Accounting (3 credits)

ECO 210 - Introductory Macroeconomics (3 credits) **OR** ECO 211 - Introductory Microeconomics (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MGT 268 - Business Processes and Management Information Systems (3 credits)

Appropriate general education coursework

Appropriate general education coursework

### **Year Three**

CIS 330 - Systems Analysis and Design (3 credits)

CIS 333 - Database Management and Implementation (3 credits)

CIS 450 - IS Project Management (3 credits)

CIS 490 - Internship (2 to 5 credits)

CIS 654 - Computer Networking (3 credits)

BUS 201 - Legal Environment for Business (3 credits)

MGT 331 - Managing People and Organizations (3 credits)

MKT 350 - Marketing Management (3 credits)

WRT 350 - Business Communication (3 credits)

Appropriate general education coursework

Appropriate general education coursework

### **Year Four**

CIS 460 - Management of Information Systems (3 credits)

CIS 463 - Information Systems Project (3 credits)

CIS 518 - Secure Software Engineering (3 credits)

CIS 555 - Applied Cryptography (3 credits)

CIS 617 - Digital Forensics and Investigations (3 credits)

FIN 320 - Managerial Finance (3 credits)

Graduate elective

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Appropriate general education coursework

Appropriate general education coursework

Appropriate general education coursework

### **Year Five**

CIS 615 - Information Security Principles (3 credits)

CIS 616 - Data Security and Privacy (3 credits)

CIS 619 - Data Analytics for Cybersecurity (3 credits)

CIS 693 - Master's Project (3 credits)

CIS graduate elective

Graduate elective

## **Health Care Information Systems Minor**

### **Requirements for a Minor in Health Care Information Systems**

The minor in health care information systems requires a minimum GPA of 2.0 to be approved.

Required classes include:

AHS 100 - Medical Terminology (3 credits)

AHS 110 - Introduction to Health Care (3 credits)

CIS 231 - Problem Solving Using Spreadsheets (3 credits)

CIS 331 - Data Analysis Tools and Techniques (3 credits)

CIS 340 - Health Care Information Systems (3 credits)

CIS 358 - Information Assurance (3 credits)

HIM 310 - Functional and Administrative Practices in Health Information Management (3 credits)

Select one:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CIS 160 - Learn to Code in Python (3 credits)

CIS 161 - Computational Science (3 credits)

CIS 162 - Computer Science I (4 credits)

Select one:

CIS 233 - Concepts of Database Systems (3 credits)

CIS 333 - Database Management and Implementation (3 credits)

CIS 353 - Database (3 credits)

CIS 360 - Information Management and Science (3 credits)

Select one:

CIS 237 - Introduction to Network Management (3 credits)

CIS 337 - Network Systems Management (3 credits)

CIS 457 - Data Communications (4 credits)

## **Information Security Systems Minor**

The information security systems minor, offered by the School of Computing and the School of Criminal Justice, is open to all students. This minor is designed to provide students with a foundation related to the principles of information security in a theoretical and practical application related to how a comprehensive information security program will contribute to protecting organizational information assets.

Only 12 credits maximum may apply to both the criminal justice major and ISS minor. Seek advising for assistance.

### **Requirements for a Minor in Information Security Systems**

The ISS minor requires 24 to 26 credits:

CJ 315 - Principles of Security (3 credits)

CJ 464 - Security Management (3 credits)

Select one course from each of the six groupings:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

### Group One

CJ 201 - Criminology (3 credits)

CJ 302 - Criminal Law (3 credits)

### Group Two

CJ 311 - Criminal Investigation (3 credits)

CJ 408 - White-Collar and Corporate Crime (3 credits)

### Group Three

CIS 160 - Learn to Code in Python (3 credits)

CIS 162 - Computer Science I (4 credits)

CIS 163 - Computer Science II (4 credits)

### Group Four

CIS 233 - Concepts of Database Systems (3 credits)

CIS 333 - Database Management and Implementation (3 credits)

CIS 358 - Information Assurance (3 credits)

### Group Five

CIS 237 - Introduction to Network Management (3 credits)

CIS 337 - Network Systems Management (3 credits)

CIS 457 - Data Communications (4 credits)

### Group Six

CIS 430 - Computer and Cyber Forensics (3 credits)

CIS 458 - System Security (3 credits)

Contact the School of Criminal Justice for additional information.

## **Information Systems Minor**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## Requirements for a Minor in Information Systems

This minor requires a minimum GPA of 2.0 to be approved.

CIS 150 - Introduction to Computing (3 credits)

CIS 162 - Computer Science I (4 credits)

CIS 230 - Hardware and Software (3 credits)

CIS 330 - Systems Analysis and Design (3 credits)

CIS 333 - Database Management and Implementation (3 credits)

CIS 337 - Network Systems Management (3 credits)

MGT 268 - Business Processes and Management Information Systems (3 credits)

Select one of the following:

CIS 238 - Internet Media and Programming (3 credits)

CIS 253 - COBOL (4 credits)

CIS 260 - Application Development in Visual Basic (4 credits)

## Information Technology

For additional information about opportunities your college offers, please refer to the Seymour and Esther Padnos College of Engineering and Computing section in this catalog.

**Website:** [cis.gvsu.edu/information-technology-major](http://cis.gvsu.edu/information-technology-major)

### Degrees Offered

Undergraduate and graduate computing programs at Grand Valley State University are offered by the School of Computing. Computing programs prepare students for a rewarding career that is in high demand.

One of the strengths of the computing programs at Grand Valley is flexibility. We offer B.S. degrees in computer science, cybersecurity, information systems, and information technology. All programs share faculty, courses, and laboratory resources. Also, by choosing electives and minors in related subject areas, students can further tailor their degrees to fit their individual needs and career goals. We offer minors in computer engineering, computer science, data

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science, healthcare information systems, information security systems, information systems, and information technology.

The IT degree will provide students with the fundamental computing background and tools necessary to build and maintain the enterprise's computing infrastructure including system administration, cybersecurity, cloud computing, cyber forensics, and incident response and Web-systems integration, as well as incorporating modern technologies to problem solving and decision-making.

GVSU's IT program embraces the value of hands-on learning through the incorporation of discovery-based learning approach centered on hands-on lab experiments supplemented by research activities and collaboration with professionals from multiple computing disciplines during their internships and capstone project.

### **Mission**

The mission of the School of Computing is to provide the GVSU student community with the intellectual foundations and experiences necessary to use information technology effectively in their chosen careers.

To enable students to attain this goal, the computing faculty have two primary responsibilities. First, we offer a solid conceptual foundation required for a career in information technology. Second, we provide direct, experiential knowledge of technology necessary to be a productive user/producer of information technology.

To achieve these goals, we

- work continuously to keep our curriculum relevant to our mission;

- ensure that work-relevant experience is part of every class;

- establish and nurture industrial contacts;

- establish an integrated, supported internship experience for CIS majors; and

- provide all students, regardless of their major interests, fundamental knowledge of computers and information processing.

### **Program Goals**

Three years after graduation, our typical information technology alumni are expected to be computing professionals who

- use technical communication and teamwork skills to build, maintain and manage computing systems;

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

continue to develop their professional knowledge and skills; and

behave ethically while contributing to their profession and to society.

By the time of graduation, information technology students will be able to

analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.

design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline;

communicate effectively in a variety of professional contexts;

recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles;

function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline; and

identify and analyze user needs and to take them into account in the selection, creation, integration, evaluation, and administration of computing-based systems.

## **Admission**

Admission to major standing in information technology (IT) is competitive and requires an application for admittance into the major. Applicants must meet the following criteria:

Overall GPA of 2.5 or above in all Grand Valley State University coursework.

Completion of each course in the IT foundation with a grade of C or above (C- is not sufficient).

GPA of 2.5 or above in the IT foundation.

The IT foundation includes CIS 160, CIS 162, MTH 125 (or MTH 225), STA 215 (or STA 312), and COM 201. Completing the IT foundation courses requires programming, analytical reasoning, and communication skills. These skills are important to excel in the computing field.

The IT foundation GPA is calculated on no more than one repeat per course. Achievement of the minimum requirements does not guarantee admission to the major. The School of Computing will also consider internship availability and the applicant's suitability for internships before granting admission. Transfer students must complete at least six hours of computing coursework before applying, but should consult with a School of Computing advisor before scheduling their first semester.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Note: While admission to major standing in information technology may be achieved with completion of the computer science, cybersecurity, or information systems foundation instead of the IT foundation, it is still necessary to complete all the required courses of the information technology major.

### **Advisory Board**

The School of Computing Advisory Board (CISAB) is composed of the school's director and leading computing experts in West Michigan. The board meets twice each year and advises the school on curriculum development and continuing education. It serves as an important interface between the school and the computing community.

## **Bachelor of Science in Information Technology**

### **Degree Requirements**

Students must meet the general university degree requirements as identified in the General Academic Regulations section of the catalog.

### **Admission**

Admission to major standing in information technology is competitive and requires an application for admittance into the major. See Information Technology for more information regarding admission to the major.

### **Course Requirements**

#### **Courses**

CIS 150 - Introduction to Computing (3 credits)

CIS 160 - Learn to Code in Python (3 credits)

CIS 162 - Computer Science I (4 credits)

CIS 230 - Hardware and Software (3 credits)

CIS 231 - Problem Solving Using Spreadsheets (3 credits)

CIS 238 - Internet Media and Programming (3 credits)

CIS 290 - Professional Responsibilities and Practices (3 credits)

CIS 331 - Data Analysis Tools and Techniques (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CIS 333 - Database Management and Implementation (3 credits)

CIS 337 - Network Systems Management (3 credits)

CIS 338 - Wide Area Network Engineering (3 credits)

CIS 358 - Information Assurance (3 credits)

CIS 368 - Usability Design and Evaluation (3 credits)

CIS 373 - Pervasive Computing (3 credits)

CIS 430 - Computer and Cyber Forensics (3 credits)

CIS 437 - Distributed Computing (4 credits)

CIS 458 - System Security (3 credits)

CIS 462 - Information Technology Project (3 credits)

CIS 490 - Internship (2 to 5 credits)

COM 201 - Speech (3 credits)

MGT 268 - Business Processes and Management Information Systems (3 credits)

MTH 125 - Survey of Calculus (3 credits) **OR** MTH 225 - Discrete Structures: Computer Science (3 credits)

STA 215 - Introductory Applied Statistics (3 credits) **OR** STA 312 - Probability and Statistics (3 credits)

STA 216 - Intermediate Applied Statistics (3 credits) **OR** STA 318 - Statistical Computing (3 credits)

WRT 350 - Business Communication (3 credits)

### **Major Elective Track Courses**

Each student is required to select one concentration area from the following list of five areas, plus an additional two courses from any track that you did not select.

### **Concentration Areas**

Concentration areas require 15 to 16 credits.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

#### Data Management and Visualization (9 credits)

CIS 320 - Visualization of Data and Information (3 credits)

CIS 335 - Data Mining (3 credits)

CIS 360 - Information Management and Science (3 credits)

#### Software Development (10 credits)

CIS 260 - Application Development in Visual Basic (4 credits)

CIS 330 - Systems Analysis and Design (3 credits)

CIS 443 - Software Development Tools (3 credits)

#### Web and Mobile Applications (10 credits)

CIS 260 - Application Development in Visual Basic (4 credits)

CIS 357 - Mobile Application Development (3 credits)

CIS 371 - Web Application Programming (3 credits)

#### IT Management (9 credits)

CIS 330 - Systems Analysis and Design (3 credits)

CIS 450 - IS Project Management (3 credits)

CIS 460 - Management of Information Systems (3 credits)

#### IT Specialization (9 credits)

A list of nine credits hours to be chosen by the student to customize concentration in specialized areas to complement student's program goals; must be approved by an advisor.

#### **Elective Courses**

CIS 260 - Application Development in Visual Basic (4 credits)

CIS 320 - Visualization of Data and Information (3 credits)

CIS 335 - Data Mining (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CIS 371 - Web Application Programming (3 credits)

CIS 375 - Wireless Networks and Security (3 credits)

CIS 443 - Software Development Tools (3 credits)

CIS 499 - Independent Study and Research (1 to 4 credits)

Other courses are available subject to advisor approval

## **Suggested Order of Coursework**

### **Year One**

CIS 150 - Introduction to Computing (3 credits)

CIS 160 - Learn to Code in Python (3 credits)

CIS 162 - Computer Science I (4 credits)

CIS 230 - Hardware and Software (3 credits)

COM 201 - Speech (3 credits)

MTH 125 - Survey of Calculus (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

WRT 150 - Strategies in Writing (4 credits)

Appropriate general education coursework

### **Year Two**

CIS 231 - Problem Solving Using Spreadsheets (3 credits)

CIS 238 - Internet Media and Programming (3 credits)

CIS 290 - Professional Responsibilities and Practices (3 credits)

CIS 333 - Database Management and Implementation (3 credits)

CIS 337 - Network Systems Management (3 credits)

MGT 268 - Business Processes and Management Information Systems (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

STA 216 - Intermediate Applied Statistics (3 credits)

Appropriate general education coursework

### **Year Three**

CIS 331 - Data Analysis Tools and Techniques (3 credits)

CIS 338 - Wide Area Network Engineering (3 credits)

CIS 358 - Information Assurance (3 credits)

CIS 368 - Usability Design and Evaluation (3 credits)

CIS 373 - Pervasive Computing (3 credits)

CIS 437 - Distributed Computing (4 credits)

CIS 458 - System Security (3 credits)

WRT 350 - Business Communication (3 credits)

Appropriate general education coursework

IT program electives

### **Year Four**

CIS 430 - Computer and Cyber Forensics (3 credits)

CIS 462 - Information Technology Project (3 credits)

CIS 490 - Internship (2 to 5 credits)

Appropriate general education coursework

IT program electives

## **Combined Bachelor of Science in Information Technology and Master of Science in Cybersecurity**

Qualified undergraduates may be admitted to a combined bachelor's/master's program and obtain both a B.S. in information technology and an M.S. in cybersecurity within an accelerated time frame. Students admitted to this program will count up to 12 credits of graduate work in partial

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

satisfaction of the requirements for the undergraduate. After completing 120 credits and all requirements for the bachelor's degree, students are awarded a bachelor's degree. A minimum of 21 graduate credits must be completed after the 120 credits of the bachelor's degree. All other master's degree requirements must be met.

## **Admission**

We encourage information technology students to apply for the combined B.S./M.S. program in information technology and cybersecurity in their second year. It is also possible to apply in the third year but students in their fourth year typically do not receive the benefits of the combined program. Application requirements include:

Overall GPA of 3.25 or greater

Student must have been admitted to the information technology program

60 hours of academic credit have been completed or are in progress

Two letters of recommendation

Academic transcripts (unofficial transcripts are allowable)

Admission decisions will be made by the school admissions committee based on the student's previous academic success in information technology, as indicated by GPA and grades in the foundation information technology courses, as well as potential success in the graduate program, as indicated by the letters of recommendation. Decisions will normally be communicated to students within four weeks of submitting a complete application to the combined degree program.

## **Requirements**

### **During Undergraduate Studies**

All university requirements, including general education courses, must be completed before the final (graduate) year of the combined B.S./M.S. program. In the final undergraduate year, students will normally take 12 credits of graduate-level courses. If any courses are dual-listed, students in the combined B.S./M.S. program must complete all assignments expected of graduate students and they will be evaluated in the same way as graduate students.

The school has identified the following courses that students may dual-count toward the B.S. and M.S. degrees. Up to 12 credits can be dual counted. Students are strongly encouraged to work with the graduate program director in cybersecurity to ensure all undergraduate and graduate requirements are met.

CIS 518 in lieu of CIS Elective

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CIS 555 in lieu of CIS Elective

CIS 616 in lieu of CIS 458

CIS 617 in lieu of CIS 430

### **During Graduate Studies**

A student shall be considered a graduate student for all purposes upon either of the following events: the award of a baccalaureate degree, or the completion of 12 graduate credit hours.

### **Graduation Without Completion of the Program**

If a student decides at some point to pursue only the undergraduate portion of the combined degree, the school will still recognize the graduate courses taken in lieu of undergraduate courses. Credit from the undergraduate degree cannot be used toward a graduate degree at a later date.

The student will still be responsible for completing all of their information technology degree requirements.

### **Sample Order of Coursework**

This sample order of coursework assumes that students will complete the IT foundation and general education courses with the help of their advisor and apply for graduate admission at the end of the winter semester of their second year. The following course sequence also assumes a strong mathematics background for the entering student. If mathematics deficiencies exist, completing the mathematics prerequisites should be the student's top priority.

Notes:

This is only one of many possible sequences of courses. Students are strongly encouraged to work with the graduate program director in cybersecurity to ensure all undergraduate and graduate requirements are met, and to customize the combined program to their areas of interest.

The following sequence makes no attempt to minimize credits. For example, the sequence assumes that all general education courses are distinct, and no double dipping is done.

### **Year One**

CIS 150 - Introduction to Computing (3 credits)

CIS 160 - Learn to Code in Python (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CIS 162 - Computer Science I (4 credits)

CIS 230 - Hardware and Software (3 credits)

COM 201 - Speech (3 credits)

MTH 125 - Survey of Calculus (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

WRT 150 - Strategies in Writing (4 credits)

Appropriate general education coursework

## **Year Two**

CIS 231 - Problem Solving Using Spreadsheets (3 credits)

CIS 238 - Internet Media and Programming (3 credits)

CIS 290 - Professional Responsibilities and Practices (3 credits)

CIS 333 - Database Management and Implementation (3 credits)

CIS 337 - Network Systems Management (3 credits)

CIS 358 - Information Assurance (3 credits)

MGT 268 - Business Processes and Management Information Systems (3 credits)

STA 216 - Intermediate Applied Statistics (3 credits)

Appropriate general education coursework

Appropriate general education coursework

Appropriate general education coursework

## **Year Three**

CIS 331 - Data Analysis Tools and Techniques (3 credits)

CIS 338 - Wide Area Network Engineering (3 credits)

CIS 368 - Usability Design and Evaluation (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CIS 373 - Pervasive Computing (3 credits)

CIS 437 - Distributed Computing (4 credits)

CIS 617 - Digital Forensics and Investigations (3 credits)

WRT 350 - Business Communication (3 credits)

IT elective

IT elective

IT elective

### **Year Four**

CIS 462 - Information Technology Project (3 credits)

CIS 518 - Secure Software Engineering (3 credits)

CIS 555 - Applied Cryptography (3 credits)

CIS 616 - Data Security and Privacy (3 credits)

Graduate elective

Appropriate general education coursework

Appropriate general education coursework

Appropriate general education coursework

Appropriate general education coursework

### **Year Five**

CIS 615 - Information Security Principles (3 credits)

CIS 619 - Data Analytics for Cybersecurity ( 3 credits)

CIS 693 - Master's Project (3 credits)

Graduate elective

Graduate elective

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Graduate elective

## Information Technology Minor

### Requirements

This information technology minor requires a minimum GPA of 2.0 to be approved. A minor in information technology must complete at least 24 credits as follows:

### Required Courses

Students must take all of the following (18 credits):

CIS 150 - Introduction to Computing (3 credits)

CIS 160 - Learn to Code in Python (3 credits)

CIS 230 - Hardware and Software (3 credits)

CIS 233 - Concepts of Database Systems (3 credits)

CIS 237 - Introduction to Network Management (3 credits)

CIS 339 - Project Planning (3 credits)

Students must choose two electives (six to seven credits) from the following:

CIS 231 - Problem Solving Using Spreadsheets (3 credits)

CIS 238 - Internet Media and Programming (3 credits)

CIS 260 - Application Development in Visual Basic (4 credits)

CIS 331 - Data Analysis Tools and Techniques (3 credits)

CIS 338 - Wide Area Network Engineering (3 credits)

## Integrated Science

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

**Website:** [gvsu.edu/isci](http://gvsu.edu/isci)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Integrated Science (Secondary)**

Students who have declared or completed a teachable major and minor in a science discipline may complete additional courses to add an integrated science secondary endorsement to their secondary teaching certificate. The endorsement (obtained upon passing the Michigan Department of Education MDE Integrated Science Test) will certify teachers to teach general science, biology, chemistry, earth science, and physics at the secondary level (grades six through 12).

### **Associated Programs**

#### **College of Education**

The integrated science program faculty collaborate with colleagues in the College of Education to place our students in classrooms with experienced science teachers. Our graduates have a unique combination of skills and experiences that are highly valued by most school districts.

#### **Regional Math and Science Center**

The science (SCI) designation describes courses or workshops that are interdisciplinary in nature and relate to more than one science and/or mathematics discipline. They are primarily for preservice and in-service school teachers. These courses are offered by the faculty in Grand Valley's science departments and/or in conjunction with the Regional Math and Science Center.

## **Bachelor of Science in Integrated Science (Secondary)**

### **Requirements for a Major in Integrated Science - Secondary Education**

GVSU's integrated science secondary education major is for students seeking certification for teaching science in grades 6-12. Students who pass the Michigan Department of Education Integrated Science Secondary Test will receive the Integrated Science DI Endorsement, which is in high demand for job placement in the State of Michigan. The endorsement certifies students to teach general science courses at the middle school level, and also discipline specific courses in biology, chemistry, earth science, and physics at the high school level. This major prepares students in both a breadth and depth of science content, as well as in science teaching methods, in order to prepare preservice teachers for a broad range of teaching opportunities. To be certified, students must complete the ISCI secondary education major with a 3.0 GPA and have an overall GPA of 2.7.

#### **Major Requirements**

There are 89 credits required.

Biology

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

BIO 120 - General Biology I (4 credits)

BIO 121 - General Biology II (4 credits)

BIO 210 - Evolutionary Biology (3 credits)

BIO 215 - Ecology (4 credits)

BIO 375 - Genetics (3 credits)

BIO 376 - Genetics Laboratory (1 credit)

### Chemistry

CHM 115 - Principles of Chemistry I (4 credits)

CHM 116 - Principles of Chemistry II (5 credits)

CHM 221 - Survey of Analytical Chemistry (4 credits)

CHM 231 - Introductory Organic Chemistry (4 credits)

CHM 351 - Introduction to Physical Chemistry (3 credits)

### Earth Science

GEO 111 - Exploring the Earth (4 credits)

GEO 112 - Earth History (4 credits)

GEO 203 - Weather and Climate for Pre-Service Teachers (3 credits)

GEO 214 - Solid Earth Materials and Systems (4 credits)

GEO 220 - Earth Surface Materials and Systems (4 credits)

### Physics

PHY 105 - Descriptive Astronomy (3 credits)

PHY 230 - Principles of Physics I (5 credits)

PHY 231 - Principles of Physics II (5 credits)

PHY 302 - Introduction to Modern Physics (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## Mathematics

MTH 201 - Calculus I (4 credits)

MTH 202 - Calculus II (4 credits)

## Science

SCI 440 - Physics and Chemistry in Secondary Education (3 credits)

## Capstone

SCI 450 - Earth and Life Science in Secondary Education (3 credits)

## **Suggested Order of Coursework for a Major in Integrated Science - Secondary Education**

The suggested order of coursework varies on math preparation. Following are options for starting with college algebra or calculus.

### **STARTING WITH COLLEGE ALGEBRA**

#### **Year One**

BIO 120 - General Biology I (4 credits)

BIO 121 - General Biology II (4 credits)

CHM 115 - Principles of Chemistry I (4 credits)

CHM 116 - Principles of Chemistry II (5 credits)

MTH 122 - College Algebra (3 credits)

MTH 123 - Trigonometry (3 credits)

#### **Year Two**

BIO 210 - Evolutionary Biology (3 credits)

BIO 215 - Ecology (4 credits)

GEO 111 - Exploring the Earth (4 credits)

GEO 112 - Earth History (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MTH 201 - Calculus I (4 credits)

MTH 202 - Calculus II (4 credits)

### **Year Three**

BIO 375 - Genetics (3 credits)

BIO 376 - Genetics Laboratory (1 credit)

CHM 221 - Survey of Analytical Chemistry (4 credits)

CHM 231 - Introductory Organic Chemistry (4 credits)

GEO 203 - Weather and Climate for Pre-Service Teachers (3 credits)

PHY 230 - Principles of Physics I (5 credits)

PHY 231 - Principles of Physics II (5 credits)

### **Year Four**

CHM 351 - Introduction to Physical Chemistry (3 credits)

GEO 214 - Solid Earth Materials and Systems (4 credits)

GEO 220 - Earth Surface Materials and Systems (4 credits)

PHY 105 - Descriptive Astronomy (3 credits)

PHY 302 - Introduction to Modern Physics (4 credits)

SCI 440 - Physics and Chemistry in Secondary Education (3 credits)

SCI 450 - Earth and Life Science in Secondary Education (3 credits)

## **STARTING WITH CALCULUS**

### **Year One**

BIO 120 - General Biology I (4 credits)

BIO 121 - General Biology II (4 credits)

CHM 115 - Principles of Chemistry I (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CHM 116 - Principles of Chemistry II (5 credits)

MTH 201 - Calculus I (4 credits)

MTH 202 - Calculus II (4 credits)

### **Year Two**

BIO 210 - Evolutionary Biology (3 credits)

BIO 215 - Ecology (4 credits)

GEO 111 - Exploring the Earth (4 credits)

GEO 112 - Earth History (4 credits)

### **Year Three**

BIO 375 - Genetics (3 credits)

BIO 376 - Genetics Laboratory (1 credit)

CHM 221 - Survey of Analytical Chemistry (4 credits)

CHM 231 - Introductory Organic Chemistry (4 credits)

GEO 203 - Weather and Climate for Pre-Service Teachers (3 credits)

PHY 230 - Principles of Physics I (5 credits)

PHY 231 - Principles of Physics II (5 credits)

### **Year Four**

CHM 351 - Introduction to Physical Chemistry (3 credits)

GEO 214 - Solid Earth Materials and Systems (4 credits)

GEO 220 - Earth Surface Materials and Systems (4 credits)

PHY 105 - Descriptive Astronomy (3 credits)

PHY 302 - Introduction to Modern Physics (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

# Integrative Studies

For additional information about opportunities your college offers, please refer to the Brooks College of Interdisciplinary Studies section in this catalog.

**Website:** [gvsu.edu/int](http://gvsu.edu/int)

Students may choose a Bachelor of Arts (B.A.) or a Bachelor of Science (B.S.) degree. The major provides an option in which students can pursue interdisciplinary studies and can reach across disciplinary fields to develop expertise in specified areas of focus. Students begin with core courses and may choose to work with an academic advisor to develop an individualized study plan with a focus area based on academic and career goals, creating a custom-designed major. The flexibility of this degree program also allows students to earn additional credentials while earning their degree. Examples include certificates in business fundamentals, leadership, intercultural communications, project management, applied data analytics, and a badge in intercultural competence. Study plan forms and sample areas of focus are located on the integrative studies program website under Student Resources. Students may also elect to do an interdisciplinary emphasis in leadership.

Integrative studies is housed in the Integrative, Religious, and Intercultural Studies Department (IRIS), which is a unit committed to supporting access to higher education for all learners. Courses are offered in multiple formats including traditional face-to-face, hybrid, and online classes. The department also serves as the academic home for the LEADS (Lifelong Educational Attainment for Diverse Students) program, an accelerated, primarily online degree completion program. For more information on LEADS, visit [gvsu.edu/complete](http://gvsu.edu/complete).

Integrative studies is appropriate as a major for students who wish to achieve the following:

Organize their studies around problems, issues, and themes rather than around the traditional disciplines; for example, the relationship between poverty and society, community organization, and/or local music cultures and activism.

Design a bespoke major, that is custom-designed to fit their needs and interests.

Focus on a particular interdisciplinary area of study; for example, cultural studies, American studies, sustainability studies, gender justice, leadership studies, and more.

Concentrate simultaneously on a general education and a particular academic discipline or career field.

Complete their bachelor's degree while working full-time or balancing caregiving responsibilities. We offer a range of online, hybrid, and accelerated format courses to support returning and/or non-traditional students.

## Advising

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Prospective majors should contact the Brooks College Advising Center to meet with an advisor: (616) 331-8200 or [brooksadvising@gvsu.edu](mailto:brooksadvising@gvsu.edu). Substantial information, forms, guidance, and resources are also available online: [gvsu.edu/int](http://gvsu.edu/int).

### **Honors Organizations**

Alpha Iota Sigma is the academic honor society for interdisciplinary studies. The organization recognizes the academic achievements of students and encourages and supports scholarship and excellence of students at the undergraduate level.

### **Meijer Campus in Holland**

The Integrative, Religious, and Intercultural Studies Department, in partnership with the Center for Adult and Continuing Studies and Grand Rapids Community College, now offer an accelerated, primarily online adult degree completion program (LEADS) through the Meijer Campus in Holland. Visit [gvsu.edu/holland](http://gvsu.edu/holland).

### **Regional Center in Traverse City**

The Integrative, Religious, and Intercultural Studies Department, in partnership with the Center for Adult and Continuing Studies and Northwestern Michigan College, now offer an accelerated, primarily online adult degree completion program (LEADS) in Traverse City. Students design a program that suits their specific interests, talents, and career goals. Working closely with a faculty advisor, students will develop a major area of study based on a specific theme, issue, problem, or career interest. The Traverse City program provides the integrative studies core courses and a selection of electives that may apply to your emphasis area. Students will combine coursework transferred from NMC, other community colleges, or four year institutions to complete the degree requirements.

### **Regional Center in Detroit**

The Integrative, Religious, and Intercultural Studies Department, in partnership with the Center for Adult and Continuing Studies, now offer an accelerated, primarily online adult degree completion program (LEADS) in Detroit. Students design a program that suits their specific interests, talents, and career goals. Working closely with a faculty advisor, students will develop a major area of study based on a specific theme, issue, problem, or career interest. Students may combine coursework transferred from community colleges or four year institutions to complete the degree requirements.

## **Bachelor of Arts or Bachelor of Science in Integrative Studies**

Students who choose the integrative studies major may custom-design an individualized plan of study in consultation with their advisor or choose an existing emphasis. The flexibility of this degree program also allows students to earn additional credentials as part of their degree

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

program. Examples include certificates in business fundamentals, leadership, intercultural communications, project management, applied data analytics, and a badge in intercultural competence. Study plan forms and sample areas of focus are located on the integrative studies program website under Student Resources.

Integrative studies is housed in the Integrative, Religious, and Intercultural Studies Department (IRIS), which is a unit committed to supporting access to higher education for all learners. Courses are offered in multiple formats including traditional face-to-face, hybrid, and online classes. The department also serves as the academic home for the LEADS (Lifelong Educational Attainment for Diverse Students) program, an accelerated, primarily online degree completion program. For more information on LEADS, visit [gvsu.edu/complete](http://gvsu.edu/complete).

Students who choose the integrative studies major must each individually design their own study plan and area of focus. Study plan forms and sample areas of focus are located on the departmental website under Advising Resources for Students. The Bachelor of Science degree in integrative studies consists of 56 credits; the Bachelor of Arts degree consists of up to 59 credits. Credits are distributed as follows:

Core courses (18 credits)

B.S. or B.A. requirements (9 credits)

Area of focus (18 credits), of which 15 need to be at the 300-level or above and may include:

one of four certificates and/or badge listed previously

**OR** may be custom-designed to suit individual student interests/needs

**OR** Emphasis in Leadership Credits: 18, see listing as follows for courses

Contextual electives (9 credits)

Application and Synthesis (5 credits)

Internship (minimum of 2 credits)

**OR** practicum (minimum of 2 credits)

Senior seminar (3 credits)

## **Admission**

To be admitted to the integrative studies major, students must consult with an advisor and prepare an approved study plan that lists the courses included in the emphasis or focus area and the electives. See departmental website for sample study plans and areas of focus. Study plans

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

are submitted to the chair for review and approval. Changes in study plans must be made in consultation with advisors and approved by the chair.

## **Requirements for a Major in Integrative Studies**

### **Core Courses**

There are 18 credits required. All majors are required to take six core courses that introduce them to the basic principles of liberal education.

INT 100 - Reflect, Connect, Engage (3 credits)

INT 201 - Diversity in the United States (3 credits)

INT 311 - Meaning: The Humanities Resource (3 credits) **OR** INT 312 - Collaborative Communication (3 credits)

INT 301 - Interdisciplinary Research Methods (3 credits)

INT 400 - Global Visionary Leadership (3 credits) **OR** INT 401 - American Visionary Leadership (3 credits) **OR** WGS/INT 402 - Feminist Visionary Thinkers (3 credits)

**AND** at least one ethics course from the following:

BIO 328 - Biomedical Ethics (3 credits)

BIO 338 - Environmental Ethics (3 credits)

COM 438 - Communication Ethics (3 credits)

MGT 340 - Ethics and Business, Social Justice and Sustainability (3 credits)

MKT 375 - Marketing Ethics (3 credits)

PHI 102 - Ethics (3 credits)

PHI 325 - Ethics in Professional Life (3 credits)

### **B.S. or B.A. Degree**

There are six credits required.

### **B.A. Degree Requirements**

The Bachelor of Arts degree requires the completion of a third semester of language proficiency.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **B.S. Degree Requirements**

The Bachelor of Science degree requires the completion of the following (6 credits):

STA 215 - Introductory Applied Statistics (3 credits)

INT 301 - Interdisciplinary Research Methods (3 credits) Also required in the core.

**AND** one of the following, relevant to area of focus or emphasis (3 credits)

AHS 301 - Introduction to Health Care Research (3 credits)

HST 290 - Research Methods in History (3 credits)

PLS 300 - Political Analysis (3 credits)

STA 216 - Intermediate Applied Statistics (3 credits)

STA 301 - Questionnaire Design and Execution (3 credits)

STA 314 - Statistical Quality Methods (3 credits)

STA 318 - Statistical Computing (3 credits)

STA 340 - Statistics in the Media (3 credits)

STA 345 - Statistics in Sports (3 credits)

## **Area of Focus OR Emphasis in Leadership**

### **Area of Focus**

Students have the option of working in consultation with their advisor to develop an individualized area of focus comprised of six or more courses drawn from the whole Grand Valley curriculum. At least 15 of the 18 credits in the area of focus must be at the 300-level or above. Typically, areas of focus are organized around either a major issue in human life or an interdisciplinary area of study. For example, a student may consider concentrating study within an upper-level issues area to complete an area of focus in globalization, human rights, health, innovation, information and technology, sustainability, or identity. Other recent areas of focus include, social relations, gender justice, American studies, business and society, peace studies, oppression and human rights, scientific culture and the humanities, cultural studies, business and economics, humanities, technical and scientific communication, political economy, childhood development and literature, and management and society.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

The flexibility of the area of focus also allows students to earn one of several certificates or a badge while completing their degree requirements. Courses completed as part of these certificates or badges are counted toward the area of focus requirements. Options include: leadership certificate, global communications certificate, project management certificate, applied data analytics certificate, and/or a digital badge in intercultural competence.

### **Emphasis in Leadership**

There are 18 credits required for the emphasis in leadership. Integrative studies majors may elect to complete their emphasis in leadership by taking 18 credits in coursework that develops leadership competencies. It provides the basis for long-term personal and professional growth through studying the principles and practices of engaged leadership.

Required courses:

INT 341 - Leadership for Social Change (3 credits)

12 credits from the following list of courses

An additional three credits from either the approved list **OR** an advisor approved course

The following courses can count toward the leadership emphasis:

AHS 340 - Health Care Management (3 credits)

COM 301 - Interpersonal Communication (3 credits)

COM 302 - Small Group Communication (3 credits)

INT 310 - Creativity and Innovative Problem-Solving (3 credits)

INT 314 - Life Journeys (3 credits)

INT 331 - Person and Profession in a Global Environment (3 credits)

MGT 331 - Managing People and Organizations (3 credits)

MGT 340 - Ethics and Business, Social Justice and Sustainability (3 credits)

MGT 345 - Team Building (3 credits)

MGT 355 - The Diversified Workforce (3 credits)

PNH 335 - Grant Writing (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

PNH 360 - Voluntarism and the Nonprofit Sector (3 credits)

PNH 390 - Leadership Dynamics (3 credits)

PNH 420 - Organization Theory and Dynamics (3 credits)

WRT 350 - Business Communication (3 credits)

### **Contextual Electives**

There are nine contextual elective credits required. The program also emphasizes the importance of integration in education, of seeing how things fit together, including the integration of liberal and career studies. To these ends, all majors are required to select a body of at least three elective courses. Students may select their electives from across the entire Grand Valley curriculum. Students could consider structuring their elective as a career component to their study plan, including areas such as business, computer science, and international study.

### **Senior Seminar and Internship/Practicum**

Five or more credits are required. The required internship/practicum and senior seminar provide opportunities for students to apply theoretical knowledge to life issues outside the classroom and to synthesize the components of their major. INT 490 or INT 491, the internship or practicum, allows students to put into practice their ideas and explore the applications of their focus of study. Guidelines for an internship or practicum are on the department website under Advising Resources for Students. INT 495 - Senior Seminar, or Capstone, asks students to prepare/share their senior theses in which they reconsider the central issues they have engaged in the major.

INT 490 - Internship (1 to 6 credits) **OR** INT 491 - Practicum (1 to 6 credits)

INT 495 - Senior Seminar (Capstone) (3 credits)

### **Admission to the Integrative Studies Major and Submission of the Study Plan**

To be admitted to the major, students must consult with an advisor and prepare an approved study plan that lists the courses included in the emphasis or focus area and the electives or be enrolled through the LEADS program. See departmental website for sample study plans and areas of focus as well as information about LEADS. Study plans are submitted to the chair for review and approval. Changes in study plans must be made in consultation with advisors and approved by the chair.

## **Bachelor of Arts or Bachelor of Science in Integrative Studies Adult Degree Completion**

Students who choose the integrative studies major may custom-design an individualized plan of study in consultation with their advisor or choose an existing emphasis. The flexibility of this

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

degree program also allows students to earn additional credentials as part of their degree program. Examples include certificates in business fundamentals, leadership, intercultural communications, project management, applied data analytics, and a badge in intercultural competence. Study plan forms and sample areas of focus are located on the integrative studies program website under Student Resources.

Integrative studies is housed in the Integrative, Religious, and Intercultural Studies Department (IRIS), which is a unit committed to supporting access to higher education for all learners. Courses are offered in multiple formats including traditional face-to-face, hybrid, and online classes. The department also serves as the academic home for the LEADS (Lifelong Educational Attainment for Diverse Students) program, an accelerated, primarily online degree completion program. For more information on LEADS, visit [gvsu.edu/complete](http://gvsu.edu/complete).

Students who choose the integrative studies major must each individually design their own study plan and area of focus. Study plan forms and sample areas of focus are located on the departmental website under Advising Resources for Students. The Bachelor of Science degree in integrative studies consists of 56 credits; the Bachelor of Arts degree consists of up to 59 credits. Credits are distributed as follows:

Core courses (18 credits)

B.S. or B.A. requirements (9 credits)

Area of focus (18 credits), of which 15 need to be at the 300-level or above and may include:

one of four certificates and/or badge listed previously

**OR** may be custom-designed to suit individual student interests/needs

**OR** Emphasis

Contextual electives (9 credits)

Application and Synthesis (5 credits)

Internship (minimum of 2 credits)

**OR** practicum (minimum of 2 credits)

Senior seminar (3 credits)

## **Requirements for a Major in Integrative Studies**

### **Core Courses**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

There are 18 credits required. All majors are required to take six core courses that introduce them to the basic principles of liberal education.

INT 100 - Reflect, Connect, Engage (3 credits)

INT 201 - Diversity in the United States (3 credits)

INT 311 - Meaning: The Humanities Resource (3 credits) **OR** INT 312 - Collaborative Communication (3 credits)

INT 301 - Interdisciplinary Research Methods (3 credits)

INT 400 - Global Visionary Leadership (3 credits) **OR** INT 401 - American Visionary Leadership (3 credits) **OR** WGS/INT 402 - Feminist Visionary Thinkers (3 credits)

**AND** at least one ethics course from the following:

BIO 328 - Biomedical Ethics (3 credits)

BIO 338 - Environmental Ethics (3 credits)

COM 438 - Communication Ethics (3 credits)

MGT 340 - Ethics and Business, Social Justice and Sustainability (3 credits)

MKT 375 - Marketing Ethics (3 credits)

PHI 102 - Ethics (3 credits)

PHI 325 - Ethics in Professional Life (3 credits)

### **B.S. or B.A. Degree**

There are six credits required.

### **B.A. Degree Requirements**

The Bachelor of Arts degree requires the completion of a third semester of language proficiency.

### **B.S. Degree Requirements**

The Bachelor of Science degree requires the completion of the following (6 credits):

STA 215 - Introductory Applied Statistics (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

INT 301 - Interdisciplinary Research Methods (3 credits) Also required in the core.

**AND** one of the following, relevant to area of focus or emphasis (3 credits)

AHS 301 - Introduction to Health Care Research (3 credits)

HST 290 - Research Methods in History (3 credits)

PLS 300 - Political Analysis (3 credits)

STA 216 - Intermediate Applied Statistics (3 credits)

STA 301 - Questionnaire Design and Execution (3 credits)

STA 314 - Statistical Quality Methods (3 credits)

STA 318 - Statistical Computing (3 credits)

STA 340 - Statistics in the Media (3 credits)

STA 345 - Statistics in Sports (3 credits)

## **Emphases**

### **Applied Data Analysis Emphasis**

The applied data analytics certificate focuses on understanding how to interpret, use, and apply data and statistics in the workplace. Students learn foundational computing and statistical skills like visualization, predictive analytics tools, and computer coding in Python and R. Certificates demonstrate the skills necessary to pursue a career path. Earning this undergraduate certificate in applied data analytics will enhance student's career skills by using data to

improve decision-making;

enhance productivity; and

predict and define emerging trends.

Requirements Courses (18 credits)

CIS 160 - Learn to Code in Python (3 credits)

CIS 320 - Visualization of Data and Information (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CIS 331 - Data Analysis Tools and Techniques (3 credits) OR MGT 477 - Applied Business Intelligence (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

STA 323 - Predictive Analytics (3 credits)

STA 340 - Statistics in the Media (3 credits) OR ECO 300 - Data Analytics for Economics and Business (3 credits)

### **Intercultural Communications Emphasis**

Required courses (14 credits)

ITC 100 - Introduction to Intercultural Competence (3 credits)

ITC 490 - Practicum: Intercultural Learning Experience (1 to 6 credits)

WRT 354 - Writing in the Global Context: Culture, Technology, and Language Practices (3 credits)

Electives (6 credits)

Students are required to select one course from each category as follows.

Media, Modes, and Methods (choose one)

COM 378 - Intercultural Communication (3 credits)

DS 314/ENG 314 - Digital Literacies (3 credits)

INT 341 - Leadership for Social Change (3 credits)

REL 335 - Sacred Words, Global Understanding (3 credits)

Theory Into Practice (choose one)

COM 438 - Communication Ethics (3 credits)

DS 335/CJ 335 - Digital Crime, Media and Culture (3 credits)

DS 360 - Ethics of Digital Culture (3 credits)

WRT 350 - Business Communication (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

WRT 351 - Writing for the Web (3 credits)

### **Leadership Emphasis**

#### **Core Courses** (6 credits)

INT 312 - Collaborative Communication (3 credits)

INT 341 - Leadership for Social Change (3 credits)

#### **Electives** (6 credits)

Students are required to select two courses:

COM 438 - Communication Ethics (3 credits)

INT 310 - Creativity and Innovative Problem-Solving (3 credits)

INT 314 - Life Journeys (3 credits)

INT 323 - Design Thinking to Meet Real-World Needs (3 credits)

INT 331 - Person and Profession in a Global Environment (3 credits)

MGT 345 - Team Building (3 credits)

PNH 390 - Leadership Dynamics (3 credits)

PNH 420 - Organization Theory and Dynamics (3 credits)

WRT 350 - Business Communication (3 credits)

### **Project Management Emphasis**

There are 18 credits required for the emphasis in leadership. Integrative studies majors may elect to complete their emphasis in leadership by taking 18 credits in coursework that develops leadership competencies. It provides the basis for long-term personal and professional growth through studying the principles and practices of engaged leadership.

Required courses:

INT 341 - Leadership for Social Change (3 credits)

12 credits from the following list of courses

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

An additional three credits from either the approved list **OR** an advisor approved course

The following courses can count toward the leadership emphasis:

AHS 340 - Health Care Management (3 credits)

COM 301 - Interpersonal Communication (3 credits)

COM 302 - Small Group Communication (3 credits)

INT 310 - Creativity and Innovative Problem-Solving (3 credits)

INT 314 - Life Journeys (3 credits)

INT 331 - Person and Profession in a Global Environment (3 credits)

MGT 331 - Managing People and Organizations (3 credits)

MGT 340 - Ethics and Business, Social Justice and Sustainability (3 credits)

MGT 345 - Team Building (3 credits)

MGT 355 - The Diversified Workforce (3 credits)

PNH 335 - Grant Writing (3 credits)

PNH 360 - Voluntarism and the Nonprofit Sector (3 credits)

PNH 390 - Leadership Dynamics (3 credits)

PNH 420 - Organization Theory and Dynamics (3 credits)

WRT 350 - Business Communication (3 credits)

The project management emphasis integrates the essential Project Management Body of Knowledge skills, principles, and practices; with cutting edge methodology, team-building skills and best practices. Students work in teams to effectively initiate, plan, execute, control, and bring closure to real-world project(s) using MS Project and/or other enterprise project management software.

Required Courses (12 Credits)

BUS 470 - Applied Business Solutions (1 to 3 credits)

CIS 339 - Project Planning (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CIS 349 - Agile Project Management (3 credits)

MGT 345 - Team Building (3 credits)

### **Business Fundamentals Emphasis**

Requirements Courses (15 credits)

ACC 201 - Accounting for Non-Business Majors 1 (1.5 credits)

ACC 202 - Accounting for Non-Business Majors 2 (1.5 credits)

FIN 300 - Fundamentals of Finance for Non-Business Majors (3 credits)

MGT 300 - Fundamentals of Management for Non-Business Majors (3 credits)

MKT 300 - Fundamentals of Marketing for Non-Business Majors (3 credits)

### **Self-Designed Emphasis**

Students have the option of working in consultation with their advisor to develop an individualized area of focus comprised of six or more courses drawn from the whole Grand Valley curriculum. At least 15 of the 18 credits in the area of focus must be at the 300-level or above. Typically, areas of focus are organized around either a major issue in human life or an interdisciplinary area of study. For example, a student may consider concentrating study within an upper-level issues area to complete an area of focus in globalization, human rights, health, innovation, information and technology, sustainability, or identity. Other recent areas of focus include, social relations, gender justice, American studies, business and society, peace studies, oppression and human rights, scientific culture and the humanities, cultural studies, business and economics, humanities, technical and scientific communication, political economy, childhood development and literature, and management and society.

The flexibility of the area of focus also allows students to earn one of several certificates or a badge while completing their degree requirements. Courses completed as part of these certificates or badges are counted toward the area of focus requirements. Options include: leadership certificate, global communications certificate, project management certificate, applied data analytics certificate, and/or a digital badge in intercultural competence.

### **Contextual Electives**

There are nine contextual elective credits required. The program also emphasizes the importance of integration in education, of seeing how things fit together, including the integration of liberal and career studies. To these ends, all majors are required to select a body of at least three elective courses. Students may select their electives from across the entire Grand Valley curriculum. Students could consider structuring their elective as a career component to their study plan, including areas such as business, computer science, and international study.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Senior Seminar and Internship/Practicum**

Five or more credits are required. The required internship/practicum and senior seminar provide opportunities for students to apply theoretical knowledge to life issues outside the classroom and to synthesize the components of their major. INT 490 or INT 491, the internship or practicum, allows students to put into practice their ideas and explore the applications of their focus of study. Guidelines for an internship or practicum are on the department website under Advising Resources for Students. INT 495 - Senior Seminar, or Capstone, asks students to prepare/share their senior theses in which they reconsider the central issues they have engaged in the major.

INT 490 - Internship (1 to 6 credits) **OR** INT 491 - Practicum (1 to 6 credits)

INT 495 - Senior Seminar (Capstone) (3 credits)

## **Admission to the Integrative Studies Major and Submission of the Study Plan**

To be admitted to the major, students must consult with an advisor and prepare an approved study plan that lists the courses included in the emphasis or focus area and the electives or be enrolled through the LEADS program. See departmental website for sample study plans and areas of focus as well as information about LEADS. Study plans are submitted to the chair for review and approval. Changes in study plans must be made in consultation with advisors and approved by the chair.

## **Badge in Intercultural Competence**

**Website:** [gvsu.edu/itc](http://gvsu.edu/itc)

The intercultural competence program (ITC) is designed to help students build the experience-based skills needed to interact sensitively and effectively with the rich diversity of people in our increasingly global community. Experience-based learning builds skills that are in demand by today's employers and support students to become more culturally aware, engaged citizens. Those include:

Cultural Self-Awareness: Developing a demonstrated ability to articulate insights into one's own cultural rules and biases; and

Knowledge of Cultural and Worldview Frameworks Through Inquiry: Demonstrating a sophisticated understanding of the complexity of elements important to members of another culture in relation to that culture's history, values, politics, communication styles, economy, or beliefs and practices.

Course options are designed to fit the busy schedules of a wide range of students as well as non-degree seeking professionals from diverse fields like nursing, allied health, engineering, and business, among others.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Students wishing to earn the ITC badge can do so in one of three ways: (1) as free-standing digital badge; (2) as part of the global communications certificate (see [gvsu.edu/goglobal](http://gvsu.edu/goglobal)); or (3) as part of a major (B.A. or B.S.) in integrative studies (see [gvsu.edu/int](http://gvsu.edu/int)). Courses within this program are offered in fully online, hybrid, and traditional formats. Students enrolled in the LEADS program ([gvsu.edu/complete](http://gvsu.edu/complete)) may complete the ITC badge in a fully online, accelerated six week format.

Many students are able to complete the badge in less than one year, or as little as one semester.

We encourage you to contact the Integrative, Religious, and Intercultural Studies Department (IRIS) to speak with a faculty advisor who can help you plan the best and most direct course to complete the certificate requirements: (616) 331-8020 or email: [irisdept@gvsu.edu](mailto:irisdept@gvsu.edu).

### **Requirements for the Badge**

ITC 100 - Introduction to Intercultural Competence (3 credits)

ITC 490 - Practicum: Intercultural Learning Experience (1 to 6 credits)

WRT 354 - Writing in the Global Context: Culture, Technology, and Language Practices (3 credits)

## **Digital Studies Minor**

**Website:** [gvsu.edu/ds](http://gvsu.edu/ds)

The widespread influence of digital media in almost every aspect of contemporary life requires new literacy skills for understanding and using digital technologies. Regardless of their specialized major program, students will work and evolve in environments that increasingly rely on digital tools and platforms to create and share information. To address this need, the digital studies minor provides ways for students from all disciplines to explore the role of digital tools and to become productive and ethical digital citizens.

Focused on theory and practice, the digital studies curriculum helps students gain experience using digital tools and develop a complex understanding of digital cultures. The modular curriculum allows students to customize their experience in the minor based on their interests and major.

The curriculum covers topics such as:

Multimedia production

Social media

Ethics and digital culture

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Design and data visualization

Data literacy

Digital identity and representation

The minor has two overarching goals, both oriented toward helping students navigate the increasingly digitized world that we inhabit. The first is to teach students the skills necessary to use digital skills and tools foundational to their careers, including data literacy, visualization, multimedia production, visual rhetoric, and design. The second is to gain the knowledge to critically assess digital culture, including the interrogation of social media, digital identity and representation, and exploring the ethical implications of digital access.

## **Requirements for a Minor in Digital Studies**

The minor requires 21 credits.

### **Core Courses**

All students minoring in digital studies are required to complete the following two courses:

DS 201 - Digital Identities and Communities (3 credits)

DS 202 - Digital Data and Design (3 credits)

### **Module Courses**

All students minoring in digital studies are required to complete two courses from each of the following modules.

Students must take two courses from different disciplines in the digital tools and production module.

Students must take at least one digital studies designated course in the digital culture module. With approval from the director of digital studies, students may complete DS 490 - Digital Studies Internship in place of one of the two required module courses.

### **1. Digital Tools and Production**

ART 209 - Graphic Design Basics (3 credits)

ART 271 - Digital 3-D Modeling and Design (3 credits)

CIS 231 - Problem Solving Using Spreadsheets (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CIS 238 - Internet Media and Programming (3 credits)

CIS 320 - Visualization of Data and Information (3 credits)

CMJ 260 - Multimedia Journalism Workshop (3 credits)

DS 310 - Digital Preservation and Archiving (3 credits)

DS 490 - Internship in Digital Studies (3 credits)

FVP 125 - Media Production I (3 credits)

GPY 307 - Introduction to Geographic Information Systems (3 credits)

MKT 360 - Digital Marketing (3 credits)

PHO 175 - Understanding Still Photography (3 credits)

STA 216 - Intermediate Applied Statistics (3 credits)

WRT 351 - Writing for the Web (3 credits)

WRT 455 - Multimodal Composing (3 credits)

## **2. Digital Culture**

CIS 358 - Information Assurance (3 credits)

DS 314/ENG 314 - Digital Literacies (3 credits)

DS 330 - Game Culture (3 credits)

DS 335/CJ 335 - Digital Crime, Media and Culture (3 credits)

DS 340 - Identity and Representation in Digital Culture (3 credits)

DS 350 - Social Media in Culture (3 credits)

DS 360 - Ethics of Digital Culture (3 credits)

DS 490 - Internship in Digital Studies (3 credits)

PLS 340 - Mass Media and American Politics (3 credits)

SOC 366/INT 366 - American Society and Media (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

STA 340 - Statistics in the Media (3 credits)

### **Capstone Requirements**

All students minoring in digital studies are required to complete the Capstone course:

DS 495 - Digital Studies Capstone (3 credits)

## **Intercultural Communications Certificate**

**Website:** [gvsu.edu/itc](http://gvsu.edu/itc)

The intercultural communication certificate prepares graduates with skills in effective communication within and across diverse international organizations. Core courses ground students in cultural competency, written and spoken discourse, and experiential learning. Graduates of this program will demonstrate effective multi-modal persuasion and messaging that can be applied within a range of workplace, digital, and societal settings. Skills development is enhanced through interdisciplinary electives that situate global communication skills within particular job sectors and/or contexts.

Students wishing to earn the certificate can do so either as free-standing certificate or as part of a major in integrative studies (B.A. or B.S.). This program also supports students to earn an intercultural competence digital badge, creating stackable credentials that bolster your dossier. Most students complete this program in one year or less.

Courses within this program are offered in fully online, six-week accelerated formats for degree completion students. Any GVSU student can earn an intercultural communication certificate by completing the required courses listed as follows. These courses are offered in traditional, hybrid, and fully online formats.

We encourage you to contact the Integrative, Religious, and Intercultural Studies Department (IRIS) to speak with a faculty advisor who can help you plan the best and most direct course to complete the certificate requirements: (616)331-8020 or email: [irisdept@gvsu.edu](mailto:irisdept@gvsu.edu).

### **Requirements for the Certificate (14 credits)**

#### **Core Courses (8 credits)**

ITC 100 - Introduction to Intercultural Competence (3 credits)

ITC 490 - Practicum: Intercultural Learning Experience (1 to 6 credits)

WRT 354 - Writing in the Global Context: Culture, Technology, and Language Practices (3 credits)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Electives (6 credits)**

Students are required to select one course from each category as follows.

Media, Modes, and Methods (choose one)

COM 378 - Intercultural Communication (3 credits)

DS 314/ENG 314 - Digital Literacies (3 credits)

INT 341 - Leadership for Social Change (3 credits)

REL 335 - Sacred Words, Global Understanding (3 credits)

Theory Into Practice (choose one)

COM 438 - Communication Ethics (3 credits)

DS 335/CJ 335 - Digital Crime, Media and Culture (3 credits)

DS 360 - Ethics of Digital Culture (3 credits)

WRT 350 - Business Communication (3 credits)

WRT 351 - Writing for the Web (3 credits)

## **Leadership, Undergraduate Certificate**

**Website:** [gvsu.edu/leadershipcert](http://gvsu.edu/leadershipcert)

The leadership certificate prepares graduates with core training in six primary competencies: (1) leadership integrity (identity and values); (2) structural awareness; (3) interpersonal and conflict management skills; (4) diversity and cultural competency; (5) creative/critical decision-making; and (6) written/oral communication skills. These competencies align with the essential skills necessary for 21st century, cross-sector leadership.

Students wishing to earn the certificate can do so either as free-standing certificate or as part of a major in integrative studies (B.A. or B.S.). Courses within this program are offered in fully online, six-week accelerated formats for degree completion students. Any GVSU student can earn a leadership certificate by completing the required courses listed as follows. These courses are offered in traditional, hybrid, and fully online formats. Many students are able to complete the certificate in one year or less.

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We encourage you to contact the Integrative, Religious, and Intercultural Studies Department (IRIS) to speak with a faculty advisor who can help you plan the best and most direct course to complete the certificate requirements: (616)331-8020 or email: [irisdept@gvsu.edu](mailto:irisdept@gvsu.edu).

## **Requirements for the Certificate**

### **Core Courses (6 credits)**

INT 312 - Collaborative Communication (3 credits)

INT 341 - Leadership for Social Change (3 credits)

### **Electives (6 credits)**

Students are required to select two courses:

COM 438 - Communication Ethics (3 credits)

INT 310 - Creativity and Innovative Problem-Solving (3 credits)

INT 314 - Life Journeys (3 credits)

INT 323 - Design Thinking to Meet Real-World Needs (3 credits)

INT 331 - Person and Profession in a Global Environment (3 credits)

MGT 345 - Team Building (3 credits)

PNH 390 - Leadership Dynamics (3 credits)

PNH 420 - Organization Theory and Dynamics (3 credits)

WRT 350 - Business Communication (3 credits)

## **International Business**

For additional information about opportunities your college offers, please refer to the Seidman College of Business section in this catalog.

Website: [gvsu.edu/internationalbusiness](http://gvsu.edu/internationalbusiness)

A major in international business develops a student's ability to meet the challenges of the global business environment. The major prepares students to work for U.S. and international companies that do business everywhere by training them to identify and develop solutions to problems

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

unique to doing business internationally. Students receive a strong foundation in international aspects of business by taking upper-level courses in international management, marketing, finance, accounting, and economics. Unique requirements of the major are that students take courses to improve their cultural competencies, study a foreign language, and participate in study abroad.

Students pursuing an international business major must complete a second Seidman major in a functional discipline (e.g., finance, marketing, accounting, management, or economics), a minor in a foreign language or demonstrated proficiency in a foreign language, and must participate in a GVSU-approved study abroad experience in addition to completing the B.B.A. core. For students with F1 visas, certain program requirement substitutions may be made. Students should contact the Seidman Undergraduate Student Services Office early in their program for a suggested pattern of coursework.

## **International Business Minor**

### **Requirements for a Minor in International Business**

Eligible business majors who elect to complete one of the business minors may be required to extend their degree programs beyond the minimum 120-semester hour university requirement.

The undergraduate minor program in international business is for both business and nonbusiness students with the exception of those majoring in international business and general business. The minor consists of 18 credit hours (six courses).

### **Required Courses**

ECO 210 - Introductory Macroeconomics (3 credits)

MGT 303 - International Business and Culture (3 credits)

Three courses from the following:

ACC 330 - International Accounting (3 credits)

ECO 349 - Emerging Markets Issues (3 credits)

ECO 365 - Comparative Economic Systems (3 credits)

ECO 369 - International Economic Issues (3 credits)

FIN 429 - International Financial Management (3 credits)

MGT 466 - International Management and Multinational Corporations (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MKT 359 - Multinational Marketing (3 credits)

### **Additional Course**

One course from the international business major cultural component requirement or a three-credit international internship is required. Students majoring in any business discipline or economics must select an additional Cultures or international business course. Students must achieve a cumulative 2.5 GPA in these courses to receive the international business minor designation. Students must complete all prerequisite courses before enrolling in the international business minor courses. Courses may not be taken credit/no-credit.

## **International Relations**

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

**Website:** [gvsu.edu/polisci/ir](http://gvsu.edu/polisci/ir)

Global communications, technological advances, and burgeoning international trade and investment have increased the frequency and complexity of international relations. As globalization increases, the potential for international cooperation and conflict expands as well. The international relations program at Grand Valley State University provides students with the opportunity to gain a broad base of knowledge about the history, economics, and politics of interaction among states and non-state actors. Students in the international relations program examine the sources of tension that create conflict among nations and societies, study globalization and interdependence, and learn about the ways in which transnational movements, international organizations, and public diplomacy can promote international cooperation.

International relations is an interdisciplinary program that includes coursework in political science, history, economics, business, geography, and foreign culture. As part of their studies, students are encouraged to become proficient in a foreign language and to study abroad. The Capstone course in international relations allows students to bring together the threads of knowledge they have gathered in interdisciplinary coursework and gives them a chance to pursue independent research on an international relations topic of their choice.

### **Study Abroad**

Students in the international relations program are strongly encouraged to take advantage of opportunities to study abroad. Grand Valley has institutional partnership agreements with universities in Australia, China, England, France, Ghana, Hungary, India, Japan, Mexico, Norway, Poland, and Turkey. In addition, students may enroll in many other universities worldwide for academic credit. Appropriate courses taken abroad can be credited toward the requirements for the major or minor. Students are encouraged to study the language and culture of a select geographic area as a component of their degree program, and should consider selecting a foreign language or area studies minor. Students are strongly advised to consult with

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

the staff of the Padnos International Center and the international relations program coordinator before enrolling in study abroad programs. Visit our website at [gvsu.edu/studyabroad](http://gvsu.edu/studyabroad).

## **Internships**

In addition to classroom work, students participate in a variety of internship opportunities, including working for local, national, and international government, business, and nonprofit organizations. In recent years, students have pursued internships in Lansing; Washington, D.C.; and overseas, including placements at the Voice of America, Peace Corps, International Red Cross, United Nations, and U.S. embassies abroad.

Students can earn up to six credits in the internship program. The emphasis of the program is on broadening students' experience and knowledge about international relations through a practical involvement that is firmly founded on and tied to strong academic curricula. GVSU international relations majors have access to GVSU's Handshake (formerly LakerJobs) at [gvsu.joinhandshake.com](http://gvsu.joinhandshake.com).

To get started, click on the internships link at [gvsu.edu/polisci/ir](http://gvsu.edu/polisci/ir).

IR students also have an opportunity to complete an internship and learn in Washington, D.C. through our GV in DC program, a partnership program with The Washington Center. For information about the GV in DC program, visit [gvsu.edu/gvdc](http://gvsu.edu/gvdc).

Professor Polly Diven, the IR program coordinator also serves as internship advisor. She can be reached at [divenp@gvsu.edu](mailto:divenp@gvsu.edu).

## **Honors Organization**

Pi Sigma Alpha, the National Political Science Honor Society, was established at the University of Texas in 1920. There are currently 621 chapters of Pi Sigma Alpha around the United States, including the Kappa Phi chapter at Grand Valley State University. [pisigmaalpha.org](http://pisigmaalpha.org).

Initiation into Pi Sigma Alpha is a prestigious award for upper division students who have demonstrated consistent excellence in political science and international relations. Initiation into Pi Sigma Alpha also establishes one's eligibility to participate in Pi Sigma Alpha scholarship and internship grant programs, and to publish research in the Pi Sigma Alpha Undergraduate Journal of Politics. For information about eligibility requirements and campus activities contact Paul J. Cornish, Advisor to the Kappa Phi chapter of Pi Sigma Alpha, at (616) 331-3502 or [cornishp@gvsu.edu](mailto:cornishp@gvsu.edu).

## **International House**

Located in the Murray Living Center, the International House is a living and learning community for international students, international relations majors, and other related majors including international business, political science, and modern languages. A variety of international

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

programming is offered to enhance the academic curriculum, including guest speakers and films. IR students are encouraged to consider this option for housing on campus.

## **Bachelor of Arts in International Relations**

### **Requirements for a Major in International Relations**

The international relations major leads to a B.A. degree. Students must demonstrate fourth-semester proficiency in a foreign language and are strongly encouraged to undertake additional language study.

Students majoring in international relations are required to complete at least 36 credit hours, including the major requirements listed as follows. The remaining 15 hours should be selected from the list of international relations course electives as follows and must include a minimum of three hours at the 300-level or above in each of the first three categories: economics and business, geography and history, and political science. Students should not regard this list as definitive. With the permission of the program coordinator, study abroad courses, internship credits, and upper-level GVSU courses not included in this list can be used as electives for the international relations major. These choices should be made in consultation with an advisor and approved by the program coordinator.

#### **Core Requirements**

ECO 210 - Introductory Macroeconomics (3 credits)

ECO 211 - Introductory Microeconomics (3 credits)

GPY 235 - Geography for a Changing World (3 credits)

HST 317 - History of American Foreign Relations (3 credits)

IR 495 - Seminar in International Relations (Capstone) (3 credits)

PLS 211 - International Relations (3 credits)

PLS 312 - U.S. Foreign Policy (3 credits)

#### **International Relations Course Electives**

A total of 15 hours must be completed.

#### **Business and Economics Courses**

Choose a minimum of one course at the 300-level or above.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

ECO 349 - Emerging Markets Issues (3 credits)

ECO 365 - Comparative Economic Systems (3 credits)

ECO 369 - International Economic Issues (3 credits)

FIN 429 - International Financial Management (3 credits)

HTM 202 - International Tourism (3 credits)

MGT 303 - International Business and Culture (3 credits)

MGT 466 - International Management and Multinational Corporations (3 credits)

MKT 359 - Multinational Marketing (3 credits)

### **Geography and History Courses**

Choose a minimum of one course at the 300-level or above.

GPY 350 - Geopolitics, Energy and Environment of Russia and Central Eurasia (3 credits)

GPY 351 - Geography of Africa (3 credits)

GPY 352 - Geography of Latin America (3 credits)

GPY 354 - Geography and Globalization of Asia (3 credits)

GPY 356 - The Geography, Culture and Land Use Management of Europe (3 credits)

GPY 362 - Farmers, Crops, and Our Challenging Agricultural World (3 credits)

GPY 412 - Global Climate and Environmental Change (3 credits)

HST 211 - History of Islamic Civilization (3 credits)

HST 230 - Latin America in World History (3 credits)

HST 235 - Africa in World History (3 credits)

HST 241 - A History of East Asia since 1800 (3 credits)

HST 307 - United States since 1970 (3 credits)

HST 310 - Cultural and Social Topics in Nonwestern History (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

HST 331 - Modern Latin America (3 credits)

HST 332 - Emergence of Modern India and South Asia (3 credits)

HST 333 - Modern China (3 credits)

HST 334 - The Making of the Caribbean (3 credits)

HST 336 - Africa After 1870 (3 credits)

HST 337 - The Age of Islamic Empire (3 credits)

HST 338 - Modern Middle East (3 credits)

HST 339 - Modern Iran (3 credits)

HST 343 - History of South Africa (3 credits)

HST 344 - Urban Africa (3 credits)

HST 375 - History of Mexico (3 credits)

HST 377 - History of Warfare (3 credits)

HST 385 - Europe 1900-1945 (3 credits)

HST 386 - 20th Century Europe (3 credits)

HST 389 - Russian History (3 credits)

HST 390 - Soviet History (3 credits)

LAS 374 - Revolution in the Americas (3 credits)

### **Political Science Courses**

Choose a minimum of one course at the 300-level or above.

AAA 300 - U.S. - Africa Relations (3 credits)

LAS 320 - Model Organization of American States (3 credits)

MES 370 - Contemporary Issues in the Middle East: The Model Arab League (3 credits)

PLS 212 - Great Decisions (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

PLS 215/GSI 215 - Global Migration (3 credits)

PLS 221 - Government and Politics of Western Europe (3 credits)

PLS 283 - Chinese Politics and U.S.-China Relations (3 credits)

PLS 284 - Latin American Politics (3 credits)

PLS 311 - International Conflict and Conflict Resolution (3 credits)

PLS 313 - International Organization (3 credits)

PLS 314 - International Law (3 credits)

PLS 315 - International Political Economy (3 credits)

PLS 316 - Human Rights in International Politics (3 credits)

PLS 319 - African Politics (3 credits)

PLS 320 - Comparative Politics of the Middle East (3 credits)

PLS 321 - The European Union (3 credits)

PLS 325 - Human Rights and Democracy in Russia and the Post-Communist World (3 credits)

PLS 327 - Politics of Developing Countries (3 credits)

PLS 339 - Democracy and the Authoritarian Challenge (3 credits)

PLS 350 - Comparative Public Opinion (3 credits)

SOC 350 - Family and Gender in the Developing World (3 credits)

### **Special Topics and Independent Study - Optional**

IR 380 - Special Topics in International Relations (1 to 3 credits)

IR 399 - Independent Readings (1 to 3 credits)

IR 490 - International Relations Internship (2 to 6 credits)

IR 499 - Independent Research (1 to 3 credits)

### **Suggested Order of Coursework**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

The flexibility in course selection makes it important for students to seek the advice of an international relations faculty advisor when choosing courses to fit their specific needs and interests. No sample curriculum will be appropriate for everyone, although these general guidelines should be helpful to nearly everyone. It is also assumed that some counseling will take place to match the curriculum with career plans. We strongly recommend study abroad and an internship.

## **Year One**

Fall Semester:

WRT 150 - Strategies in Writing (4 credits) or MTH 110 - Algebra (4 credits)

PLS 211 - International Relations (3 credits) Major requirement.

Language 101 - First of four-semester requirement.

General education Arts, History, Science (two), or Philosophy and Literature

Winter Semester:

WRT 150 or MTH 110

GPY 235 - Geography for a Changing World (3 credits) Major + general education Social Science + Global Perspectives.

Language 102 - Second of four-semester requirement.

General education Arts, History, Science (two), or Philosophy and Literature

## **Year Two**

Fall Semester:

ECO 210 - Introductory Macroeconomics (3 credits) Major requirement + Social and Behavioral Science

Language 201 - Third of four-semester requirement

General education Arts, History, Science (two), or Philosophy and Literature

General education Math

Winter Semester:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

ECO 211 - Introductory Microeconomics (3 credits) Major requirement + Social and Behavioral Science

PLS 312 - U.S. Foreign Policy (3 credits) Major requirement

Language 202 - Fourth of four-semester requirement

General education Arts, History, Science-two, or Philosophy and Literature

General education Math

### **Year Three**

Fall and Winter Semesters -- study abroad or on campus:

IR electives (15 hours total)

General education Arts, History, Science (two), or Philosophy and Literature

General education Issues

Continue language study

Pursue minor, if desired

### **Year Four**

Fall and Winter Semesters:

HST 317 - History of American Foreign Relations (3 credits) Major requirement

IR 495 - Seminar in International Relations (Capstone) (3 credits) Major requirement

IR elective courses

Other options:

Internship

Additional language instruction

Complete minor

## **International Relations Minor**

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

## **Requirements for a Minor in International Relations**

Students minoring in international relations are required to complete at least 21 credit hours in the program, including PLS 211, either HST 317 or PLS 312, and at least one course each in the economics and business, history and foreign culture, and political science categories. At least nine elective credits should be taken at the 300-level or above.

PLS 211 - International Relations (3 credits)

HST 317 - History of American Foreign Relations (3 credits) **OR** PLS 312 - U.S. Foreign Policy (3 credits)

## **Interprofessional Health Informatics**

Students wishing to pursue the interprofessional health informatics certificate must have obtained a bachelors degree in a health profession, health administration, or computing and information science field. Individuals without any previous healthcare experience will be required to take one course as a prerequisite for the introduction to health care. Health care professionals (registered nurse, clinical dietitian, physical therapist, etc.) who hold a current, valid healthcare license and have experience with any electronic health record (EHR) system are not required to fulfil the prerequisite requirements.

### **Program Content**

This graduate interprofessional certificate is designed to prepare individuals interested in gaining comprehensive knowledge and skills in the design, utilization, evaluation, and clinical processes of health informatics. The optimal use of health information technology (HIT) and health information exchange is a priority in order to transform healthcare. The health informatics certificate provides a unique opportunity to pursue a theoretically based and practically oriented education to effectively meet the contemporary needs of health organizations and society.

### **Program Objectives**

The interprofessional health informatics certificate is most closely aligned with the goals of the AMIA 10 x 10 program. It will provide health professionals with the knowledge and skills to act as expert collaborators in developing HIT for the care of clients and populations. For those who are computer and information science professionals, it will provide the opportunity to develop interprofessional skills and effectively utilize expertise of clinicians in design of HIT.

At the completion of the certificate, learners will be able to do the following:

Demonstrate leadership, professional and ethical behavior while working in interprofessional health informatics teams.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Employ social/behavioral, systems, informatics, and computer science theories and models in designing health informatics solutions.

Use health informatics and technological approaches that incorporate the principles of efficiency, quality, economy, and sustainability in the delivery of health care.

Interpret how health information technology interfaces with the social determinants of health.

## **Audience**

The interprofessional health informatics certificate can be earned in conjunction with degree program (students need to complete degree program (e. g., B.S., B.A.) to obtain a certificate. This certificate is also offered as a stand-alone program.

# **Certificate in Interprofessional Health Informatics**

## **Certificate Requirements**

The following prerequisite courses must be completed before beginning the program:

Individuals without any previous healthcare experience will be required to take one course as a prerequisite for the introduction to health care (PNH 630). 3 credits

Health care professionals (registered nurse, clinical dietitian, physical therapist, etc.) who hold a current, valid healthcare license and have experience with any electronic health record (EHR) system **are not** required to fulfill the prerequisite requirement.

The certificate content will be delivered in a series of four courses that can be completed in four semesters: **Total credits: 9 credits**

Prerequisite Courses (Applicants without healthcare experience as defined by the Admission Requirements):

PNH 630 - Health Administration and Service (3 credits)

## **Required Course (credits: 3)**

CIS 661 - Introduction to Health and Bioinformatics (3 credits) **OR** CIS 665 - Clinical Information Systems (3 credits) **OR** NUR 703 - Health Care Informatics (3 credits)

## **Two Elective Courses (credits: 6)**

CIS 635 - Knowledge Discovery and Data Mining (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CIS 660 - Information Management and Science (3 credits)

NUR 705 - Healthcare Decision Support (3 credits)

NUR 706 - Telehealth (3 credits)

PNH 646 - Managerial Epidemiology for Health Administrators (3 credits)

## Latin American and Latino/a Studies

For additional information about opportunities your college offers, please refer to the Brooks College of Interdisciplinary Studies section in this catalog.

**Website:** [gvsu.edu/las](http://gvsu.edu/las)

Knowledge of Latin America and its people, including those in the United States, is an essential part of a liberal education today. Not only is the Latino population of West Michigan growing rapidly, but Latinos now constitute the most populous ethnic group in the United States. In the meantime, U.S. economic, political, and cultural relations with our Latin American neighbors, from Mexico and the Caribbean to Central and South America, continue to grow in importance.

### Study Abroad

A sister university agreement with the Universidad de las Américas in Puebla, México, provides Grand Valley students and faculty with opportunities for prolonged study abroad and opens the door to an exchange with Mexican students and faculty. New agreements with institutions in the Caribbean, Central America, and South America are constantly being pursued. Consult the Padnos International Center or the Latin American and Latino/a studies coordinator for information on international internships and other study abroad opportunities in Latin America.

## Latin American and Latino/a Studies Minor

### Requirements

A total of 21 credits are needed to fulfill the Latin American and Latino/a studies minor. No more than two courses from any department other than LAS are counted toward the minor. There is no limit on the courses designated LAS that may apply to the minor.

### Core Courses

There are 10 credits required, including:

SPA 202 - Intermediate Spanish II: Language and Culture (4 credits)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

**AND** one of the following:

LAS 210 - Exploring Latin America (3 credits)

LAS 220 - Introduction to Latino/a Studies (3 credits)

**AND** one of the following:

LAS 330 - Colonial Latin America (3 credits)

LAS 374 - Revolution in the Americas (3 credits)

GPY 352 - Geography of Latin America (3 credits)

### **Additional Courses**

Choose four of the following electives totaling at least 11 credits:

AAA 302 - African Diaspora (3 credits)

ANT 330 - Anthropology of Selected World Areas (3 credits)

CJ 325 - Criminal Justice and Human Rights (3 credits)

CJ 482 - Culture, Crime and Justice (3 credits)

FVP 376/LAS 376 - Latin American Cinema (3 credits)

ENG 335 - Literature of American Minorities (3 credits)

ENG 378/LAS 378/SPA 378 - Contemporary Latin American Literature (3 credits)

GPY 361 - People, Environment, and Development in the Amazon (3 credits)

GPY 352 - Geography of Latin America (3 credits)

HST 315 - Latinos: The Forging of Ethnic Identities (3 credits)

HST 330 - Colonial Latin America (3 credits)

HST 331 - Modern Latin America (3 credits)

HST 334 - The Making of the Caribbean (3 credits)

HST 372 - From Slavery to Freedom (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

HST 375/LAS 375 - History of Mexico (3 credits)

LAS 210 - Exploring Latin America (3 credits)

LAS 220 - Introduction to Latino/a Studies (3 credits)

LAS 320 - Model Organization of American States (3 credits)

LAS 325 - Human Rights in Latin America (3 credits)

LAS 333 - Study Abroad - Latin America (1 to 6 credits)

LAS 373 - Latinos/as in West Michigan (3 credits)

LAS 380 - Special Topics in Latin American Studies (1 to 3 credits)

LAS 399 - Independent Studies (1 to 3 credits)

LAS 490 - Latin American Studies Internship (1 to 3 credits)

PLS 284 - Latin American Politics (3 credits)

SPA 304 - Spanish for Health Professionals (3 credits) **OR** SPA 305 - Spanish for Law Enforcement (3 credits) **OR** SPA 306 - Spanish for Business (3 credits)

SPA 311 - Latin American Civilization and Culture I (3 credits)

SPA 312 - Latin American Civilization and Culture II (3 credits)

SPA 313 - U.S. Latino/a Civilization and Culture (3 credits)

SPA 329 - Sociolinguistics of Spanish (3 credits)

SPA 410 - Spanish American Narrative (3 credits)

SPA 430 - U.S. Latino/a Literature (3 credits)

SPA 460 - Women Authors (3 credits) (only when focus is Latin American writers)

SOC 322 - Sociology of Community (3 credits)

## **Latino/a Studies Undergraduate Certificate**

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

The certificate in Latino/a studies is designed for students who are, or who anticipate, working with people of Spanish-speaking Latin American or Caribbean heritage. It will serve both traditional and nontraditional students seeking a focused, interdisciplinary curriculum that increases their knowledge of the histories, demographics, and cultures of different Latino/a groups.

## **Certificate Requirements**

Students must successfully complete the two required courses and electives from the following list, totaling 15 credits. All credits for this certificate program must be earned at Grand Valley State University. Students may use credits from this certificate program for the Latin American and Latino/a studies minor.

### **Required Courses**

There are six credits required, including:

LAS 220 - Introduction to Latino/a Studies (3 credits)

LAS 373 - Latinos/as in West Michigan (3 credits)

### **Elective Courses**

There are nine credits required:

CJ 325 - Criminal Justice and Human Rights (3 credits)

CJ 482 - Culture, Crime and Justice (3 credits)

ENG 335 - Literature of American Minorities (3 credits)

HST 315 - Latinos: The Forging of Ethnic Identities (3 credits)

HST 316 - U.S. Civil Rights Movement History (3 credits)

LAS 210 - Exploring Latin America (3 credits)

LAS 380 - Special Topics in Latin American Studies (1 to 3 credits)

LAS 399 - Independent Studies (1 to 3 credits)

LAS 490 - Latin American Studies Internship (1 to 3 credits)

SOC 322 - Sociology of Community (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

SPA 304 - Spanish for Health Professionals (3 credits) **OR** SPA 305 - Spanish for Law Enforcement (3 credits) **OR** SPA 306 - Spanish for Business (3 credits)

SPA 313 - U.S. Latino/a Civilization and Culture (3 credits)

SPA 430 - U.S. Latino/a Literature (3 credits)

## Legal Studies

For additional information about opportunities your college offers, please refer to the College of Education and Community Innovation section in this catalog.

**Website:** [gvsu.edu/cj](http://gvsu.edu/cj)

The legal studies B.A./B.S. degrees are designed to prepare students for careers in the legal profession by providing a liberal education and the practical skills needed for success in this field. These programs also provide graduates with skills and knowledge necessary for study at law schools and other graduate programs, including criminal justice, social justice, and related programs.

The B.A./B.S. in legal studies and the certificate in paralegal studies are approved by the American Bar Association (ABA). The legal studies program also offers a minor that is not approved by the ABA.

The mission of the legal studies program is accomplished through courses that focus on

Mastery of substantive knowledge critical to the legal profession, including principles of legal ethics and legal restrictions on the unauthorized practice of law.

Development of critical thinking skills.

Mastery of basic investigative and legal research techniques.

Proficiency in oral and written communication.

Development of appropriate professional behavior and job seeking skills.

Paralegals perform substantive legal work under the supervision of an attorney. Paralegals work in a variety of employment settings, including law firms, corporations, government entities, and nonprofit associations, and their specific job titles vary. Job titles may include legal assistant, contract administrator, claims specialist, or other titles indicating the nature of the legal work being performed. While paralegals play an important role in the delivery of legal services, they are not permitted to practice law, which means they cannot give legal advice, represent a client in court, establish a fee, or accept a case on behalf of a law firm. The School of Criminology, Criminal Justice, and Legal Studies administers the major in legal studies. Some courses can be

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

applied to both a criminal justice and a legal studies major. Check with your advisor for possible selections.

### **Legal Studies Advisory Board**

The Legal Studies Advisory Board consists of attorneys and paralegals representing a broad cross section of employers, including small and large law firms, the courts, and public sector legal departments. The Advisory Board plays an important role by giving guidance to the program on matters such as curriculum, internship and employment opportunities, and trends in the legal field.

### **Legal Education Admission Program (LEAP)**

The Grand Valley School of Criminology, Criminal Justice, and Legal Studies and the Michigan State University College of Law have partnered to offer a 3+3 program called LEAP, which provides legal studies majors with the opportunity to earn a B.S. or B.A. and a Juris Doctor (J.D.) in approximately six years of study.

## **Bachelor of Arts or Bachelor of Science in Legal Studies**

Students seeking a bachelor's degree in legal studies must complete the general education requirements of the university. Students must also meet the degree requirements i.e., third-semester proficiency in a foreign language to earn a B.A. for legal studies, or CIS 150, CJ 300, and STA 215 to earn a B.S. The bachelor's degrees in legal studies are approved by the American Bar Association.

Although most courses taken at other colleges and universities may be accepted for full credit, only a limited number will be counted toward the major. Students must take at least two-thirds of the credits constituting the major at Grand Valley. In addition, at least 10 credits of legal specialty courses must be taken through traditional classroom instruction.

### **Requirements**

A minimum of 36 credit hours is required. All majors must take the following core courses:

LS 101 - Law in our Lives (3 credits)

LS 224 - Legal Research (3 credits)

LS 324 - Legal Research and Writing (3 credits)

LS 226 - Civil Litigation I (3 credits)

LS 320 - Property and Probate Law (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

LS 322 - Commercial Law (3 credits)

LS 428 - Civil Litigation II (3 credits)

LS 490 - Legal Studies Internship (1 to 6 credits)

LS 495 - Legal Thought (Capstone) (3 credits)

In addition, all majors must take:

CIS 150 - Introduction to Computing (3 credits) included as part of degree requirement for B.S. degree.

**AND** two of the following courses for B.A. candidates or three of the following courses for B.S. candidates:

CJ 302 - Criminal Law (3 credits)

CJ 305 - Constitutional Rights and Civil Liberties (3 credits)

LS 350 - Family Law (3 credits)

LS 370 - Women and the Law (3 credits)

LS 380 - Special Topics in Legal Studies (1 to 4 credits)

LS 399 - Independent Reading in Legal Studies (1 to 3 credits)

LS 499 - Independent Study and Research (1 to 3 credits)

MGT 334 - Employment and Labor Law (3 credits)

PLS 307 - American Constitutional Law II (3 credits)

## **Suggested Order of Coursework**

Please visit the website of the College of Education and Community Innovation Advising Center at [gvsu.edu/ccpsadvising](http://gvsu.edu/ccpsadvising) for a four-year curriculum plan for the legal studies major. Taking courses in the sequence recommended in the curriculum plan for legal studies will help you avoid delays in completing the legal studies degree.

## **Legal Studies Minor**

The legal studies minor is open to students from any major. It is appropriate for students who have a general interest in law or for students considering law school or other graduate study in

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

law. It is also appropriate for students who are pursuing a career that has a significant connection to law and legal matters and who wish to deepen their understanding of the legal system. The legal studies minor is not intended to prepare students to work as paralegals and it is not approved by the American Bar Association. Students intending to work as paralegals should choose the legal studies major.

### **Requirements for a Minor in Legal Studies**

Minors must complete 21 credit hours, including:

LS 101 - Law in our Lives (3 credits)

LS 224 - Legal Research (3 credits)

LS 324 - Legal Research and Writing (3 credits)

LS 226 - Civil Litigation I (3 credits)

LS 320 - Property and Probate Law (3 credits)

LS 322 - Commercial Law (3 credits)

LS 428 - Civil Litigation II (3 credits)

LS 490 - Legal Studies Internship (1 to 6 credits) **OR** LS 495 - Legal Thought (Capstone) (3 credits)

### **Paralegal Studies Undergraduate Certificate**

Students seeking a certificate in paralegal studies must complete 30 credit hours. Students who have not yet earned a bachelor's degree must complete a bachelor's degree to earn the certificate; the certificate will be awarded when the degree is awarded. Students who have already completed a bachelor's degree must submit an application for admission to the legal studies program. An overall GPA of at least 2.7 is required for admission. No more than six credits can be transferred from another institution and at least ten credits of legal specialty courses must be taken through traditional classroom instruction. The paralegal studies certificate is approved by the American Bar Association.

### **Requirements for a Certificate in Paralegal Studies**

A minimum of 30 credit hours is required, including the following core courses:

LS 101 - Law in our Lives (3 credits)

LS 224 - Legal Research (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

LS 324 - Legal Research and Writing (3 credits)

LS 226 - Civil Litigation I (3 credits)

LS 320 - Property and Probate Law (3 credits)

LS 322 - Commercial Law (3 credits)

LS 428 - Civil Litigation II (3 credits)

LS 490 - Legal Studies Internship (1 to 6 credits)

CIS 150 - Introduction to Computing (3 credits)

In addition, students must complete two of the following courses:

CJ 302 - Criminal Law (3 credits)

CJ 305 - Constitutional Rights and Civil Liberties (3 credits)

LS 350 - Family Law (3 credits)

LS 370 - Women and the Law (3 credits)

LS 380 - Special Topics in Legal Studies (1 to 4 credits)

LS 399 - Independent Reading in Legal Studies (1 to 3 credits)

LS 499 - Independent Study and Research (1 to 3 credits)

MGT 334 - Employment and Labor Law (3 credits)

### **Suggested Order of Coursework**

Please visit the website of the College of Education and Community Innovation Advising Center for a curriculum plan for the certificate in paralegal studies. Taking courses in the sequence recommended in the curriculum plan will help you avoid delays in completing the certificate.

## **Management**

For additional information about opportunities your college offers, please refer to the Seidman College of Business section in this catalog.

**Website:** [gvsu.edu/management](http://gvsu.edu/management)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

The management program provides students with a balance of Be-Know-Do skills required to be effective managers and to lead others in a world of constant change and intense competition. This program offers three majors and an emphasis.

### **General Management**

By integrating and applying the knowledge from a diverse range of functional areas, such as human resources, information systems, legal, ethics, entrepreneurship, and operations, the general management major is designed to make students effective critical thinkers and problem solvers. The flexible curriculum ensures that students obtain the necessary theoretical and practical knowledge and skills necessary to be successful in the business world.

### **Human Resources**

This major emphasizes the management of the relationship between an organization and its employees. Business firms need human resource specialists who are capable of helping position the organization strategically through the design and administration of policies dealing with diversity and equal opportunity, recruiting and selection, training, performance appraisal, compensation, benefits, discipline, employee rights, and labor negotiations. Curriculum is focused on organizational efficiency and effectiveness.

### **Operations Management**

Operations management involves the application of managerial, quantitative, and computer skills to areas of lean, six-sigma, ERP, inventory management, and forecasting and scheduling, with the goal of giving students the tools to effectively manage service and manufacturing operations, SAP®, the enterprise resource planning (ERP) software, and other software packages integrated into the operations management program.

### **Management Information Systems**

The management information systems emphasis provides a combination of technical and managerial skills that prepare you to interpret end-user business needs and translate them into effective technology based solutions. An MIS emphasis provides students with an understanding of concepts, principles, and techniques to design, develop, and implement enterprise information systems. These specialized skills equip students with a strong technical background, emphasizing the business knowledge and analytical skills necessary in today's business environment.

## **Bachelor of Business Administration in Management**

### **Requirements for the B.B.A.**

#### **Core Courses**

All business core courses acquaint you with various fields in business and help you learn to communicate, to interact, and to assume responsible positions in your chosen field.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

For the B.B.A., you must complete the following courses.

ACC 212 - Principles of Financial Accounting (3 credits)

ACC 213 - Principles of Managerial Accounting (3 credits)

BUS 201 - Legal Environment for Business (3 credits)

**BOTH** ECO 210 - Introductory Macroeconomics (3 credits) **AND** ECO 211 - Introductory Microeconomics (3 credits)  
**OR ONLY** ECO 200 - Business Economics (3 credits)

Upper-division economics course - not ECO 490 (3 credits)

FIN 320 - Managerial Finance (3 credits)

MGT 268 - Business Processes and Management Information Systems (3 credits)

MGT 331 - Managing People and Organizations (3 credits)

MGT 366 - Operations Management (3 credits)

MGT 495 - Administrative Policy (3 credits)

MKT 350 - Marketing Management (3 credits)

Students are required to select one class from the following list. This course may count toward the major or minor, if applicable.

ACC 333 - Corporate Governance and Accounting Ethics (3 credits)

ECO 440 - Public Economics and Ethics (3 credits)

FIN 330 - Ethics in Finance (3 credits)

MGT 340 - Ethics and Business, Social Justice and Sustainability (3 credits)

MGT 438 - Business Ethics (3 credits)

MKT 375 - Marketing Ethics (3 credits)

### **Required Business Electives**

Three upper-division business courses are not applied to the major or minor (nine credits total). However, these courses can be applied toward a second business major, if one is declared.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Elective Courses**

Students may elect nonbusiness or business courses to fulfill their elective course requirements. Students may apply up to six hours of internship and independent research credit, in any combination, toward their degree requirements. Business majors may not take any of the major courses, except the internship and study abroad courses, on a credit/no-credit basis.

## **Requirements for an Emphasis in Management Information Systems**

The management information systems (MIS) emphasis provides students with the appropriate knowledge and skills to define, design and develop management information systems in modern businesses. In addition, it provides them with specialized skills in the area of enterprise resource planning systems. This specialization provides a strong technical background while, emphasizing the business process knowledge and analytical skills necessary to successfully plan and implement such systems.

## **Required Courses**

CIS 160 - Learn to Code in Python (3 credits)

CIS 333 - Database Management and Implementation (3 credits)

MGT 351 - Enterprise Information Systems (3 credits)

MGT 371 - Systems Analyses and Design (3 credits)

MGT 471 - Enterprise Systems Configuration (3 credits)

MGT 475 - Customized ERP Solutions (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

Quantitative group - choose one:

MTH 122 - College Algebra (3 credits)

MTH 125 - Survey of Calculus (3 credits)

MTH 201 - Calculus I (4 credits)

PHI 103 - Logic (3 credits)

MGT 361 - Management Science (3 credits)

## **Elective Courses**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Choose one of the following:

MGT 350 - Principles of Electronic Commerce (3 credits)

MGT 477 - Applied Business Intelligence (3 credits)

MGT 478 - Business Intelligence Development (3 credits)

## **Management Minor**

### **Requirements for a Minor in Management**

The undergraduate management minor is an 18-credit-hour program open to all students except management majors. This minor provides students with a foundation in behavioral management, human resources and employment law, ethical and societal issues, and cultural diversity. The minor consists of four required courses and two electives.

#### **Required Courses**

MGT 331 - Managing People and Organizations (3 credits)

MGT 333 - Human Resource Management (3 credits) **OR** MGT 334 - Employment and Labor Law (3 credits)

MGT 438 - Business Ethics (3 credits)

MGT 355 - The Diversified Workforce (3 credits) **OR** MGT 466 - International Management and Multinational Corporations (3 credits)

#### **Additional Requirements**

In addition to the four required courses, students must complete two electives from 300- and 400-level courses in management. Students can, if they choose, select one of the paired required courses as an elective. However, the same course cannot count as a required and an elective course. Students majoring in a business discipline other than management (i.e., accounting, finance, marketing) who choose a management minor must select two upper-level management courses outside of the business core to count as elective credit. Students must achieve a cumulative 2.5 GPA in these courses to receive the management minor designation. Courses cannot be taken on a credit/no-credit basis.

## **Project Management, Undergraduate Certificate**

The project management certificate integrates the essential Project Management Body of Knowledge skills, principles, and practices; with cutting edge methodology, team-building skills and best practices. Students work in teams to effectively initiate, plan, execute, control, and bring

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

closure to real-world project(s) using MS Project and/or other enterprise project management software.

## **Requirements**

Required Courses (12 Credits)

BUS 470 - Applied Business Solutions (1 to 3 credits)

CIS 339 - Project Planning (3 credits)

CIS 349 - Agile Project Management (3 credits)

MGT 345 - Team Building (3 credits)

# **Marketing**

For additional information about opportunities your college offers, please refer to the Seidman College of Business section in this catalog.

A major in marketing gives students appropriate knowledge and skills to understand the function of marketing in the firm and in society. Marketing is the appropriate major for students interested in careers in selling, direct selling, retailing, new product development, product and brand management, promotion, advertising, distribution strategy, supply chain management, marketing research, consumer behavior, sales management, e-commerce, business to business, logistics, purchasing, market strategy planning, customer relations, distributor relations, and many other related fields.

## **Bachelor of Business Administration in Marketing**

### **Requirements for the B.B.A.**

#### **Core Courses**

All business core courses acquaint you with various fields in business and help you learn to communicate, to interact, and to assume responsible positions in your chosen field.

For the B.B.A., you must complete the following courses.

ACC 212 - Principles of Financial Accounting (3 credits)

ACC 213 - Principles of Managerial Accounting (3 credits)

BUS 201 - Legal Environment for Business (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

**BOTH** ECO 210 - Introductory Macroeconomics (3 credits) **AND** ECO 211 - Introductory Microeconomics (3 credits)  
**OR ONLY** ECO 200 - Business Economics (3 credits)

Upper-division economics course (not ECO 490) (3 credits)

FIN 320 - Managerial Finance (3 credits)

MGT 268 - Business Processes and Management Information Systems (3 credits)

MGT 331 - Managing People and Organizations (3 credits)

MGT 366 - Operations Management (3 credits)

MGT 495 - Administrative Policy (3 credits)

MKT 350 - Marketing Management (3 credits)

Students are required to select one class from the following list. This course may count toward the major or minor if applicable.

ACC 333 - Corporate Governance and Accounting Ethics (3 credits)

ECO 440 - Public Economics and Ethics (3 credits)

FIN 330 - Ethics in Finance (3 credits)

MGT 340 - Ethics and Business, Social Justice and Sustainability (3 credits)

MGT 438 - Business Ethics (3 credits)

MKT 375 - Marketing Ethics (3 credits)

### **Required Business Electives**

Three upper-division Seidman College of Business courses are not applied to the major or minor (nine credits total). However, these courses can be applied toward a second business major if one is declared.

### **Elective Courses**

Students may elect nonbusiness or business courses to fulfill their elective course requirements. Students may apply up to six hours of internship and independent research credit, in any combination, toward their degree requirements. Business majors may not take any of the major courses, except the internship and study abroad courses, on a credit/no-credit basis.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Requirements for a Major in Marketing**

This 18-credit-hour emphasis is application-oriented and stresses interaction with many leading regional business organizations.

### **Required Courses**

Business core:

MKT 351 - Consumer Behavior (3 credits)

MKT 352 - Marketing Research (3 credits)

MKT 451 - Marketing Strategy (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

Three additional marketing electives at or above the 300-level

Quantitative group - choose one:

MGT 361 - Management Science (3 credits)

MTH 122 - College Algebra (3 credits)

MTH 125 - Survey of Calculus (3 credits)

MTH 201 - Calculus I (4 credits)

PHI 103 - Logic (3 credits)

### **Professional Sales Emphasis**

This emphasis is designed to provide students interested in sales the appropriate knowledge and skills to become a professional salesperson. The focus of the emphasis is directed toward the utilization of selling strategies and skills necessary for the sales professionals in contemporary marketing organizations. Specific attention is directed toward business-to-business conditions and the relationships required of salespeople in these situations. Students with this emphasis obtain sales positions for business-to-business firms, including manufacturers, wholesalers, and retailers of goods and services.

### **Required Courses**

Business core:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MKT 351 - Consumer Behavior (3 credits)

MKT 352 - Marketing Research (3 credits)

MKT 353 - Marketing Negotiations (3 credits)

MKT 356 - Professional Selling (3 credits)

MKT 451 - Marketing Strategy (3 credits)

MKT 456 - Sales Management (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

Quantitative group - choose one:

MGT 361 - Management Science (3 credits)

MTH 122 - College Algebra (3 credits)

MTH 125 - Survey of Calculus (3 credits)

MTH 201 - Calculus I (4 credits)

PHI 103 - Logic (3 credits)

### **Distribution and Logistics**

The field of distribution and logistics focuses on designing and implementing the best strategy for companies to use in physically getting goods to their customers in a way that maximizes customer service and minimizes total logistics costs. Attention is directed towards the strategic management of distribution assets, customer service, finished goods inventory control, transportation, warehousing and international distribution planning. Students graduating with a logistics background are employed in a number of industries, with strong demand nationally in the auto industry, appliances industry, grocery industry, retail chain sector, wholesale sector, and each of the transportation modes.

Business core:

MKT 351 - Consumer Behavior (3 credits)

MKT 352 - Marketing Research (3 credits)

MKT 354 - Distribution Institutions and Logistics (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MKT 355 - International Logistics (3 credits)

MKT 451 - Marketing Strategy (3 credits)

MKT 457 - Logistics and Transportation (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

Quantitative group - choose one:

MTH 122 - College Algebra (3 credits)

MTH 125 - Survey of Calculus (3 credits)

MTH 201 - Calculus I (4 credits)

PHI 103 - Logic (3 credits)

MGT 361 - Management Science (3 credits)

## **Marketing Minor**

### **Requirements for a Minor in Marketing**

The undergraduate marketing minor is an 18-credit-hour program open to all students except marketing majors. The minor consists of five required courses and one elective. In addition to the five courses, students must complete one elective from 300- and 400-level courses in marketing (may not use MKT 490 or MKT 499 for this requirement). Students must achieve a cumulative 2.5 GPA in these courses to receive the marketing minor designation. Courses cannot be taken on a credit/no-credit basis.

There are five marketing courses required:

MKT 350 - Marketing Management (3 credits)

MKT 351 - Consumer Behavior (3 credits)

\*MKT 352 - Marketing Research (3 credits)

MKT 375 - Marketing Ethics (3 credits)

MKT 451 - Marketing Strategy (3 credits)

\*Requires prerequisite STA 215

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

# Mathematics

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

**Website:** [gvsu.edu/math](http://gvsu.edu/math)

**Degrees Offered:** B.S./B.A. in mathematics; minors in mathematics. Teaching certification in secondary and minor (elementary and secondary). Two emphases for noncertification mathematics majors, in theoretical mathematics and applied mathematics. The mathematics major is offered within the Department of Mathematics. Options within the major lead to mathematical careers in government, industry, and elementary and secondary teaching. Students also gain a broad mathematical background that prepares them for graduate studies in the mathematical sciences. It is strongly recommended that all students interested in mathematics as a major discuss career plans with one or more members of the department and obtain an advisor in the department as soon as possible.

## Honors Organization

Pi Mu Epsilon (PME) is the National Honorary Mathematics Society. To be nominated for membership in Pi Mu Epsilon a student must possess an overall GPA of at least 3.3 and a mathematics GPA of at least 3.3, and have completed 18 credit hours of mathematics courses toward the mathematics major. At least nine of these credit hours must have been taken at Grand Valley State University and consist of mathematics courses at the level of MTH 203 - Calculus III or higher that count toward our mathematics major.

## Study Abroad

Since 2011, the Department of Mathematics has sponsored a study abroad program in Tanzania for students interested in mathematics education. In addition, many study abroad programs offer mathematics courses that can be approved by the department for mathematics credit. Contact the Padnos International Center or the Department of Mathematics for more information.

## Internship Program

This program enables juniors and seniors with jobs involving mathematics to earn credit for academic work that counts towards the mathematics major requirements for the applied mathematics emphasis. Contact the department for further information.

## Mathematics Placement Information

Please see the placement information on the Department of Mathematics website at [gvsu.edu/math/mathematics-placement-11.htm](http://gvsu.edu/math/mathematics-placement-11.htm).

## Bachelor of Arts or Bachelor of Science in Mathematics

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Emphasis Areas**

Students majoring in mathematics must choose one of the following emphasis areas:

Theoretical mathematics

Applied mathematics

Secondary certification

## **B.S. and B.A. Degree Requirements**

Completion of MTH 201, MTH 202, and STA 312 satisfies the B.S. degree program requirements for all mathematics majors. Students completing a B.A. degree must complete these courses plus the foreign language requirement for a B.A.

## **Requirements for a Major in Mathematics - Theoretical Mathematics Emphasis**

Students planning a major in mathematics with theoretical mathematics emphasis must complete the following.

### **Course Requirements**

All students with a major in mathematics with theoretical mathematics emphasis must complete the following courses:

MTH 201 - Calculus I (4 credits)

MTH 202 - Calculus II (4 credits)

MTH 203 - Calculus III (4 credits)

MTH 204 - Linear Algebra I (3 credits)

MTH 205 - Linear Algebra II (3 credits)

MTH 210 - Communicating in Mathematics (4 credits)

MTH 350 - Modern Algebra I (3 credits)

MTH 408 - Real Analysis 1 (3 credits)

MTH 495 - The Nature of Modern Mathematics (Capstone) (3 credits) **OR** MTH 496 - Senior Thesis (Capstone) (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Additional Course Requirements**

Take additional courses from the following list for a total of 12 courses in mathematics (with at least one additional 400-level course besides the required courses):

MTH 300 - Vector Analysis (3 credits)

MTH 304 - Analysis of Differential Equations (3 credits)

MTH 305 - Mathematical Modeling (3 credits)

MTH 315 - Discrete Mathematics (3 credits)

MTH 360 - Operations Research (3 credits)

MTH 401 - Mathematics for the Physical Sciences (4 credits)

MTH 402 - Complex Variables (3 credits)

MTH 405 - Numerical Analysis (3 credits)

MTH 406 - Linear Algebra III (3 credits)

MTH 409 - Real Analysis 2 (3 credits)

MTH 431 - Non-Euclidean Geometry (3 credits)

MTH 441 - Topology (3 credits)

MTH 450 - Modern Algebra II (3 credits)

MTH 465 - Automata and Theory of Computation (3 credits)

MTH 495 - The Nature of Modern Mathematics (Capstone) (3 credits)

MTH 496 - Senior Thesis (Capstone) (3 credits)

MTH 498 - Project-Based Applied Mathematics (Capstone) (3 credits)

## **Cognate Requirements**

All students seeking a major in mathematics with theoretical mathematics emphasis must complete the following courses to satisfy the mathematics cognate requirements:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CIS 161 - Computational Science (3 credits) Recommended.

**OR** CIS 162 - Computer Science I (4 credits)

STA 312 - Probability and Statistics (3 credits)

**AND** one course from the following:

BIO 355 - Human Genetics (3 credits)

BIO 375 - Genetics (3 credits)

CHM 351 - Introduction to Physical Chemistry (3 credits)

CMB 451 - Bioinformatics: Tools and Techniques for Life Scientists (3 credits)

CMB 452 - Computer Modeling and Drug Design (3 credits)

ECO 400 - Econometrics and Forecasting (3 credits)

GEO 470 - Geophysics (4 credits)

HSC 201 - The Scientific Revolution (3 credits)

PHI 203 - Intermediate Logic (3 credits)

PHY 230 - Principles of Physics I (5 credits)

PSY 300 - Research Methods in Psychology (3 credits)

STA 314 - Statistical Quality Methods (3 credits)

STA 412 - Mathematical Statistics I (4 credits)

## **Preparation for Graduate Work in Theoretical Mathematics**

Majors who plan to complete graduate work in mathematics are encouraged to

take as many upper-division mathematics courses as possible from the courses listed in additional mathematics courses;

take MTH 450 or MTH 409 as one additional 400-level course; and

consult with their advisor about other courses that might be appropriate for their interests and about procedures for applying to graduate school.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## Requirements for a Major in Mathematics - Applied Mathematics Emphasis

### Course Requirements

All students with a major in mathematics with applied mathematics emphasis must complete the following courses:

MTH 201 - Calculus I (4 credits)

MTH 202 - Calculus II (4 credits)

MTH 203 - Calculus III (4 credits)

**BOTH** MTH 204 - Linear Algebra I (3 credits) **AND** MTH 304 - Analysis of Differential Equations (3 credits) Recommended. **OR** MTH 302 - Linear Algebra and Differential Equations (4 credits)

MTH 205 - Linear Algebra II (3 credits)

MTH 210 - Communicating in Mathematics (4 credits)

MTH 305 - Mathematical Modeling (3 credits)

MTH 360 - Operations Research (3 credits)

MTH 405 - Numerical Analysis (3 credits)

MTH 490 - Mathematics Internship Seminar (2 credits) Capstone **OR** MTH 498 - Project-Based Applied Mathematics (Capstone) (3 credits)

### Additional Course Requirements

Take additional courses from the following list for a total of 13 courses in mathematics. Students choosing the recommended MTH 204 + MTH 304 option in the required courses, must take two additional courses from the following list, while the students choosing only MTH 302 must take three additional courses from the following list:

MTH 315 - Discrete Mathematics (3 credits)

MTH 401 - Mathematics for the Physical Sciences (4 credits)

MTH 402 - Complex Variables (3 credits)

MTH 406 - Linear Algebra III (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MTH 408 - Real Analysis 1 (3 credits)

MTH 441 - Topology (3 credits)

MTH 465 - Automata and Theory of Computation (3 credits)

MTH 496 - Senior Thesis (Capstone) (3 credits)

MTH 498 - Project-Based Applied Mathematics (Capstone) (3 credits)

### **Cognate Requirements**

All students seeking a major in mathematics with applied mathematics emphasis must complete the following courses to satisfy the mathematics cognate requirements:

CIS 161 - Computational Science (3 credits) Recommended.

**OR** CIS 162 - Computer Science I (4 credits)

STA 312 - Probability and Statistics (3 credits)

### **Requirements for a Major in Mathematics - Secondary Certification Emphasis**

The mathematics major with secondary certification emphasis must be completed with a GPA of 2.7 for admission to the College of Education and Community Innovation. Students planning a major in mathematics with secondary certification emphasis must complete the following.

### **Course Requirements**

All mathematics majors must complete the following courses:

MTH 201 - Calculus I (4 credits)

MTH 202 - Calculus II (4 credits)

MTH 203 - Calculus III (4 credits)

MTH 204 - Linear Algebra I (3 credits)

MTH 210 - Communicating in Mathematics (4 credits)

MTH 229 - Mathematical Activities for Secondary Teachers (3 credits)

MTH 315 - Discrete Mathematics (3 credits)

MTH 329 - Teaching Middle Grades Mathematics (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MTH 331 - Euclidean Geometry (3 credits)

MTH 350 - Modern Algebra I (3 credits)

MTH 495 - The Nature of Modern Mathematics (Capstone) (3 credits) **OR** MTH 496 - Senior Thesis (Capstone) (3 credits)

### **Elective Requirement**

All mathematics majors with secondary certification emphasis must also complete one elective course from the following list. The elective course must be different than the Capstone course.

MTH 205 - Linear Algebra II (3 credits)

MTH 300 - Vector Analysis (3 credits)

MTH 304 - Analysis of Differential Equations (3 credits)

MTH 360 - Operations Research (3 credits)

MTH 401 - Mathematics for the Physical Sciences (4 credits)

MTH 402 - Complex Variables (3 credits)

MTH 405 - Numerical Analysis (3 credits)

MTH 408 - Real Analysis 1 (3 credits)

MTH 409 - Real Analysis 2 (3 credits)

MTH 431 - Non-Euclidean Geometry (3 credits)

MTH 441 - Topology (3 credits)

MTH 450 - Modern Algebra II (3 credits)

MTH 465 - Automata and Theory of Computation (3 credits)

MTH 495 - The Nature of Modern Mathematics (Capstone) (3 credits)

MTH 496 - Senior Thesis (Capstone) (3 credits)

### **Cognate Requirements**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

All students seeking a major in mathematics with secondary certification emphasis must complete the following courses to satisfy the mathematics cognate requirements:

STA 312 - Probability and Statistics (3 credits)

**AND** one course from the following:

BIO 355 - Human Genetics (3 credits)

BIO 375 - Genetics (3 credits)

CHM 351 - Introduction to Physical Chemistry (3 credits)

CIS 160 - Learn to Code in Python (3 credits)

CIS 161 - Computational Science (3 credits)

CIS 162 - Computer Science I (4 credits)

CMB 451 - Bioinformatics: Tools and Techniques for Life Scientists (3 credits)

CMB 452 - Computer Modeling and Drug Design (3 credits)

ECO 400 - Econometrics and Forecasting (3 credits)

GEO 470 - Geophysics (4 credits)

HSC 201 - The Scientific Revolution (3 credits)

PHI 203 - Intermediate Logic (3 credits)

PHY 230 - Principles of Physics I (5 credits)

PSY 300 - Research Methods in Psychology (3 credits)

STA 314 - Statistical Quality Methods (3 credits)

STA 345 - Statistics in Sports (3 credits)

STA 412 - Mathematical Statistics I (4 credits)

### **College of Education and Community Innovation Requirements**

To be approved for student teaching, students must complete at least 24 credit hours in the major, including:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MTH 210 - Communicating in Mathematics (4 credits)

MTH 229 - Mathematical Activities for Secondary Teachers (3 credits)

MTH 331 - Euclidean Geometry (3 credits)

In addition, students need to be aware of the College of Education and Community Innovation requirements for admission to the secondary certification program.

A student who has graduated from another accredited institution with a completed major or minor in mathematics and who now seeks only teaching certification in mathematics from Grand Valley must satisfy the following criteria:

Transfer or complete at Grand Valley all mathematics and cognate courses required for the certification major or minor.

A minimum cumulative GPA of 2.7 (on a 4.0 scale) in mathematics courses from the accredited institution.

Completion of the College of Education and Community Innovation requirements for certification.

### **Suggested Order of Coursework for a Major in Mathematics**

The following sample mathematics schedules assume the student is in contact with an advisor for appropriate general education requirements and has a strong mathematics background. Students who do not begin with MTH 201 will need to make appropriate changes.

### **Mathematics Majors with Theoretical Mathematics Emphasis**

#### **Year One**

Appropriate courses in general education

MTH 201 - Calculus I (4 credits)

MTH 202 - Calculus II (4 credits)

MTH 204 - Linear Algebra I (3 credits)

MTH 205 - Linear Algebra II (3 credits)

#### **Year Two**

Mathematics elective course

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Computer science cognate course

Appropriate courses in general education

MTH 203 - Calculus III (4 credits)

MTH 210 - Communicating in Mathematics (4 credits)

### **Year Three**

Cognate courses in the major

Appropriate courses in general education

Mathematics elective course

MTH 350 - Modern Algebra I (3 credits)

STA 312 - Probability and Statistics (3 credits)

### **Year Four**

400-level mathematics elective course

Capstone course

MTH 408 - Real Analysis 1 (3 credits)

## **Mathematics Majors with Applied Mathematics Emphasis**

### **Year One**

Appropriate courses in general education

MTH 201 - Calculus I (4 credits)

MTH 202 - Calculus II (4 credits)

MTH 204 - Linear Algebra I (3 credits)

MTH 205 - Linear Algebra II (3 credits)

### **Year Two**

Computer science cognate course

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Appropriate courses in general education

MTH 203 - Calculus III (4 credits)

MTH 210 - Communicating in Mathematics (4 credits)

MTH 304 - Analysis of Differential Equations (3 credits)

### **Year Three**

Mathematics elective course

Appropriate courses in general education

MTH 305 - Mathematical Modeling (3 credits)

MTH 360 - Operations Research (3 credits)

STA 312 - Probability and Statistics (3 credits)

### **Year Four**

Mathematics elective course

Capstone course

MTH 405 - Numerical Analysis (3 credits)

## **Mathematics Major with Secondary Certification Emphasis**

### **Year One**

Appropriate courses in general education

MTH 201 - Calculus I (4 credits)

MTH 202 - Calculus II (4 credits)

MTH 210 - Communicating in Mathematics (4 credits)

PSY 101 - Introductory Psychology (3 credits)

### **Year Two**

Appropriate courses in general education

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MTH 203 - Calculus III (4 credits)

MTH 204 - Linear Algebra I (3 credits)

MTH 229 - Mathematical Activities for Secondary Teachers (3 credits)

MTH 329 - Teaching Middle Grades Mathematics (3 credits)

### **Year Three**

Elective in the major

Student assisting

Cognate course for major

Appropriate courses in general education

MTH 315 - Discrete Mathematics (3 credits)

MTH 331 - Euclidean Geometry (3 credits)

STA 312 - Probability and Statistics (3 credits)

### **Year Four**

Capstone course

Student teaching

Appropriate courses in general education

MTH 350 - Modern Algebra I (3 credits)

## **Mathematics Minor**

### **Requirements**

Students planning a minor in mathematics must complete the university requirements for a minor as identified in the General Academic Policies section of the Grand Valley State University Undergraduate and Graduate Catalog as well as the following requirements.

### **Mathematics (not for Teacher Certification)**

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

The minor in mathematics (not for teacher certification) requires a minimum GPA of 2.0 and 20 credit hours unduplicated in one's major.

### **Required Courses**

MTH 201 - Calculus I (4 credits)

MTH 204 - Linear Algebra I (3 credits) **OR** MTH 302 - Linear Algebra and Differential Equations (4 credits)

Up to two courses may be taken from the following list.

MTH 202 - Calculus II (4 credits)

MTH 203 - Calculus III (4 credits)

MTH 205 - Linear Algebra II (3 credits)

MTH 210 - Communicating in Mathematics (4 credits) **OR** MTH 225 - Discrete Structures: Computer Science (3 credits)

At least two additional courses must be taken from the following list. Only one course may be a statistics course.

MTH 300 - Vector Analysis (3 credits)

\*MTH 304 - Analysis of Differential Equations (3 credits)

MTH 305 - Mathematical Modeling (3 credits)

MTH 315 - Discrete Mathematics (3 credits) **OR** \*\*MTH 325 - Discrete Structures: Computer Science 2 (3 credits)

MTH 350 - Modern Algebra I (3 credits)

MTH 360 - Operations Research (3 credits)

MTH 401 - Mathematics for the Physical Sciences (4 credits)

MTH 402 - Complex Variables (3 credits)

MTH 405 - Numerical Analysis (3 credits)

MTH 465 - Automata and Theory of Computation (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

\*\*\*STA 220 - Statistical Modeling for Engineers (2 credits)

STA 310 - Introduction to Biostatistics (3 credits)

STA 312 - Probability and Statistics (3 credits)

STA 314 - Statistical Quality Methods (3 credits)

STA 315 - Design of Experiments (3 credits)

STA 317 - Nonparametric Statistical Analysis (3 credits)

STA 318 - Statistical Computing (3 credits)

STA 321 - Applied Regression Analysis (3 credits)

STA 412 - Mathematical Statistics I (4 credits)

STA 415 - Mathematical Statistics II (Capstone) (4 credits)

STA 418 - Statistical Computing and Graphics with R (3 credits)

STA 421 - Bayesian Data Analysis (3 credits)

STA 425 - Actuarial Probability and Statistics (3 credits)

STA 426 - Multivariate Data Analysis (3 credits)

\*Students may not count both MTH 302 and MTH 304 toward the minor.

\*\*MTH 225 may only count toward the minor if MTH 325 is also completed **AND** at least one other 300- or 400-level MTH course (except MTH 302) is counted toward the minor.

\*\*\*STA 220 may only count toward the minor if it is completed along with EGR 220.

## **Mathematics with Secondary Teacher Certification**

The secondary teacher certification mathematics minor requires a minimum GPA of 2.7 and 20 credit hours unduplicated in one's major. Credit in the following courses may not be applied: MTH 110, MTH 122, MTH 123, MTH 124, MTH 125, MTH 126, MTH 131, MTH 226, MTH 223, MTH 225, MTH 312, and STA 215. Credit in the following courses requires department approval to be applied to the minor: MTH 380, MTH 386, MTH 399, and MTH 499.

The following courses must be completed:

MTH 201 - Calculus I (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MTH 202 - Calculus II (4 credits)

MTH 204 - Linear Algebra I (3 credits)

MTH 210 - Communicating in Mathematics (4 credits)

MTH 229 - Mathematical Activities for Secondary Teachers (3 credits) **OR** MTH 329 - Teaching Middle Grades Mathematics (3 credits)

MTH 331 - Euclidean Geometry (3 credits)

MTH 350 - Modern Algebra I (3 credits)

STA 312 - Probability and Statistics (3 credits)

### **Mathematics with Elementary Teacher Certification**

The elementary teacher certification mathematics minor requires a minimum GPA of 2.7 and 20 credit hours unduplicated in one's major. Credit in the following courses may not be applied: MTH 110, MTH 122, MTH 123, MTH 124, MTH 125, MTH 126, MTH 131, MTH 226, MTH 223, MTH 225, MTH 312, and STA 215. Credit in the following courses requires department approval to be applied to the minor: MTH 380, MTH 386, MTH 399, and MTH 499.

The following courses must be completed:

MTH 201 - Calculus I (4 credits)

MTH 202 - Calculus II (4 credits)

MTH 210 - Communicating in Mathematics (4 credits)

MTH 322 - Geometry for Elementary Teachers (3 credits)

MTH 323 - Probability and Statistics for Elementary Teachers (3 credits)

MTH 324 - Algebra for Elementary Teachers (3 credits)

**AND ONE** additional approved course

## **Medical Dosimetry**

For additional information about opportunities your college offers, please refer to the College of Health Professions section of this catalog.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

**Website:** [gvsu.edu/grad/dosimetry](http://gvsu.edu/grad/dosimetry)

## **Degree Offered**

Master of Science in medical dosimetry

A medical dosimetrist is a key member of the radiation oncology team who works closely with physicians, physicists, and other members of the radiation oncology team to implement each treatment plan. The medical dosimetrist uses computer software to design and accurately calculate a radiation treatment plan based on the radiation oncologist's prescription, being cognizant of normal tissues and critical structures in the treatment vicinity. The medical dosimetrist maintains a delicate balance between delivering the prescription the physician has written, while ensuring the patient will not lose important healthy organ function. The medical dosimetrist also provides assistance and support to solve diverse physical and technical problems that arise in the clinical environment. Through knowledge of radiation oncology treatment machines and application of principles of physics, anatomy and radiobiology, the dosimetrist generates radiation therapy treatment plans.

## **Grand Valley State University Medical Dosimetry**

GVSU's masters in medical dosimetry program is a Joint Review Committee on Education in Radiologic Technology (JRCERT) accredited 12-month hybrid/online lock-step cohort program (September-August) that is comprised of didactic and clinical education for a total of 38 credits. Clinicals are taken in-person at the assigned institution, and didactic courses are hybrid and online. Students complete the year-long program in a clinical placement located within the U.S. and are required to attend two on-site meetings at GVSU.. The remainder of the courses are online. Part-time students are required to enroll in all the didactic courses with the cohort they are admitted with (completed in one year), and are allowed to spread their clinical experience over a longer period of time (up to two years).

Clinical sites are provided for admitted students. A list of GVSU's clinical sites can be found on the JRCERT website. Please note: Not all clinical sites are available each year. Students may request clinical sites based on their geographical location, but the ultimate decision for clinical placement will be nondiscriminatory and at the discretion of the Program Director and Educational Coordinator. A prospective student can propose a new clinical site by contacting the program director.

As part of the master's degree curriculum, students must complete a research project or thesis. Students are encouraged to submit their research to a national forum upon completion.

## **Accreditation**

The Grand Valley State University Medical Dosimetry program is accredited by the JRCERT. The program adheres to JRCERT standards. Students have the right to notify the JRCERT if they believe the university is not adhering to these standards. The JRCERT is at 20 N. Wacker Dr., Suite 2850, Chicago, IL 60606-3182, phone (312) 704-5300 ([jrcert.org](http://jrcert.org)). This accreditation meets

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

eligibility requirements for program graduates to sit for the national Medical Dosimetrist Certification Board (MDCB) examination which, upon successful completion, confers the title certified medical dosimetrist (CMD).

### **Undergraduates Interested in Medical Dosimetry**

A bachelor's degree is required prior to beginning the medical dosimetry program. The recommended undergraduate major for students is radiation therapy.

### **Application Procedures**

Admission to the medical dosimetry program is competitive and requires completion of a Bachelor's degree prior to admission. Application can be made through the GVSU graduate admission website at [gvsu.edu/grad/dosimetry](http://gvsu.edu/grad/dosimetry). Initial review of applications for fall begins February 1; applications are accepted until all clinical placements are filled. At the time of application, students must submit a plan that demonstrates how the prerequisites and undergraduate degree requirements will be completed prior to the start of the program if they are not completed at the time of admission application. Applicants who are selected for the program and can demonstrate completion of these requirements prior to the start of the program will be issued letters of conditional admission, which will convert to full admission upon successful completion of the entire plan. A plan for completion should be submitted as an additional page to the application. There is not a form for this document.

### **Admission Requirements**

**Academic achievement:** A minimum grade of C must be attained in all prerequisite coursework. Applicants must demonstrate a minimum overall 3.0 grade point average (GPA). All prerequisite coursework and a bachelor's degree are required prior to the start of the program.

**Prerequisite course completion:** The Prerequisite Verification and GPA Calculation Worksheet should be completed and attached to the application.

**Health care experience:** Documentation of a minimum of 40 hours of volunteer/paid health care experience or eight hours of medical dosimetry job shadowing experience documented on a resume.

**Resume:** Resume detailing health care/job shadow experiences, work experiences, leadership and accomplishments.

**References:** Three recommendations from health professionals must be submitted on university recommended forms located within the graduate application. Separate letters from references are NOT required. Only three references will be accepted.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

**Personal Statement:** Personal statement of career goals and background experiences, including an explanation of how this program will help achieve educational and professional objectives.

**Internationally Trained Applicants:**

Students whose undergraduate education is from outside the U.S. must submit a transcript that has been translated by a professional translator or credential evaluation service, such as WES or ECE.

Students must demonstrate proficiency in English. Any one of the following test scores are required:

TOEFL: 80 (we do not accept "My Best" score)

IELTS: 6.5

PTE: 53

**International Students:**

Applicants requiring an F1 Visa, J1 Visa or M1 Visa are not eligible for the Medical Dosimetry program, due to federal U.S. immigration regulations of online education.

**Selection Factors**

Grand Valley State University is an affirmative action/equal opportunity institution. It encourages diversity and provides equal opportunity in education, employment, all of its programs, and the use of its facilities. Applicants are considered without regard to age, color, disability, familial status, height, marital status, national origin, political affiliation, race, religion, sex/gender, sexual orientation, veteran status, or weight. Motivational factors, life experiences, patient care experience, maturity, and personal characteristics as assessed in the personal statement, interview, recommendations and resume are important factors in the selection process. An applicant's academic record is important as an indicator of ability to succeed in an intensive and rigorous medical curriculum.

Specific selection criteria:

Overall GPA

Academic GPA from prerequisite courses

Personal statement

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

Interview

Health care experience

Recommendations

Additional leadership, employment, professional, scholarly, extracurricular and volunteer activities are valued and taken into consideration

## **Degree Requirements**

Demonstration of completion of the 38 credits in the professional curriculum is required for the student to be granted the M.S. in medical dosimetry degree. General graduate academic policies and regulations can be found elsewhere in this catalog or on the GVSU Graduate School Policies and Procedures webpage.

In addition, for each RMD course or discrete unit of instruction in the professional curriculum, a minimum proficiency level of 80 percent on all evaluations as described in each course syllabus is required. A minimum grade of B- or higher is required for passing all RMD courses. In addition, the GPA must never drop below 3.0 in any semester or the student may be placed on academic probation or dismissed from the program.

## **Professional Conduct**

The program also subscribes to a belief in continual advancement during the course of professional study in a compilation of abilities. Interpersonal skills, communication skills, responsibility, and professionalism, among others, are identified as being crucial for success in the profession. Advancement in skill and behavior applicable to such abilities is expected during the professional curriculum. Clinical evaluation includes measurement of affective skills which must continually be met through the clinical advising program for students to continue in clinical education courses. Failure to achieve adequate progress in the clinical advising program will result in a failing grade being issued for that course. All students in the program are expected to comply with the ethical principles that embody the practice of medicine and the medical dosimetry profession. Community service is also expected as are professional scholarship achievements while enrolled in the program.

A criminal background check and a drug screening is required prior to admission into the program. After enrollment, individual clinical education centers may require additional criminal background checks and drug screenings. These requirements for attendance at clinical education centers are carried out by the GVSU Compliance Office. Positive findings for any compliance office request may negatively impact the educational process at GVSU or future credentialing as a medical dosimetrist. The costs of these evaluations or any other required clinical placement evaluations are the responsibility of the applicant or student.

The Grand Valley State University medical dosimetry program is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT). The program adheres to

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

JRCERT standards. Students have the right to notify the JRCERT if they believe the university is not adhering to these standards. The JRCERT is at 20 N. Wacker Dr., Suite 2850, Chicago, IL 60606-3182, phone (312) 704-5300 (jrcert.org). This accreditation meets eligibility requirements for program graduates to sit for the national Medical Dosimetrist Certification Board (MDCB) examination which, upon successful completion, confers the title certified medical dosimetrist (CMD).

## **Master of Science in Medical Dosimetry**

For additional information about opportunities your college offers, please refer to the College of Health Professions section of this catalog.

**Website:** [gvsu.edu/grad/dosimetry](http://gvsu.edu/grad/dosimetry)

### **Application Requirements**

For a comprehensive list of required application materials and admission criteria refer to program description.

### **Prerequisite Courses**

The following courses or their equivalents must be completed, with a minimum grade of C, prior to admission:

BMS 250 - Anatomy and Physiology I (4 credits)

BMS 251 - Anatomy and Physiology II (4 credits)

PHY 220 - General Physics I (5 credits)

PHY 221 - General Physics II (5 credits)

RIT 302 - Radiation Protection Physics (2 credits)

RIT 322 - Radiation Biology (2 credits)

RIT 330 - Radiation Therapy Principles and Practices I (4 credits)

RIT 331 - Radiation Therapy Principles and Practices I Laboratory (1 credit)

RIT 332 - Radiation Therapy Principles and Practices II (3 credits)

RIT 333 - Radiation Therapy Principles and Practices II Laboratory (1 credit)

RIT 420 - Radiation Therapy Physics I (2 credits)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

RIT 441 - Gross Human Sectional Anatomy (4 credits)

RIT 458 - Neoplasms (3 credits)

RIT 470 - Radiation Therapy Treatment Planning (2 credits)

RIT 471 - Radiation Therapy Treatment Planning Lab (1 credit)

RIT 472 - Introduction to Medical Dosimetry (2 credits)

RIT 473 - Introduction to Medical Dosimetry Lab (1 credit)

## **Program Curriculum**

The following courses comprise the medical dosimetry program (lock-step cohort):

Fall Semester (12 to 14 credits):

STA 610 - Applied Statistics for Health Professions (3 credits)

RMD 620 - Dosimetry Treatment Planning I (3 credits)

RMD 621 - Dosimetry Treatment Planning I Lab (1 credit)

RMD 661 - Medical Dosimetry Clinical Education I (1 to 4 credits)

RMD 693 - Medical Dosimetry Research Project (1 to 3 credits) **OR** RMD 695 - Medical Dosimetry Thesis (1 to 3 credits)

Winter Semester (11 to 13 credits):

RMD 622 - Dosimetry Treatment Planning II (3 credits)

RMD 623 - Dosimetry Treatment Planning II Lab (1 credit)

RMD 630 - Medical Dosimetry I (3 credits)

RMD 662 - Medical Dosimetry Clinical Education II (1 to 4 credits)

RMD 693 - Medical Dosimetry Research Project (1 to 3 credits) **OR** RMD 695 - Medical Dosimetry Thesis (1 to 3 credits)

Spring/Summer Semester (11 to 13 credits):

RMD 632 - Medical Dosimetry II (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

RMD 663 - Medical Dosimetry Clinical Education III (1 to 4 credits)

RMD 670 - Professional Issues in Medical Dosimetry (3 credits)

RMD 693 - Medical Dosimetry Research Project (1 to 3 credits) **OR** RMD 695 - Medical Dosimetry Thesis (1 to 3 credits)

RMD 696 - Continuation of Master's Project or Thesis Research (1 credit) If required.

**TOTAL CREDITS: 38**

\*RMD 693 Medical Dosimetry Research Project and RMD 695 Medical Dosimetry Thesis may be taken at variable credit per semester of one to three credits for a required total of six credits. RMD 696 Continuation of Master's Project or Thesis Research enrollment may be required if the student does not successfully complete RMD 695 Medical Dosimetry Thesis course.

**Part-time Option**

Students may apply to the program as a part-time student. Part-time students are required to enroll in all the didactic courses with the cohort they are admitted with and complete within the one-year time-frame. Part-time students are also required to begin their clinical education at the same time as their didactic courses, but are allowed to spread their clinical education (RMD 661 - Medical Dosimetry Clinical Education I, RMD 662 - Medical Dosimetry Clinical Education II, and RMD 663 - Medical Dosimetry Clinical Education III) over a longer period of time (up to two years).

Full-time students complete 32 hours per week of clinical education during the semester, and part-time students must complete a minimum of 16 hours per week of clinical education. Part-time students are given credit for the clinical education course once the clinical hours (112 clinical education hours per one credit ratio) and course requirements are achieved. Part-time students can complete the program in four, five or six semesters.

Each new cohort begins in the fall semester, and both didactic courses and clinical courses are started at the same time. Many part-time students continue to work as a radiation therapist while continuing their education.

## **Medical Laboratory Science**

For additional information about opportunities your college offers, please refer to the College of Health Professions section in this catalog.

**Website:** [gvsu.edu/mls](http://gvsu.edu/mls)

**Degree Offered**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

B.S. in medical laboratory science

Medical laboratory science is an undergraduate field of study that prepares graduates to become certified medical laboratory scientists (MLS). Medical laboratory scientists are essential health care professionals; they perform clinical laboratory tests that aid in the detection, diagnosis, monitoring, and treatment of disease. Blood, tissue, urine, and other body fluids are examined and analyzed, and results of these complex chemical, biological, hematological, immunologic, microscopic, and bacteriological tests provide important decision-making information to a patient's medical team. Medical laboratory scientists work primarily in hospital settings, however, job opportunities exist in molecular, research, forensic, and veterinary labs, as well as in instrument training/sales, lab management, and education. Medical laboratory scientists are required to use significant analytical and independent judgment; their technical skills are in high demand.

### **Accreditation**

The medical laboratory science program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). Contact information for NAACLS: [naacls.org](http://naacls.org); email: [info@naacls.org](mailto:info@naacls.org); telephone: (773) 714-8880; address: 5600 N. River Road, Suite 720, Rosemont, IL 60018.

### **Admission to the Medical Laboratory Science Program**

Admission to the medical laboratory science program is competitive, requiring completion of a secondary application. Please visit [gvsu.edu/mls](http://gvsu.edu/mls) and our CHPSS webpage for all admission/application information [gvsu.edu/chpss/medical-laboratory-science-112.htm](http://gvsu.edu/chpss/medical-laboratory-science-112.htm). Late applications will be considered assuming requirements are met and space is available in the program. Applicants must meet the following criteria:

**Academic achievement.** Students must have a minimum overall GPA of 2.8 and a science GPA of 2.8 or above. Completion of BMS 208, BIO 120, and CHM 109, and completion of 45 semester hours of credit.

**Communication and interpersonal skills.**

**Recommendations.** Three recommendations must be submitted on university forms; one from a chemistry faculty member, one from a science laboratory faculty member, and one from a source chosen by the applicant.

**Additional activities.** Additional educational, professional, leadership, scholarly, and volunteer activities are valued and should be documented.

Students should be aware that prior to the beginning of their clinical courses, they must complete comprehensive health compliance obligations including but not limited to a criminal background check and drug screening. It is the responsibility of the student to

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

comply. If there is a positive result, the clinical sites have the right to refuse a student's placement which may negatively impact a student's ability to progress in the medical laboratory science program. In addition, individuals who have been charged with or convicted of a crime may not be eligible for national certification by the American Society for Clinical Pathology - Board of Certification. Students to whom this may apply are strongly advised to work with the ASCP-BOC for pre-application review of eligibility for certification from their website at [ascp.org/Board-of-Certification](http://ascp.org/Board-of-Certification). The ASCP-BOC contact information: Phone: (800) 267-2727; Fax: (312)-541-4472.

## **Bachelor of Science in Medical Laboratory Science**

### **Requirements**

#### **Prerequisite Courses**

There are 46 credits required for a major in medical laboratory science, including:

AHS 100 - Medical Terminology (3 credits)

\*BIO 120 - General Biology I (4 credits)

BIO 355 - Human Genetics (3 credits)

BMS 208 - Human Anatomy (3 credits)

BMS 212 - Introductory Microbiology (3 credits)

BMS 213 - Laboratory in Microbiology (1 credit)

BMS 290 - Human Physiology (3 credits)

BMS 391 - Laboratory in Human Physiology (2 credits)

BMS 301 - Introduction to Research in the Biomedical Sciences (3 credits) **OR** AHS 301 - Introduction to Health Care Research (3 credits) **OR** PSY 300 - Research Methods in Psychology (3 credits)

BMS 410 - Immunology (3 credits)

\*CHM 109 - Introductory Chemistry (4 credits)

CHM 231 - Introductory Organic Chemistry (4 credits)

CHM 232 - Biological Chemistry (4 credits)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

PHY 200 - Physics for the Life Sciences (4 credits)

\*STA 215 - Introductory Applied Statistics (3 credits)

\*Also fulfills a general education requirement.

### **General Education Requirements**

Requires 35 credits of Foundations and Cultures courses, including:

General education Arts (3 credits)

General education Philosophy and Literature (3 credits)

General education Historical Perspectives (3 credits)

General education Global Perspectives (3 credits)

General education U.S. Diversity (3 credits)

General education Social and Behavioral Sciences (3 credits)

Two Issues courses (6 credits)

MTH 110 - Algebra (4 credits)

**EITHER** WRT 150 - Strategies in Writing (4 credits) **OR BOTH** WRT 120 - Strategies in Writing - Stretch I (3 credits) **AND** WRT 130 - Strategies in Writing - Stretch II (3 credits)

### **Medical Laboratory Science Courses**

Requires 47 credits, including;

MLS 102 - Introduction to Medical Laboratory Sciences (1 credit)

MLS 320 - General Laboratory Practice (2 credits)

MLS 350 - Management for Laboratory Science (2 credits)

MLS 370 - Parasitology and Mycology (4 credits)

MLS 371 - Parasitology and Mycology Lab (1 credit)

MLS 372 - Diagnostic Microbiology (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MLS 373 - Diagnostic Microbiology Laboratory (1 credit)

MLS 400 - Molecular Diagnostics/Virology (3 credits)

MLS 410 - Clinical Immunoserology (3 credits)

MLS 416 - Hematology (3 credits)

MLS 417 - Clinical Hematology Laboratory (1 credit)

MLS 422 - Clinical Chemistry (4 credits)

MLS 423 - Clinical Chemistry Laboratory (2 credits)

MLS 450 - Clinical Practicum I (1 credit)

MLS 461 - Medical Laboratory Science Simulation Laboratory (2 credits)

MLS 462 - Transfusion Medicine (3 credits)

MLS 463 - Hemostasis (2 credits)

MLS 464 - Bacteriology and Antibiotics (1 credit)

MLS 490 - Clinical Practicum II (5 credits)

MLS 495 - Issues in Medical Laboratory Science (3 credits)

## **Suggested Order of Coursework**

### **Year One**

Fall Semester (15 credits):

General education course (3 credits)

CHM 109 - Introductory Chemistry (4 credits)

MTH 110 - Algebra (4 credits)

WRT 150 - Strategies in Writing (4 credits)

Winter Semester (15 credits):

General education courses (6 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

BIO 120 - General Biology I (4 credits)

CHM 231 - Introductory Organic Chemistry (4 credits)

MLS 102 - Introduction to Medical Laboratory Sciences (1 credit)

## **Year Two**

Fall Semester (16 credits):

General education courses (6 credits)

BIO 355 - Human Genetics (3 credits)

BMS 208 - Human Anatomy (3 credits)

CHM 232 - Biological Chemistry (4 credits)

Winter Semester (14 credits):

AHS 100 - Medical Terminology (3 credits)

BMS 212 - Introductory Microbiology (3 credits)

BMS 213 - Laboratory in Microbiology (1 credit)

PHY 200 - Physics for the Life Sciences (4 credits)

STA 215 - Introductory Applied Statistics (3 credits)

## **Year Three**

Fall Semester (16 credits):

General education courses (6 credits)

AHS 301 - Introduction to Health Care Research (3 credits) **OR** BMS 301 - Introduction to Research in the Biomedical Sciences (3 credits) **OR** PSY 300 - Research Methods in Psychology (3 credits)

BMS 290 - Human Physiology (3 credits)

BMS 391 - Laboratory in Human Physiology (2 credits)

BMS 410 - Immunology (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Winter Semester (15 credits):

Begin MLS program.

Issues course (3 credits)

MLS 320 - General Laboratory Practice (2 credits)

MLS 350 - Management for Laboratory Science (2 credits)

MLS 370 - Parasitology and Mycology (4 credits)

MLS 371 - Parasitology and Mycology Lab (1 credit)

MLS 400 - Molecular Diagnostics/Virology (3 credits)

Summer Semester (6 credits):

Issues course (3 credits)

MLS 410 - Clinical Immunoserology (3 credits)

## **Year Four**

Fall Semester (15 credits):

MLS 372 - Diagnostic Microbiology (3 credits)

MLS 373 - Diagnostic Microbiology Laboratory (1 credit)

MLS 416 - Hematology (3 credits)

MLS 417 - Clinical Hematology Laboratory (1 credit)

MLS 422 - Clinical Chemistry (4 credits)

MLS 423 - Clinical Chemistry Laboratory (2 credits)

MLS 450 - Clinical Practicum I (1 credit)

Winter Semester (16 credits):

MLS 461 - Medical Laboratory Science Simulation Laboratory (2 credits)

MLS 462 - Transfusion Medicine (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MLS 463 - Hemostasis (2 credits)

MLS 464 - Bacteriology and Antibiotics (1 credit)

MLS 490 - Clinical Practicum II (5 credits)

MLS 495 - Issues in Medical Laboratory Science (3 credits)

## **Microbiology**

Graduates from this major will be prepared to enter a graduate program in microbiology or biotechnology. It would be an appropriate degree for a premedical student interested in infectious disease. In addition, the laboratory-rich aspect of this major will prepare a graduate for becoming a microbiology/biotechnology laboratory technician. Because it is impossible to design one curriculum to fulfill the requirements of every graduate school or laboratory, it is the student's responsibility, in consultation with an advisor, to see that the requirements are fulfilled for the particular school(s)/job(s) in which the student is interested. This major, although directed, allows sufficient flexibility to accommodate specific requirements that various programs may have.

### **Bachelor of Science in Microbiology**

The major requires 71 to 72 credit hours for completion dependent on the math sequence chosen.

#### **Major Requirements**

##### **General University Degree Requirements**

As identified in the General Academic Policies section of the Grand Valley State University Undergraduate and Graduate Catalog.

##### **Required Microbiology Courses/Labs (21 credits)**

BMS 212 - Introductory Microbiology (3 credits)

BMS 213 - Laboratory in Microbiology (1 credit)

BMS 312 - Bacterial Genetics (3 credits)

BMS 313 - Bacterial Genetics Laboratory (1 credit)

BMS 412 - Medical Bacteriology (3 credits)

BMS 413 - Medical Bacteriology Laboratory (2 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

BMS 422 - Bacterial Physiology (3 credits)

BMS 423 - Bacterial Physiology Laboratory (2 credits)

MIC 495 - Microbiology and Infectious Disease (3 credits)

**Additional Required Courses (44 to 45 credits)**

BIO 120 - General Biology I (4 credits)

CHM 115 - Principles of Chemistry I (4 credits)

CHM 116 - Principles of Chemistry II (5 credits)

CHM 241 - Organic Chemistry for Life Sciences I (5 credits)

CHM 242 - Organic Chemistry for Life Sciences II (4 credits)

CHM 461 - Biochemistry I (4 credits)

**EITHER** MTH 124 - Precalculus: Functions and Models (5 credits)

**OR BOTH** MTH 122 - College Algebra (3 credits) **AND** MTH 123 - Trigonometry (3 credits)

PHY 220 - General Physics I (5 credits)

PHY 221 - General Physics II (5 credits)

STA 215 - Introductory Applied Statistics (3 credits)

**Biomedical Sciences Elective Courses (6 credits)**

Choose six additional hours of upper-division science courses from the following:

BIO 416 - Advanced Genetics Laboratory (2 credits)

BMS 394 - Laboratory Assistant in Microbiology (1 credit)

BMS 410 - Immunology (3 credits)

BMS 431 - Medical Virology (3 credits)

BMS 432 - Medical Mycology (3 credits)

BMS 433 - Medical Parasitology (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

BMS 492 - Biomedical Sciences Internship (1 to 4 credits)

BMS 499 - Research in the Biomedical Sciences (1 to 3 credits)

CMB 405 - Cell and Molecular Biology (4 credits)

CMB 406 - Cell and Molecular Biology Laboratory (2 credits)

CMB 414 - Molecular Biology of the Gene (3 credits)

CMB 426 - Research Applications in Nucleic Acids (4 credits)

CHM 462 - Techniques in Biochemistry (3 credits)

CHM 463 - Biochemistry II (3 credits)

## Middle East Studies

For additional information about opportunities your college offers, please refer to the Brooks College of Interdisciplinary Studies section in this catalog.

**Website:** [gvsu.edu/mes](http://gvsu.edu/mes)

In the tradition of liberal education at Grand Valley State University, courses in this minor introduce students to the heritage, problems, and perspectives of Middle Eastern cultures, thus helping them to better understand their own culture. Michigan, for example, is home to the nation's largest Arab American community, half Christian, half Muslim, with substantial Jewish congregations.

The Middle East studies program focuses on the area stretching from Morocco in the west to Oman in the east, from Iran and Turkey in the north to Sudan in the south. This region is inhabited by more than 350 million people. Not only does the history and art of this region form the basis of Western civilization, but the Middle East today is central to issues of global peace and prosperity. This area incorporates largely Muslim lands, but Christians and Jews have also made important contributions. All receive appropriate attention in this program.

Study abroad opportunities are available and encouraged. For more information, consult the Padnos International Center (PIC) or the coordinator of the Middle East studies program.

## Middle East Studies Minor

For additional information about opportunities your college offers, please refer to the Brooks College of Interdisciplinary Studies section in this catalog.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## Requirements

Students minoring in Middle East studies must complete 18 to 19 credit hours of course work. This includes seven credits of core courses and at least 12 credits of electives. Students entering the university competent in Arabic at the 102-level or higher will take one additional elective course in consultation with the program coordinator, for a total of 18 credits. Students have the option to fulfill some electives through study abroad in consultation with the program coordinator. Please note that study abroad is encouraged, but not required.

### **All minors are required to complete two core courses:**

ARA 102 - Beginning Arabic II: Language and Culture (4 credits)

MES 201 - Introduction to the Middle East (3 credits)

### **Minors will choose four from the following elective courses (at least 12 credits):**

Students with second-semester or higher competence in Hebrew, Persian, or Turkish may substitute that for the Arabic requirement but will likewise take one extra course from the list below.

Students will select four courses (at least 12 credits) from the following list:

ARA 202 - Intermediate Arabic II: Language and Culture (4 credits)

ARA 330/MES 330 - Arab Identity in Literature and Culture (3 credits)

ANT 330 - Anthropology of Selected World Areas (3 credits)

ANT 350 - Archaeology of Mid-East (3 credits)

HST 211 - History of Islamic Civilization (3 credits)

HST 337 - The Age of Islamic Empire (3 credits)

HST 338 - Modern Middle East (3 credits)

HST 339 - Modern Iran (3 credits)

MES 202 - Arab Americans (3 credits)

MES 333 - Study Abroad - Middle East Studies (1 to 6 credits)

MES 350 - Islam: Scripture and Ritual (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MES 370 - Contemporary Issues in the Middle East: The Model Arab League (3 credits)

MES 380 - Special Topics in Middle East Studies (3 credits)

MES 399 - Independent Studies (1 to 3 credits)

PLS 320 - Comparative Politics of the Middle East (3 credits)

## Modern Languages and Literatures

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

**Website:** [gvsu.edu/mll](http://gvsu.edu/mll)

The importance of foreign language study has never been more obvious than in today's global society. Leaders in business, government, and throughout the community are calling for increased awareness of the interrelatedness and interdependence of all nations and societies. One of the traditional barriers to understanding, and to the free flow of communication, has been a lack of informed citizens with competence in at least one foreign language. There is no better way to understand and appreciate cultures other than your own than to communicate with other people in their own language. What is more, the mastery of a foreign language inevitably improves your command of your native language. With such a high premium on communication skills in the world today, foreign language study is not a luxury, it is a necessity.

### Honors Societies

Pi Delta Phi (French), Delta Phi Alpha (German), Sigma Delta Pi (Spanish)

### Degree Requirements

A student working toward any B.A. degree must successfully complete the third semester course in a foreign language. The Department of Modern Languages and Literatures currently offers the following languages that fulfill this requirement: Arabic, Chinese, French, German, Italian, Japanese, Russian, and Spanish.

Transfer students who wish to major in a foreign language at Grand Valley must take a minimum of 12 credit hours of advanced-level coursework (300- or above) with the Department of Modern Languages and Literatures at Grand Valley to qualify for a major. For transfer students who wish to minor in a foreign language, a minimum of six credit hours of advanced coursework (300- or above) with the Department of Modern Languages and Literatures at Grand Valley is required. This requirement includes those who have graduated from other institutions and now seek teaching certification from Grand Valley.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Students seeking secondary certification in foreign languages must take the foreign language methods seminar, Education 331, in order to be certified. Students may also choose to enroll in foreign language and literature courses on a credit/no-credit basis.

All French, German, and Spanish majors and minors seeking teaching licensure must demonstrate oral proficiency at the advanced-low level (or higher) prior to enrolling in the College of Education and Community Innovation. A study abroad experience is required for students seeking teaching licensure degrees (see individual program details).

The 380 special topics courses are available in all foreign languages. The independent study and research courses in language programs within the Department of Modern Languages and Literatures are available to qualified students for independent study in areas not covered by the regular foreign language offerings.

### **Placement in Language Courses**

Students who have studied a foreign language in high school or who have practical knowledge of a foreign language that is offered by MLL must take a placement examination prior to enrolling for further study of that language. Students must enroll in the course in which they place on the examination. Instructors who determine that students are inappropriately enrolled may direct them to move to the appropriate level. Students can count one placement test per semester (only the first attempt).

Transfer students with prior college language study are not eligible to take the placement examination in that language and must enroll in a course at the next appropriate level.

Students with non-college language learning may be able to earn college credit by achieving an appropriate score on an approved national test, such as Advanced Placement (see Credit by Examination).

Native speakers are not eligible to take the placement exam, nor are they eligible to enroll in 100- or 200-level language courses, except SPA 203. The students should talk to an advisor in the Department of Modern Languages and Literatures for proper placement.

### **150 Course**

This course is designed for students who have sufficient prior study to make placement in 101 inappropriate. The 150 course includes a review of first semester language (101) and covers the same material as 102. Completion of the course with a grade of C or higher prepares students for 201.

### **Foreign Language Resource Center (Laboratory)**

The Language Resource Center (LRC) offers access to state-of-the-art audio, video, and computer technologies. The LRC laboratories host 66 language-learning workstations, which are reserved exclusively for GVSU language students but closed to general campus use. All

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

elementary and intermediate language courses require a minimum of 50 minutes per week of lab attendance. The audio-visual and computer resources are used to enrich many upper-division courses, too. Foreign language students can also access most of the LRC audio resources from their homes, or elsewhere, via the Internet. LRC equipment and software are being constantly updated and expanded. Visit online at [gvsu.edu/lrc](http://gvsu.edu/lrc).

## **Study Abroad**

Grand Valley urges all students to seek study abroad experience. Foreign language majors and minors will make exceptional progress by combining study abroad with their formal coursework on the home campus. Moreover, approved study experiences of varying lengths, summer, semester, or academic year, carry full academic credit for all participants, including non-majors. The many programs currently offered take place during the summer and are led by a Grand Valley State University faculty member. Longer stays can be arranged, however, through Grand Valley's institutional ties with colleges and universities in most regions of the world.

For more information, students should contact the Padnos International Center at (616) 331-3898 or visit online at [gvsu.edu/pic](http://gvsu.edu/pic).

### **Regular accompanied programs include:**

**Chile:** Intensive Spanish language studies for fall and winter semesters or nine-week spring term at the University of Bío Bío in Chillán, Chile.

**China:** Faculty-led intensive Mandarin summer program in Nanjing; one- or two-semester programs at East China Normal University in Shanghai.

**Dominican Republic:** A faculty-led spring program in Santo Domingo. This program offers students the opportunity to expand their knowledge of the language and cultures of the Spanish-speaking world, while living in the oldest European settlement in the Americas.

**France:** A faculty-led summer school program in French language and culture located in Nice (southern France) and Paris.

**Germany:** A faculty-led summer program in German language and culture and a full-semester exchange at our partner institute in Schwäbisch Gmünd, Germany; semester exchange (primarily for business students) in Mosbach/Bad Mergentheim.

**Japan:** A faculty-led spring program in Tokyo and Osaka; semester or full-year programs at the Japan Center for Michigan Universities in Hikone and Ritsumeikan Asia Pacific University in Beppu; and full-year exchange program with International Christian University of Tokyo.

**Mexico:** Intensive Spanish language studies for fall or winter semesters at the University of the Americas - Puebla, Puebla, Mexico.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

**Oman/United Arab Emirates:** A faculty-led spring program in Oman and Dubai. This program introduces students to the language, culture, and business practices of Oman and the UAE (Dubai).

**Spain:** Intensive Spanish language studies (all levels) for fall, winter, or summer semesters at the University of Deusto in Bilbao, Spain.

**Taiwan:** Semester programs at National Taiwan Normal University in Taipei.

### **Arabic, Chinese, Italian, Japanese, and Russian Language Instruction**

In addition to French, German, and Spanish, Grand Valley offers Arabic, Chinese, Italian, Japanese, and Russian courses of instruction to fulfill the B.A. degree requirement (201-level); the general education requirement (202-level); the language requirement for minors in Middle East studies (Arabic) and East Asian studies (Chinese and Japanese); and the international relations major language requirements. Arabic and Chinese offer a language minor program. A variety of 300-level language and culture courses are offered in Japanese.

## **Bachelor of Arts in German**

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

### **Requirements for a Major in German**

Students majoring in German are required to complete 33 hours of GER 300- or 400-level courses beyond GER 202, including:

GER 301 - German Composition (3 credits)

GER 302 - German Conversation (3 credits)

GER 495 - Advanced Topics in German (3 credits)

**AND** one linguistics course selected from:

GER 321 - Improving German Pronunciation (3 credits)

GER 322 - Introduction to German Linguistics (3 credits)

GER 421 - History of the German Language (3 credits)

**AND** one advanced language course selected from:

GER 341 - Advanced German Grammar (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

GER 342 - Advanced Speaking Strategies and Skills (3 credits)

GER 386 - German Culture and Society (3 credits) Study abroad or similar as approved by advisor.

**AND** one advanced literature/culture course selected from:

GER 401 - Modern German Literature (3 credits)

GER 402 - German Authors (3 credits)

GER 421 - History of the German Language (3 credits)

\*GER 421 may be used to satisfy both the linguistics and the advanced literature/culture requirements.

Capstone must be taken in the last year preceding graduation. Students should take careful note of the prerequisites for their chosen courses. All secondary education majors and minors must also complete an approved study abroad program (see as follows).

### **Electives Courses**

Six courses not selected from the previously listed, in addition to:

GER 331 - Business German (3 credits)

GER 341 - Advanced German Grammar (3 credits)

GER 385 - German Language (3 credits)

GER 386 - German Culture and Society (3 credits)

### **Oral Proficiency Requirement**

It is a requirement of the Michigan Department of Education and Grand Valley's College of Education and Community Innovation that teacher candidates achieve the advanced-low level on the Oral Proficiency Interview (OPI) in German before student teaching. The OPI should be taken right away after returning from a study abroad program. Information sessions on the OPI and other requirements for certification are provided each semester.

### **Study Abroad Requirement**

Students with a German secondary education major or minor must study abroad in a German-speaking country for a minimum of one semester (12 to 15 credits in German at the 300- or 400-level) in a departmentally approved program. Courses taken during the study abroad semester normally fulfill some of the courses required for the major, but these need to be determined

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

ahead of time by a German advisor. Advising is critical. Students interested in pursuing a teaching degree in German are urged to meet with a German advisor as early as possible in their program.

Students are advised to complete at least two courses (six credits) of German at the 300-level prior to studying abroad in order to maximize proficiency gains abroad.

Students who cannot meet the study abroad requirement will need to complete an alternative plan approved by a German advisor.

### **Requirements for Secondary Education Major in German**

Students majoring and planning for certification in German are required to complete at least 36 hours in German beyond the 200 level (GER 202), including the following:

GER 301 - German Composition (3 credits)

GER 302 - German Conversation (3 credits)

GER 314 - Foreign Language Acquisition and Pedagogy (3 credits)

GER 322 - Introduction to German Linguistics (3 credits)

GER 341 - Advanced German Grammar (3 credits)

At least one course each in culture and literature, plus one additional linguistics course (9 credits)

One 400-level course (3 credits)

GER 495 - Advanced Topics in German (3 credits)

### **Elective Courses**

In addition to the previously listed, all students must complete two electives (six credits) at the 300- or 400-level, which may include additional courses in culture, linguistics, and literature, or some of the following:

GER 303 - Introduction to German Literature I (3 credits)

GER 304 - Introduction to German Literature II (3 credits)

GER 311 - The Long 19th Century (3 credits)

GER 315 - German Cinema (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

GER 331 - Business German (3 credits)

GER 385 - German Language (3 credits)

### **Requirements for Certification in Secondary Education**

Students seeking teaching certification with a major or minor in German must attain a level of at least Advanced-Low in an official Oral Proficiency Interview (OPI) before applying to the College of Education and Community Innovation. We will provide information sessions on preparing for the Oral Proficiency Interview each year.

## **Bachelor of Arts in Spanish**

For additional information about opportunities your college offers, please refer to the College of Arts and Sciences section in this catalog.

### **Requirements for a Major in Spanish**

Students majoring in Spanish are required to complete a minimum of 33 credits in this subject beyond the 200-level, including SPA 321, SPA 322, one civilization and culture course (from SPA 310, SPA 311, SPA 312 or SPA 313), one Survey of Literature course (either SPA 331 OR SPA 332), SPA 330, one 400-level literature course, and SPA 495 (Capstone). All students are urged to declare the major at the beginning of their sophomore year and to take courses beyond the minimum number, particularly those in civilization and culture and literature. Students should also seriously contemplate taking advantage of the various semester and year-long study abroad opportunities, and they are encouraged to consider a minor that will complement the major such as Latin American studies, business, or another language.

Credits for SPA 101, SPA 102, SPA 150, SPA 201, SPA 202, SPA 203, or SPA 204 will not be counted toward the major or minor.

### **Suggested Order of Coursework for a Major in Spanish**

To complete the program in four years, work toward the major should begin in a student's second year. The suggested distribution of courses follows.

#### **Year Two**

Semester One:

SPA 321 - Composition and Conversation I (3 credits)

**AND** one from the following:

SPA 300 - Reading and Telling Stories (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

SPA 304 - Spanish for Health Professionals (3 credits)

SPA 305 - Spanish for Law Enforcement (3 credits)

SPA 306 - Spanish for Business (3 credits)

SPA 308 - Spanish Phonetics (3 credits)

SPA 315 - One-Act Hispanic Drama (3 credits)

SPA 350 - Spanish Laboratory Theatre (3 credits)

#### Semester Two:

SPA 322 - Composition and Conversation II (3 credits)

**AND** one from the following:

SPA 300 - Reading and Telling Stories (3 credits)

SPA 304 - Spanish for Health Professionals (3 credits)

SPA 305 - Spanish for Law Enforcement (3 credits)

SPA 306 - Spanish for Business (3 credits)

SPA 308 - Spanish Phonetics (3 credits)

SPA 350 - Spanish Laboratory Theatre (3 credits)

#### Year Three

##### Semester One:

SPA 331 - Survey of Spanish Literature (3 credits) **OR** SPA 330 - Introduction to Literary Analysis (3 credits)

**AND** one from the following:

SPA 310 - Spanish Civilization and Culture (3 credits)

SPA 311 - Latin American Civilization and Culture I (3 credits)

SPA 312 - Latin American Civilization and Culture II (3 credits)

SPA 313 - U.S. Latino/a Civilization and Culture (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Semester Two:

SPA 330 - Introduction to Literary Analysis (3 credits) **OR** SPA 332 - Survey of Spanish American Literature (3 credits)

**AND** one from the following:

SPA 300 - Reading and Telling Stories (3 credits)

SPA 308 - Spanish Phonetics (3 credits)

SPA 309 - Advanced Spanish Grammar (3 credits)

SPA 329 - Sociolinguistics of Spanish (3 credits)

## **Year Four**

Semester One:

One 400-level literature courses

**AND** one from the following:

SPA 303 - Professional Writing (3 credits)

A second culture and civilization course

A second survey of literature course

A second 400-level literature course

Semester Two:

SPA 495 - Cross-National Literary Movements (Capstone) (3 credits)

Note: Majors may also take any of the Spanish for the professions courses as electives at any time. Classes are conducted primarily in Spanish.

## **Requirements for a Spanish Secondary Education Major**

Students choosing Spanish as a teachable major must complete a total of 36 credits in Spanish beyond the 200-level, including SPA 321, SPA 322, SPA 309, two civilization and culture courses (from SPA 310, SPA 311, SPA 312, SPA 313), SPA 314, one Survey of Literature course (either SPA 331 or SPA 332), SPA 330, SPA 335, one 400-level literature course, and SPA 495 (Capstone). In addition, students with a Spanish secondary education major must study abroad in a Spanish-speaking country for a minimum of one semester (12-15 credits in Spanish at the 300-level) in a departmentally approved program. Courses taken during the study abroad

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

semester may fulfill some of the courses required for the major. The semester abroad should take place after students have completed SPA 322. Students who cannot meet this requirement will need to complete an alternative plan approved by the Spanish section's study abroad committee. Students interested in pursuing a teaching degree in Spanish are urged to meet with a Spanish advisor as early as possible in their program.

It is a requirement of the Michigan Department of Education and Grand Valley's College of Education and Community Innovation that teacher candidates achieve the Advanced-Low level on the Oral Proficiency Interview (OPI) in Spanish before student teaching. Information sessions on the OPI and other requirements for certification are provided regularly, but students should work closely with their advisor in Spanish. Students planning to teach Spanish are strongly encouraged to fulfill the study abroad requirement before attempting the OPI.

Credits for SPA 101, SPA 102, SPA 150, SPA 201, SPA 202, SPA 203, or SPA 204 will **not** be counted toward the major or minor.

### **Suggested Order of Coursework for a Spanish Secondary Education Major**

To complete the program in four years, work toward the major should begin in a student's second year. The suggested distribution of courses follows.

#### **Year Two**

Semester One:

SPA 321 - Composition and Conversation I (3 credits)

Semester Two:

SPA 322 - Composition and Conversation II (3 credits)

#### **Year Three**

Semester One:

SPA 329 - Sociolinguistics of Spanish (3 credits)

**AND** one of the following:

SPA 310 - Spanish Civilization and Culture (3 credits)

SPA 311 - Latin American Civilization and Culture I (3 credits)

SPA 312 - Latin American Civilization and Culture II (3 credits)

SPA 313 - U.S. Latino/a Civilization and Culture (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Semester Two:

Recommended study abroad semester.

SPA 331 - Survey of Spanish Literature (3 credits) **OR** SPA 332 - Survey of Spanish American Literature (3 credits)

SPA 309 - Advanced Spanish Grammar (3 credits)  
**AND** one of the following:

SPA 310 - Spanish Civilization and Culture (3 credits)

SPA 311 - Latin American Civilization and Culture I (3 credits)

SPA 312 - Latin American Civilization and Culture II (3 credits)

SPA 300-level elective

## **Year Four**

Semester One:

One 400-level literature course  
**AND** one of the following:

SPA 314 - Teaching Methods (3 credits)

SPA 335 - Introduction to Spanish Linguistics (3 credits)

Semester Two:

SPA 495 - Cross-National Literary Movements (Capstone) (3 credits)  
**AND** one of the following:

SPA 314 - Teaching Methods (3 credits)

SPA 335 - Introduction to Spanish Linguistics (3 credits)

Note: Classes are conducted primarily in Spanish.

## **Chinese Language Minor**

### **Requirements for a Minor in Chinese Language**

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

CHI 202 - Intermediate Chinese II: Language and Culture (4 credits)

CHI 301 - Advanced Intermediate Chinese I (3 credits)

CHI 302 - Advanced Intermediate Chinese II (3 credits)

Twelve credits of elective courses are required from the following, including at least one course from CHI 341 and CHI 351. Study abroad courses can count for no more than six of the 12 credits:

CHI 236 - Popular Chinese Fiction (3 credits)

CHI 321 - Ancient Chinese Culture (3 credits)

CHI 322 - Classical Chinese Culture (3 credits)

CHI 323 - Late Imperial Chinese Culture (3 credits)

CHI 324 - Contemporary Chinese Culture (3 credits)

CHI 341 - Introduction to Classical Chinese (3 credits)

CHI 351 - Practical Chinese (3 credits)

CHI 380 - Special Topics in Chinese (3 credits) with prior consent.

CHI 185/CHI 285/CHI 385 up to 3 credits (Study abroad course.)

CHI 386/CHI 387/CHI 380 up to 3 credits (Study abroad course.)

## **German Minor**

### **Requirements for a Minor in German**

Minors must take at least 21 credits of German beyond GER 201, including:

GER 202 - Intermediate German II: Language and Culture (4 credits)

GER 301 - German Composition (3 credits)

GER 302 - German Conversation (3 credits)

Four upper-level courses, only one of which may be GER 341, GER 342, or GER 385. (12 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Elective Courses**

In addition to the previously listed information, minors must complete two elective courses at the 300- or 400- level, which may include additional courses in culture, linguistics and literature, or other elective courses.

## **Requirements for a Secondary Education Minor in German**

Students minoring and planning for certification in German are required to complete at least 27 hours beyond the 200-level (GER 202), including:

GER 301 - German Composition (3 credits)

GER 302 - German Conversation (3 credits)

GER 314 - Foreign Language Acquisition and Pedagogy (3 credits)

GER 322 - Introduction to German Linguistics (3 credits)

GER 341 - Advanced German Grammar (3 credits)

One literature course from GER 303/GER 304/GER 401/GER 402 (3 credits)

One culture course from GER 311/GER 312/GER 315 (3 credits)

Two additional elective courses from literature, culture, or linguistics (GER 321/GER 421) categories **OR** GER 342 - Advanced Speaking Strategies and Skills (3 credits)

## **Additional Requirements**

All German secondary education minors must complete an approved study abroad program in a German-speaking country of at least of one semester in length. Students who cannot complete this requirement may work with a faculty advisor to complete one of several alternative programs, which may add additional credits. Students who have already spent considerable time abroad, especially in a German-language high school, may be exempt from the requirement. Please discuss your situation with an advisor as early in your program as possible.

German secondary education minors must achieve a rating of at least Advanced-Low on an official Oral Proficiency Interview to receive an endorsement to teach German.

## **Spanish Minor**

### **Requirements for a Minor in Spanish**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

The minor in Spanish is designed for students majoring in the professions or other disciplines who wish to enhance their knowledge of the primary field by perfecting their Spanish language skills and comprehension of culture. Students choosing Spanish as a minor program must complete a total of 21 hours of Spanish beyond the 200-level. The minor is especially geared toward students in the professions; it is strongly recommended that minors take the appropriate courses for their field (from SPA 304, SPA 305, and SPA 306), as well as SPA 303 - Professional Writing. In addition, students choosing Spanish as a teachable minor must take two civilization and culture courses, SPA 314, and SPA 335. The total number of credits required for the minor is the same regardless of the emphasis.

Credits for SPA 101, SPA 102, SPA 150, SPA 201, SPA 202, SPA 203, or SPA 204 will **not** be counted toward the major or minor.

### **Requirements for a Spanish Secondary Education Minor**

Students choosing Spanish as a teachable minor must complete 21 credits including: two civilization and culture courses, SPA 314, and SPA 335. In addition, students with a Spanish Secondary Education minor must study abroad in a Spanish-speaking country for a minimum of one semester (12 to 15 credits in Spanish at the 300-level) in a departmentally-approved program. Courses taken during the study abroad semester may fulfill some courses required for the minor. The semester abroad should take place after students have completed SPA 322. Students who cannot meet this requirement will need to complete an alternative plan approved by the Spanish section's study abroad committee. Students interested in pursuing a teaching degree in Spanish are urged to meet with a Spanish advisor as early as possible in their program.

It is a requirement of the Michigan Department of Education and Grand Valley's College of Education and Community Innovation that teacher candidates achieve the Advanced-Low level on the Oral Proficiency Interview (OPI) in Spanish before student teaching. Information sessions on the OPI and other requirements for certification are provided regularly, but students should work closely with their advisor in Spanish. Students planning to teach Spanish are strongly encouraged to fulfill the study abroad requirement before attempting the OPI.

Credits for SPA 101, SPA 102, SPA 150, SPA 201, SPA 202, SPA 203, or SPA 204 will **not** be counted toward the major or minor.

### **Requirements for a Spanish Elementary Education Minor**

Students choosing Spanish as a teachable minor for elementary education certification (in conjunction with the comprehensive science and arts for teaching major) must complete 27 credits including:

SPA 309 - Advanced Spanish Grammar (3 credits)

Select two of the following three courses:

SPA 310 - Spanish Civilization and Culture (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

SPA 311 - Latin American Civilization and Culture I (3 credits)

SPA 312 - Latin American Civilization and Culture II (3 credits)

**AND** complete the following:

SPA 313 - U.S. Latino/a Civilization and Culture (3 credits) **OR** SPA 329 - Sociolinguistics of Spanish (3 credits) **OR** SPA 331 - Survey of Spanish Literature (3 credits) **OR** SPA 332 - Survey of Spanish American Literature (3 credits)

SPA 314 - Teaching Methods (3 credits)

SPA 321 - Composition and Conversation I (3 credits)

SPA 322 - Composition and Conversation II (3 credits)

SPA 335 - Introduction to Spanish Linguistics (3 credits)

SPA 395 - Advanced Speaking Strategies and Skills (3 credits)

A student who wishes to complete the Spanish elementary education minor must also complete the comprehensive science and arts for teaching (CSAT) major in the College of Liberal Arts and Sciences and the elementary education major in the College of Education and Community Innovation. Due to the complex and extensive nature of the combined programs, minors in Spanish elementary education should consult regularly with both CSAT and Spanish advisors. It is a requirement of the Michigan Department of Education and Grand Valley's College of Education and Community Innovation that teacher candidates achieve the Advanced-Low level on the oral proficiency interview (OPI) in Spanish before student teaching. Students interested in teaching in immersion or dual language programs should plan to develop advanced high oral proficiency. Information sessions on the OPI and other requirements for certification are provided regularly, but students should work closely with an advisor in Spanish. Students are urged to meet with a Spanish advisor as early as possible in their program and strongly encouraged to study abroad for at least one semester. Credits for SPA 101, SPA 102, SPA 150, SPA 201, SPA 202, SPA 203, or SPA 204 will **not** be counted toward the major or minor.

## Movement Science

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

**Website:** [gvsu.edu/move-sci](http://gvsu.edu/move-sci)

### Mission

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

The Department of Movement Science is a multidisciplinary unit where faculty and students critically examine and apply scientific, clinical, educational, and cultural aspects of sport and movement to promote healthy living across the lifespan.

### **Vision**

The Department of Movement Science aspires to be a center of excellence in the diverse study of sport and human movement. Faculty will adopt innovative teaching techniques, actively collaborate in scholarship, foster critical thinking and support experiential learning. With a dynamic, student-centered focus on success; faculty and students will excel as leaders in their profession.

### **Values**

**Innovative and diverse methods of teaching:** We promote multiple forms of content delivery through varied and innovative teaching techniques.

**Collaborative scholarly and creative activity:** We recognize that scholarly creative work is a high impact activity for students, and value the interaction between faculty and students in pursuing this form of inquiry.

**Physical literacy:** We value the ability, confidence, and desire to be physically active for a lifetime.

**Diversity and cultural competency:** We value diversity and inclusiveness in teaching, scholarship and service.

**Inclusive living-learning communities:** We value the opportunity for students to live in a shared community that allows for greater faculty and peer interaction and increases opportunities for coordinated activities and resources in a socially and academically supportive residential living environment.

**Experiential learning:** We promote experiential learning within our curricula. Students learn to apply knowledge by being immersed within the professional environment.

### **Degrees Offered**

B.S. in exercise science, B.S. in health and physical education, and B.S. in sport management. The B.S. in health and physical education is required to seek Michigan K-12 teacher certification in both health and physical education.

The Department of Movement Science serves the diverse preprofessional needs of Grand Valley State University students who seek careers in exercise science (clinical and health fitness instruction), K-12 health and physical education teacher education, and sport management. The department also supports the FIT Program, (fitness, skill, and activity classes) for all Grand

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Valley State University students to gain the skill, confidence and desire to be physically active for a lifetime.

The major programs in the Department of Movement Science provide students with broad theoretical and conceptual foundations for professional preparation in exercise science, health and physical education teacher education, and sport management. The programs are designed to encourage the examination of philosophical, historical, psycho-social, scientific, ethical, and legal constructs of the professions. In addition, the programs provide opportunities for majors to complete appropriate fieldwork, clinical, and internship experiences to fulfill program requirements.

The majors in movement science are designed for the professional preparation in the areas of exercise science, health and physical education, and sport management. This professional preparation may lead to graduate study and/or the following career opportunities: physical education teacher, health education teacher, coaching, athletics programming, marketing and management, exercise scientist, fitness/wellness instructor, health/fitness club administrator, intramural director, recreation leader, athletic official, camp administration, exercise physiologist, cardiac rehabilitation specialist, strength and conditioning specialist, personal trainer, outdoor-adventure activities programming, aquatics instructor, and corporate fitness administration.

## **Sport Coaching Undergraduate Certificate**

The certificate in sport coaching provides prospective coaches with theoretical knowledge and practical experiences in accordance with the National Standards for Sport Coaches. The focused coursework stresses the importance of developing an athlete-centered coaching philosophy and a scientifically based understanding of current issues in sports medicine, motor learning, and coaching theory. Students completing the certificate in sport coaching will have a record of this accomplishment on their academic transcript.

### **Requirements**

The following courses are required:

MOV 201 - Psychosocial Aspects of Physical Education and Sport (3 credits)

ATH 217 - Modern Principles of Athletic Training (2 credits)

SPM 355 - Contemporary Concepts of Coaching (3 credits)

SPM 360 - Practicum in Sport Coaching (3 credits)

## **Multimedia Journalism**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

For additional information about opportunities your college offers, please refer to the School of Communications website.

**Website:** [gvsu.edu/soc](http://gvsu.edu/soc)

The multimedia journalism program offers majors a broadly based education in which the study of journalism is grounded in the liberal arts. The emphasis on critical thinking and historical perspective embraces the fundamental principle that a free press and an informed citizenry are essential for the success of a representative democracy.

The program explores the complex changes in both traditional media and evolving Internet-based, multimedia delivery of news and information. It offers a range of instruction in journalism theory, practice, history, and criticism. Students are guided to develop a thorough background in multimedia reporting and production skills.

The multimedia journalism program prepares majors to enter the job market as professional journalists. It offers students the opportunity to develop gateway skills of reporting, writing and production in print, television, radio and online-based media. As news outlets become increasingly diversified, our graduates require a broad exposure in order to be competitive with the demands of a changing marketplace.

Students have the opportunity to develop depth through courses offered in related majors such as film/video production and photography. Multimedia journalism majors may also earn a minor in related fields such as advertising and public relations. In addition, majors are encouraged to develop depth outside of journalism in related fields including the arts, computer science, economics, political science, and sociology.

### **Internships**

Multimedia journalism majors are required to take one internship in a professional media setting and are encouraged to do additional internships as well. Most local media have a need for interns to help with a variety of formats including print, broadcast and online, such that students can find a variety of opportunities. Students may apply up to 15 internship credits toward graduation. Students are urged to work closely with departmental advisors to identify internships that best suit their interest and career ambitions.

## **Bachelor of Arts or Bachelor of Science in Multimedia Journalism**

### **School of Communications Core (9 credits)**

All students majoring in the School of Communications must complete the following core courses, for a total of nine credits:

COM 101 - Concepts of Communication (3 credits)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

COM 295 - Communication Theory (3 credits)

Select one of two:

COM 201 - Speech (3 credits) **OR** COM 215 - Story Making (3 credits)

All students majoring in the multimedia Journalism must take COM 495 during their senior year. This Capstone course offers a synthesis of ideas and theories about one or more current critical issues in multimedia journalism.

### **B.A. and B.S. Degree Requirements**

All undergraduate programs in the School of Communications offer both the B.A. degree and the B.S. degree. All students selecting majors in the School of Communications must choose either the B.A. degree requirements or the B.S. degree requirements for a particular undergraduate program.

### **B.A. Degree Requirements**

The B.A. degree requires a third-semester proficiency in a foreign language of the student's choice.

### **B.S. Degree Requirements**

COM 275 - Foundations of Communication Research (3 credits)

COM 375 - Communication Research (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

### **Multimedia Journalism Requirements (31 to 33 credits)**

CMJ 184 - Introduction to Multimedia Production (3 credits)

CMJ 236 - News in Society (3 credits)

CMJ 256 - News Reporting (3 credits)

CMJ 260 - Multimedia Journalism Workshop (3 credits)

CMJ 284 - Broadcast News (3 credits)

CMJ 290 - Media History (3 credits)

CMJ 310 - Advanced Reporting Techniques (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

CMJ 316 - News Design and Layout (3 credits)

CMJ 325 - Issues in Journalism (3 credits)

CMJ 490 - Internship (1 to 6 credits) (Internships may be taken for one to six credits at a time based on number of hours completed, and up to 15 credits of internship may be applied towards the 120 total credits needed for graduation.)

CMJ 495 - Multimedia Journalism Capstone (3 credits)

### **Electives (6 credits)**

Students choose six credits from any of the following courses. Note that departmental advising will play an important role, as many students are likely to take additional credits in pursuit of skills and interests in line with their specific professional goals.

### **Print and Web-based Journalism**

CMJ 364 - Feature Journalism (3 credits)

CMJ 365 - Advanced Editing (3 credits)

CMJ 366 - Arts and Entertainment Journalism (3 credits)

CMJ 384 - Producing for Broadcasting (3 credits)

CMJ 385 - Advanced Radio (3 credits)

CMJ 390 - Technical Writing (3 credits)

CMJ 481 - Investigative Reporting (3 credits)

CMJ 484 - TV News Workshop (3 credits)

COM 376 - Communications Policy and Law (3 credits)

PHO 272 - Digital Photography 1 (3 credits)

## **Music**

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

**Website:** [gvsu.edu/music](http://gvsu.edu/music)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

The Department of Music, Theatre, and Dance offers curricula leading to the Bachelor of Arts in music, Bachelor of Music, Bachelor of Music Education, certificate in piano pedagogy, Bachelor of Arts in theatre, Bachelor of Science in theatre, and the Bachelor of Arts in dance. Minors in music, theatre and dance are also offered. These degree programs provide personalized attention, career-building opportunities, and professional and extensive training in the various idioms of music, theatre, and dance. In the context of a broad liberal education that fosters critical thinking, creative problem solving, and cultural understanding, these degree programs prepare students well to answer the call of rewarding careers in music, theatre, and dance.

Grand Valley State University is an accredited institutional member of the National Association of Schools of Music.

## **Admission**

In addition to formal admission to Grand Valley, each applicant wanting to major or minor in music is required to arrange for a personal audition with the music department. When considerable geographical distance or extreme hardship prevents a personal audition, the applicant may, with the permission of the department, submit an audio recording of an appropriate performance. Entering first-year and transfer students will be required to take a theory placement exam on audition day. A student with two or more years of piano experience will also be required to take a keyboard musicianship placement exam\*. Audition appointments should be made at least one month in advance. Recommended audition repertoire and an application can be found at [gvsu.edu/music](http://gvsu.edu/music).

\*Students transferring from GRCC with a completed associate degree in music will not need to complete the placement testing in theory or keyboard musicianship.

## **Requirements for Major and Minor Programs**

In addition to requirements outlined in the programs, all music majors must fulfill the department recital and Music Major Seminar attendance requirements, fulfill the keyboard musicianship requirements, and perform one or two faculty-approved recitals, as appropriate to the degree program selected. Music majors and minors should consult the music department student handbook for additional information and helpful suggestions.

Transfer students are required to complete a minimum of 30 hours at Grand Valley, which includes at least eight hours in applied music, three hours in major ensembles, and nine additional hours in music to be determined by the advisor. Any exceptions to these requirements are left to the discretion of the music department.

## **Bachelor of Arts in Music**

The Bachelor of Arts in Music degree provides a course of study for students interested in a liberal arts degree with a major in music. The B.A. degree requires third-semester proficiency (201) in a classical or modern language. This degree, with its foreign language component, offers an appropriate background for prospective advanced-degree candidates who are preparing for

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

careers in composition, technology, music history, music theory, jazz studies, library science, or independent studio teaching. It also works well for students who want to study music but are aiming at careers in other fields, and for students with double majors. There is sufficient flexibility within the B.A. to provide an opportunity for acquisition of those skills that are necessary in the current technological environment. The culmination event of the B.A. is a senior project planned and carried out with the help of a faculty advisor. Students electing a B.A. in music must complete a minimum of 40 credit hours in music, planned with the approval of a faculty advisor in the department.

**MUS Credit Requirement:** 40 to 41

## **Requirements for a Major in Music**

### **Major Ensembles (4 credits)**

Choose from the following. Each can be taken more than once for credit.

MUS 101 - University Singers (1 credit)

MUS 102 - Concert Band (1 credit)

MUS 103 - Grand Valley Symphony Orchestra (1 credit)

MUS 104 - Chamber Music Ensembles (0.5 credits)

MUS 105 - Grand Valley Jazz Ensemble (1 credit)

MUS 107 - Grand Valley Marching Band (1 credit)

MUS 108 - New Music Ensemble (1 credit)

MUS 109 - Anima Vocal Ensemble (1 credit)

MUS 110 - Early Music Ensemble (1 credit)

MUS 112 - Wind Symphony (1 credit)

MUS 117 - Grand Valley University Arts Chorale (1 credit)

MUS 118 - Varsity Glee Club (1 credit)

### **Applied Music (4 credits)**

MUS 141 - Private Instruction in Voice and Instruments - Freshman (1 credit)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

MUS 142 - Private Instruction in Voice and Instruments - Freshman (1 credit)

MUS 241 - Private Instruction in Voice and Instruments - Sophomore (1 credit)

MUS 242 - Private Instruction in Voice and Instruments - Sophomore (1 credit)

**Music Theory (15 credits)**

MUS 130 - Music Theory I (3 credits)

MUS 131 - Music Theory II (3 credits)

MUS 230 - Music Theory III (3 credits)

MUS 231 - Music Theory IV (3 credits)

MUS 495 - Analytical Techniques (Capstone) (3 credits)

**Keyboard Musicianship (2 credits)**

MUS 263 - Keyboard Musicianship I (1 credit)

MUS 264 - Keyboard Musicianship II (1 credit)

**Aural Perception and Sight-Singing (2 credits)**

MUS 133 - Aural Perception and Sight-Singing I (1 credit)

MUS 134 - Aural Perception and Sight-Singing II (1 credit)

**Music Literature (6 credits)**

MUS 119 - Survey of Music Literature I (3 credits)

MUS 120 - Survey of Music Literature II (3 credits)

**Music Electives (6 credits)**

Choose from the following:

MUS 218 - World Music (3 credits)

MUS 219 - Jazz History (3 credits)

MUS 300 - From Rag to Rock - Exploring American Music (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MUS 302 - Music: Medieval and Renaissance Eras (3 credits)

MUS 303 - Music: Baroque Era (3 credits)

MUS 304 - Music: Classical Era (3 credits)

MUS 305 - Music: 19th Century (3 credits)

MUS 306 - Music from 1900-1960 (3 credits)

MUS 307 - Music Since 1960 (3 credits)

MUS 308 - Music History Seminar (3 credits)

MUS 310 - Piano Literature (2 credits)

MUS 320 - Introduction to Conducting (2 credits)

MUS 330 - Instrumentation/Orchestration (3 credits)

MUS 333 - Form and Analysis in Western Music (3 credits)

MUS 380 - Special Topics in Music (1 to 4 credits)

### **Final Project**

MUS 479 - B.A. Senior Project (1 to 2 credits)

### **Suggested Order of Coursework for a Major in Music**

#### **Year One**

##### Fall Semester

Major ensemble (1 credit)

MUS 130 - Music Theory I (3 credits)

MUS 133 - Aural Perception and Sight-Singing I (1 credit)

MUS 141 - Private Instruction in Voice and Instruments - Freshman (1 credit)

MUS 263 - Keyboard Musicianship I (1 credit)

##### Winter Semester

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Major ensemble (1 credit)

MUS 131 - Music Theory II (3 credits)

MUS 134 - Aural Perception and Sight-Singing II (1 credit)

MUS 142 - Private Instruction in Voice and Instruments - Freshman (1 credit)

MUS 264 - Keyboard Musicianship II (1 credit)

## **Year Two**

### Fall Semester

Major ensemble (1 credit)

MUS 119 - Survey of Music Literature I (3 credits)

MUS 230 - Music Theory III (3 credits)

MUS 241 - Private Instruction in Voice and Instruments - Sophomore (1 credit)

Foreign Language 101 (4 credits)

### Winter Semester

Major ensemble (1 credit)

MUS 120 - Survey of Music Literature II (3 credits)

MUS 231 - Music Theory IV (3 credits)

MUS 242 - Private Instruction in Voice and Instruments - Sophomore (1 credit)

Foreign Language 102 (4 credits)

## **Year Three**

### Fall Semester

Foreign Language 201 (4 credits)

Music electives (3 credits)

### Winter Semester

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Music electives (3 credits)

## **Year Four**

Fall Semester

MUS 479 - B.A. Senior Project (1 to 2 credits)

Winter Semester

MUS 495 - Analytical Techniques (Capstone) (3 credits)

## **Bachelor of Music**

The Bachelor of Music (B.M.) is designed for students who demonstrate exceptional preparation for college-level applied music and for whom graduate school is a realistic goal. Instruction in guitar, organ, piano, voice, and band and orchestral instruments is offered.

All Bachelor of Music students will need to complete the core courses, as well as requirements specific to their emphasis. Students' emphases will be approved at the music department auditions.

**Bachelor of Music with Instrumental Emphasis:** 86 to 87 credits

**Bachelor of Music with Keyboard Emphasis:** 84 to 85 credits

**Bachelor of Music with Vocal Emphasis:** 88 to 89 credits

### **Requirements for a Major in Music**

#### **Music Theory and Aural Perception**

Requires 21 to 22 credits, including:

MUS 130 - Music Theory I (3 credits)

MUS 131 - Music Theory II (3 credits)

MUS 133 - Aural Perception and Sight-Singing I (1 credit)

MUS 134 - Aural Perception and Sight-Singing II (1 credit)

MUS 230 - Music Theory III (3 credits)

MUS 231 - Music Theory IV (3 credits)

MUS 233 - Aural Perception and Sight-Singing III (1 credit)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MUS 234 - Aural Perception and Sight-Singing IV (1 credit)

MUS 495 - Analytical Techniques (Capstone) (3 credits)

**AND** one of the following courses:

MUS 330 - Instrumentation/Orchestration (3 credits)

MUS 333 - Form and Analysis in Western Music (3 credits)

### **Music Literature and History**

Requires 12 to 15 credits, including:

MUS 119 - Survey of Music Literature I (3 credits)

MUS 120 - Survey of Music Literature II (3 credits)

MUS 218 - World Music (3 credits)

**AND** two of the following. B.M. vocal emphasis students only take one course.

MUS 302 - Music: Medieval and Renaissance Eras (3 credits)

MUS 303 - Music: Baroque Era (3 credits)

MUS 304 - Music: Classical Era (3 credits)

MUS 305 - Music: 19th Century (3 credits)

MUS 306 - Music from 1900-1960 (3 credits)

MUS 307 - Music Since 1960 (3 credits)

MUS 308 - Music History Seminar (3 credits)

### **Conducting**

Requires two credits:

MUS 320 - Introduction to Conducting (2 credits)

### **Applied Music**

There are 24 credits required, including:

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

MUS 144 - Private Instruction in Voice and Instruments - Freshman (3 credits)

MUS 145 - Private Instruction in Voice and Instruments - Freshman (3 credits)

MUS 244 - Private Instruction in Voice and Instruments - Sophomore (3 credits)

MUS 245 - Private Instruction in Voice and Instruments - Sophomore (3 credits)

MUS 344 - Private Instruction in Voice and Instruments - Junior (3 credits)

MUS 345 - Private Instruction in Voice and Instruments - Junior (3 credits)

MUS 444 - Private Instruction in Voice and Instruments - Senior (3 credits)

MUS 445 - Private Instruction in Voice and Instruments - Senior (3 credits)

### **Chamber Music**

There is one credit required.

MUS 104 - Chamber Music Ensembles (0.5 credits)

### **Elective Course**

For students who wish to continue lessons beyond the 445 level (not required):

MUS 446 - Private Instruction in Voice and Instruments - Elective (3 credits)

### **Instrumental Emphasis**

#### **Major Ensembles**

There are eight credits required. To be selected according to major instrument and may be repeated for credit.

MUS 101 - University Singers (1 credit)

MUS 102 - Concert Band (1 credit)

MUS 103 - Grand Valley Symphony Orchestra (1 credit)

MUS 107 - Grand Valley Marching Band (1 credit)

MUS 112 - Wind Symphony (1 credit)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MUS 117 - Grand Valley University Arts Chorale (1 credit)

### **Pedagogy and Literature**

There are four credits required.

MUS 360 - Performance Literature (2 credits)

MUS 370 - Performance Pedagogy (2 credits)

### **Keyboard Musicianship**

There are three credits required.

MUS 263 - Keyboard Musicianship I (1 credit)

MUS 264 - Keyboard Musicianship II (1 credit)

MUS 283 - Keyboard Musicianship III (1 credit)

### **Music Electives**

There are eight credits required. Select after consultation with an advisor.

### **Keyboard Emphasis**

### **Major Ensembles**

There are two credits required. All of the following may be repeated for credit.

MUS 101 - University Singers (1 credit)

MUS 102 - Concert Band (1 credit)

MUS 103 - Grand Valley Symphony Orchestra (1 credit)

MUS 107 - Grand Valley Marching Band (1 credit)

MUS 108 - New Music Ensemble (1 credit)

MUS 112 - Wind Symphony (1 credit)

MUS 117 - Grand Valley University Arts Chorale (1 credit)

### **Collaborative Piano**

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

There are seven credits required. Seven semesters of MUS 126. MUS 126 counts as corequisite ensemble credit for applied lessons for B.M. keyboard emphasis majors.

MUS 126 - Collaborative Piano (1 credit)

### **Pedagogy and Literature**

There are eight credits required.

MUS 310 - Piano Literature (2 credits)

MUS 361 - Piano Pedagogy I (3 credits)

MUS 371 - Piano Pedagogy II (3 credits)

### **Music Electives**

There are four credits required. Select after consultation with an advisor.

### **Vocal Emphasis**

### **Major Ensembles**

There are eight credits required. To be selected according to major instrument. May be repeated for credit.

MUS 101 - University Singers (1 credit)

MUS 102 - Concert Band (1 credit)

MUS 103 - Grand Valley Symphony Orchestra (1 credit)

MUS 107 - Grand Valley Marching Band (1 credit)

MUS 112 - Wind Symphony (1 credit)

MUS 117 - Grand Valley University Arts Chorale (1 credit)

### **Pedagogy and Literature**

There are six credits required.

MUS 359 - Diction for Singers (2 credits)

MUS 360 - Performance Literature (2 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

MUS 370 - Performance Pedagogy (2 credits)

### **Keyboard Musicianship**

There are four credits required.

MUS 263 - Keyboard Musicianship I (1 credit)

MUS 264 - Keyboard Musicianship II (1 credit)

MUS 283 - Keyboard Musicianship III (1 credit)

MUS 284 - Keyboard Musicianship IV (1 credit)

### **Additional Requirements**

There are 10 credits required.

MUS 170 - Stage Movement (1 credit)

MUS 267 - Opera Workshop (1 credit)

Foreign language for voice majors; two courses in differing languages (8 credits)

## **Bachelor of Music Education**

Students will be required to select one of two emphases: Choral/vocal emphasis or instrumental emphasis. Students must earn a minimum of 77 hours in music and 39 hours in professional education.

Choral/vocal majors typically choose an applied emphasis in voice or keyboard. Instrumental majors typically choose a standard band or orchestra instrument as their applied emphasis.

**MUS Requirements:** 69 to 73 credits (three are general education)

**Certification Requirements:** 39 credits (three are general education)

### **Requirements**

#### **Music Theory and Aural Perception**

There are 19 credits required, including:

MUS 130 - Music Theory I (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MUS 131 - Music Theory II (3 credits)

MUS 133 - Aural Perception and Sight-Singing I (1 credit)

MUS 134 - Aural Perception and Sight-Singing II (1 credit)

MUS 230 - Music Theory III (3 credits)

MUS 231 - Music Theory IV (3 credits)

MUS 233 - Aural Perception and Sight-Singing III (1 credit)

MUS 234 - Aural Perception and Sight-Singing IV (1 credit)

**AND** one course from:

MUS 330 - Instrumentation/Orchestration (3 credits)

MUS 333 - Form and Analysis in Western Music (3 credits)

### **Music Literature and History**

There are 12 credits required (three are general education):

MUS 119 - Survey of Music Literature I (3 credits)

MUS 120 - Survey of Music Literature II (3 credits)

MUS 218 - World Music (3 credits)

**AND** one of the following (all count as SWS general education):

MUS 302 - Music: Medieval and Renaissance Eras (3 credits)

MUS 303 - Music: Baroque Era (3 credits)

MUS 304 - Music: Classical Era (3 credits)

MUS 305 - Music: 19th Century (3 credits)

MUS 306 - Music from 1900-1960 (3 credits)

MUS 307 - Music Since 1960 (3 credits)

MUS 308 - Music History Seminar (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

## **Keyboard Musicianship**

There are three instrumental or four choral/vocal credits required. Piano majors are exempt from this requirement.

MUS 263 - Keyboard Musicianship I (1 credit)

MUS 264 - Keyboard Musicianship II (1 credit)

MUS 283 - Keyboard Musicianship III (1 credit)

MUS 284 - Keyboard Musicianship IV (1 credit) Choral/Vocal only.

MUS 285 - Advanced Keyboard Musicianship (1 credit)

## **Music Education (Professional) Courses**

There are 23 instrumental credits or 21 choral/vocal credits required, including:

MUS 200 - Introduction to Music Education (1 credit)

MUS 253 - Woodwind Techniques (2 credits)

MUS 255 - Brass Techniques (2 credits)

MUS 257 - Class Percussion (1 credit)

MUS 258 - String Techniques (2 credits)

MUS 320 - Introduction to Conducting (2 credits)

MUS 338 - Techniques of Jazz Instruction (1 credit)

MUS 354 - Teaching the Developing Voice (2 credits) Choral/vocal majors only.

MUS 362 - Marching Band Techniques (2 credits) Instrumental majors only.

MUS 370 - Performance Pedagogy (2 credits)

MUS 456 - Teaching Music in the Elementary School (2 credits)

MUS 461 - Instrumental Music Methods and Materials (2 credits)

MUS 465 - Choral/General Music in the Secondary School (2 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Ensembles**

There are seven to nine credits required.

## **Instrumental Music Majors**

May be repeated for credit.

Students taking applied lessons in wind, brass, or percussion must also complete two semesters of MUS 107 - Marching Band.

MUS 102 - Concert Band (1 credit)

MUS 103 - Grand Valley Symphony Orchestra (1 credit)

MUS 105 - Grand Valley Jazz Ensemble (1 credit) Only counts as major ensemble for one year.

MUS 112 - Wind Symphony (1 credit)

## **Choral/Vocal Majors**

May be repeated for credit.

MUS 101 - University Singers (1 credit)

MUS 117 - Grand Valley University Arts Chorale (1 credit)

MUS 118 - Varsity Glee Club (1 credit)

## **Applied Music, Instrumental and Choral/Vocal**

There are seven credits required, including:

MUS 141 - Private Instruction in Voice and Instruments - Freshman (1 credit)

MUS 142 - Private Instruction in Voice and Instruments - Freshman (1 credit)

MUS 241 - Private Instruction in Voice and Instruments - Sophomore (1 credit)

MUS 242 - Private Instruction in Voice and Instruments - Sophomore (1 credit)

MUS 341 - Private Instruction in Voice and Instruments - Junior (1 credit)

MUS 342 - Private Instruction in Voice and Instruments - Junior (1 credit)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

MUS 441 - Private Instruction in Voice and Instruments - Senior (1 credit)

### **Certification Requirements**

There are 39 credits required (three are general education), including:

PSY 301 - Child Development (3 credits)

EDI 338 - Teachers as Decision Makers: Instruction and Assessment in Elementary Schools (3 credits)

EDF 315 - Diverse Perspectives on Education (3 credits)

EDT 370 - Technology in Education (3 credits)

EDI 310 - Building and Sustaining Positive Learning Environments (3 credits)

EDR 321 - Content Area Literacy (3 credits)

EDS 379 - Universal Design for Learning: Secondary (3 credits)

EDI 331 - Methods and Strategies of Secondary Teaching (5 credits)

EDI 431 - Student Teaching, Secondary (8 credits)

EDI 432 - Student Teaching, Secondary Content Practicum (2 credits)

EDF 485 - The Context of Educational Issues (3 credits)

### **Music Minor**

The music minor program is designed for students with previous training in music seeking nonmusic degrees who desire to increase their knowledge of music or further develop their skills in music.

#### **Requirements for a Minor in Music**

##### **Music Theory and Aural Perception**

There are eight credits required:

MUS 130 - Music Theory I (3 credits)

MUS 131 - Music Theory II (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MUS 133 - Aural Perception and Sight-Singing I (1 credit)

MUS 134 - Aural Perception and Sight-Singing II (1 credit)

### **Music Literature and History**

There are six credits required:

MUS 119 - Survey of Music Literature I (3 credits)

MUS 120 - Survey of Music Literature II (3 credits)

### **Keyboard Musicianship**

There are two credits required (piano minors are exempt from this requirement):

MUS 263 - Keyboard Musicianship I (1 credit)

MUS 264 - Keyboard Musicianship II (1 credit)

### **Major Ensembles**

There are four credits required (select according to major instrument):

MUS 101 - University Singers (1 credit)

MUS 102 - Concert Band (1 credit)

MUS 103 - Grand Valley Symphony Orchestra (1 credit)

MUS 107 - Grand Valley Marching Band (1 credit)

MUS 112 - Wind Symphony (1 credit)

MUS 117 - Grand Valley University Arts Chorale (1 credit)

### **Applied Music**

There are four credits required.

MUS 141 - Private Instruction in Voice and Instruments - Freshman (1 credit)

MUS 142 - Private Instruction in Voice and Instruments - Freshman (1 credit)

MUS 241 - Private Instruction in Voice and Instruments - Sophomore (1 credit)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MUS 242 - Private Instruction in Voice and Instruments - Sophomore (1 credit)

### **Music Elective**

There are three credits required (select from the following in consultation with your advisor):

MUS 218 - World Music (3 credits)

MUS 219 - Jazz History (3 credits)

MUS 300 - From Rag to Rock - Exploring American Music (3 credits)

MUS 341 - Private Instruction in Voice and Instruments - Junior (1 credit)

MUS 320 - Introduction to Conducting (2 credits)

## **Piano Pedagogy Undergraduate Certificate**

Piano pedagogy certification (in the Department of Music, Theatre, and Dance at Grand Valley State University) will enable undergraduate piano majors and area piano teachers to focus on the skills necessary for successful piano teaching. Music majors who are not piano majors who are interested in honing their skills in piano teaching may also work towards this certification. Students learn how to teach beginner, intermediate, and early-advanced students. They learn how to teach precollege students, as well as music majors who take keyboard as their secondary instrument. They learn how to teach correct technique, how to develop musicianship and good sight-reading skills, how to select and teach repertoire, how to practice efficiently, and how to motivate. Students learn about the most important competitions and festivals in the state as well as in the nation.

To gain entrance into the program, an interview and a performance of one memorized piano work with the piano pedagogy professor will take place.

This certification provides teachers with theoretical knowledge and practical experiences in accordance with state and national piano teaching guidelines.

The piano pedagogy coursework includes guided teaching experiences.

Students completing the piano pedagogy certification will have a record of this accomplishment appear on their academic transcript, and a certificate for their piano studio.

### **Piano Pedagogy Certification**

The piano pedagogy certification is 12 credits; seven credits in piano pedagogy, two credits in piano literature, and three elective credits:

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

MUS 310 - Piano Literature (2 credits)

MUS 361 - Piano Pedagogy I (3 credits)

MUS 371 - Piano Pedagogy II (3 credits)

MUS 379 - Piano Pedagogy Masterclass (1 credit) To be taken after MUS 361 and MUS 371.

### **Elective Courses**

Students may choose three credits from the following elective courses:

MUS 104 - Chamber Music Ensembles (0.5 credits)

MUS 126 - Collaborative Piano (1 credit)

MUS 141 - Private Instruction in Voice and Instruments - Freshman (1 credit) **AND** MUS 142  
- Private Instruction in Voice and Instruments - Freshman (1 credit)

MUS 144 - Private Instruction in Voice and Instruments - Freshman (3 credits) **AND** MUS 145  
- Private Instruction in Voice and Instruments - Freshman (3 credits)

MUS 180 - Special Topics in Music (1 credit)

Other courses of interest:

PSY 301 - Child Development (3 credits)

PSY 331 - Adolescent Development (3 credits)

## **Natural Resources Management**

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

**Website:** [gvsu.edu/biology/nrm](http://gvsu.edu/biology/nrm)

### **Degree Offered**

Bachelor of Science in natural resources management

As more users place demands on scarce environmental resources, the need for conservation and sustainability of our renewable natural assets is greater than ever. Natural resources management (NRM) students gain applied skills and knowledge of environmental stewardship through hands-

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

on, experiential learning in indoor and outdoor field-based classes. NRM graduates are prepared to care for the land and water-based ecosystems of Michigan and beyond, and to serve the people whose well-being depends on these resources.

Ecology is the foundational science of the NRM program. Students learn to combine ecological knowledge with quantitative methods, economics, and policy, and address local and global natural resource-related situations. In the interdisciplinary NRM courses, students examine sources of conflict leading to environmental degradation and learn methods of sustainable resource management. Students have opportunities to develop expertise in ecosystem restoration, soil and water conservation, watershed management, recreation management, forest management, wildlife management, environmental economics and policy, conservation biology, fisheries, and applications in geographic information systems. NRM graduates pursue careers with conservation agencies and organizations including local, state, and federal government, education and advocacy organizations, environmental consulting firms, and nonprofit organizations.

### **Mission**

The natural resources management program provides a broad-based natural resources management education in a liberal arts curriculum and serves the public interest through the scientific analysis of natural resources.

### **Related Programs**

#### **Bachelor of Arts or Bachelor of Science in Biology**

As a science, biology offers the opportunity to study and experiment with animals, plants, fungi, and bacteria in the laboratory and in the field. The biology major is designed to help students gain a comprehensive understanding of the biological sciences, while also specializing in a degree emphasis related to career interests in areas such as veterinary and human medicine, aquatic sciences, wildlife ecology, population genetics, animal behavior, evolutionary biology, genetic counseling, plant biology, microbiology, and sustainable agriculture.

For more information, visit [gvsu.edu/biology](http://gvsu.edu/biology).

#### **Master of Science in Biology**

Grand Valley State University's Master of Science degree in biology is designed to allow students the opportunity to study at a graduate level in broad areas such as genetics and cell biology, organismal biology, aquatic and terrestrial ecology, and natural resources.

For more information, visit [gvsu.edu/grad/biology](http://gvsu.edu/grad/biology).

## **Bachelor of Science in Natural Resources Management**

### **Requirements for a Major in Natural Resources Management**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Completion of at least 36 NRM course credits, including:

NRM 150 - Introduction to Natural Resources (3 credits)

NRM 250 - Resource Measurement and Maps (3 credits)

NRM 281 - Principles of Soil Science (4 credits)

NRM 451 - Natural Resource Policy (3 credits)

**BOTH** NRM 496 - Trends in Western U.S. Natural Resource Management (2 credits) **AND**  
NRM 497 - Field Trip - Issues in Western U.S. Natural Resources Management (2 credits)  
**OR ONLY** NRM 495 - Trends in Natural Resource Management (Capstone) (4 credits)

Students must select additional NRM courses from each of the following competency areas:

### **Analytical**

Complete at least three credits from the following courses:

NRM 320 - Introduction to Resource Systems (3 credits)

NRM 395 - GIS Applications in Resource Management (3 credits)

### **Upper-level Resource Management**

Complete at least 10 credits from the following courses:

NRM 330 - Environmental Pollution (3 credits)

NRM 386 - Ecological Restoration and Management (4 credits)

NRM 408 - Wildlife Management (4 credits)

NRM 420 - Wildland Recreation Management (3 credits)

NRM 452 - Watershed and Wetland Management (4 credits)

NRM 462 - Forest Ecosystem Management (4 credits)

Complete remaining NRM elective courses to total at least 36 credits.

### **NRM Cognate Requirements**

Completion of at least 35-36 course credits:

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

BIO 120 - General Biology I (4 credits)

BIO 121 - General Biology II (4 credits)

BIO 215 - Ecology (4 credits)

BIO 460 - Terrestrial Ecosystem Ecology (4 credits)

CHM 109 - Introductory Chemistry (4 credits) **OR** CHM 115 - Principles of Chemistry I (4 credits)

ECO 211 - Introductory Microeconomics (3 credits)

ECO 345 - Environmental and Resource Economics (3 credits)

MTH 122 - College Algebra (3 credits) **OR** MTH 123 - Trigonometry (3 credits) **OR** MTH 125 - Survey of Calculus (3 credits) **OR** MTH 201 - Calculus I (4 credits)

STA 215 - Introductory Applied Statistics (3 credits)

Complete one of the following plant identification courses:

BIO 243 - Plant Identification and Natural History (3 credits)

BIO 323 - Aquatic and Wetland Plants (3 credits)

BIO 333 - Systematic Botany (4 credits)

BIO 413 - Freshwater Algae (3 credits)

### **Limits**

No more than three (3) credits of NRM 399 - Readings in Resource Management (1 to 3 credits) may be applied to the major.

No more than three (3) credits of NRM 499 - Research in Resource Management (1 to 3 credits) may count towards the major.

No more than five (5) credits of NRM 490 - Internship in Resource Management (1 to 5 credits) **PLUS** NRM 499 - Research in Resource Management (1 to 3 credits) may be applied to the major.

### **B.S. Degree Requirements**

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

The Bachelor of Science degree in natural resources management requires the following three courses:

STA 215 - Introductory Applied Statistics (3 credits)

NRM 250 - Resource Measurement and Maps (3 credits)

**BOTH** NRM 496 - Trends in Western U.S. Natural Resource Management (2 credits) **AND**  
NRM 497 - Field Trip - Issues in Western U.S. Natural Resources Management (2 credits)  
**OR ONLY** NRM 495 - Trends in Natural Resource Management (Capstone) (4 credits)

### **Minors and Certificates (optional)**

All NRM majors are encouraged to complete a minor or certificate that complements their coursework in the NRM major. Examples include the biology minor, environmental studies minor, or geographic information systems technology certificate. Students may also complete additional NRM courses as electives.

### **Associate Wildlife Biologist Certification**

Students who intend to pursue a career in wildlife biology and management are encouraged to complete the necessary coursework for certification by The Wildlife Society ([wildlife.org](http://wildlife.org)) as an associate wildlife biologist. This coursework will also prepare students for entry-level positions in wildlife biology/management or entry into graduate school.

The curriculum is designed to provide a skill set based on a broad scientific knowledge, understanding of natural resource management principles, and communication skills. This base along with the hands-on skills learned in classes prepares students for a successful career as wildlife professionals. A sampling of wildlife career options can be found at [wildlife.org](http://wildlife.org).

Wildlife Society certification is a professional track rather than an academic emphasis. For a recommended schedule of courses to complete the certification, please see a regular NRM faculty advisor.

### **Suggested Order of Coursework**

#### **Year One**

General education courses

BIO 120 - General Biology I (4 credits)

BIO 121 - General Biology II (4 credits)

CHM 109 - Introductory Chemistry (4 credits) **OR** CHM 115 - Principles of Chemistry I (4 credits)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

MTH 122 - College Algebra (3 credits) **OR** MTH 123 - Trigonometry (3 credits) **OR** MTH 125 - Survey of Calculus (3 credits) **OR** MTH 201 - Calculus I (4 credits)

NRM 150 - Introduction to Natural Resources (3 credits)

WRT 150 - Strategies in Writing (4 credits)

## **Year Two**

General education courses

NRM elective courses

NRM 250 - Resource Measurement and Maps (3 credits)

NRM 281 - Principles of Soil Science (4 credits)

BIO 215 - Ecology (4 credits)

ECO 211 - Introductory Microeconomics (3 credits)

NRM 320 - Introduction to Resource Systems (3 credits) **OR** NRM 395 - GIS Applications in Resource Management (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

## **Year Three**

General education courses

General elective courses

NRM upper-level management courses

NRM elective courses

ECO 345 - Environmental and Resource Economics (3 credits)

NRM 451 - Natural Resource Policy (3 credits)

## **Year Four**

General education courses

Elective courses

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

NRM upper-level management courses

NRM elective courses

BIO 460 - Terrestrial Ecosystem Ecology (4 credits)

**EITHER** NRM 495 - Trends in Natural Resource Management (Capstone) (4 credits) **OR BOTH**  
NRM 496 - Trends in Western U.S. Natural Resource Management (2 credits) **AND** NRM  
497 - Field Trip - Issues in Western U.S. Natural Resources Management (2 credits)

## Natural Resources Management Minor

### Requirements

Students who wish to minor in natural resources management must complete a minimum of 24 credit hours in the program, including:

NRM 150 - Introduction to Natural Resources (3 credits)

10 credit hours of 300- and 400-level courses

### Limits

NRM 399 - Readings in Resource Management (1 to 3 credits) does not count toward the minor.

No more than three credits of NRM 499 - Research in Resource Management (1 to 3 credits) may be applied toward the minor.

No more than three credits of NRM 490 - Internship in Resource Management (1 to 5 credits) **PLUS** NRM 499 - Research in Resource Management (1 to 3 credits) may be applied to the minor.

## Bachelor of Science in Nursing

For additional information about opportunities the college offers, please refer to the Kirkhof College of Nursing section in this catalog.

**Website:** [gvsu.edu/kcon](http://gvsu.edu/kcon)

The Kirkhof College of Nursing (KCON) undergraduate nursing program curricula provide educational experiences that encourage intellectual achievement, critical thinking, and self-expression while maintaining emphasis on the importance of human values and cultures. KCON faculty educate their students to become nurses who promote health and wellness, share

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

resources and knowledge in both conventional and alternative approaches to health care, promote social justice and stewardship, and diagnose and treat a wide range of human responses to actual and potential health problems while holding the highest regard for those in their care. Graduates of the KCON Bachelor of Science in Nursing (B.S.N.) degree program function as generalists and provide comprehensive care to individuals, families, groups, and communities.

The B.S.N. degree prepares the graduate to fulfill the professional nursing roles of provider of care, designer/manager/coordinator of care, and member of the profession. It also provides the foundation for continued education in advanced practice through graduate nursing studies.

The KCON B.S.N. graduate will be prepared to do the following:

Provide nursing care based on expanding clinical judgment within parameters of functional capacity of individuals, families, groups, and communities in multiple settings that incorporate knowledge from the liberal arts and knowledge unique to nursing.

Coordinate health care with individuals, families, groups and communities across the life span, using communication skills, in collaboration with members of the health care team.

Assume ethical, legal, and professional accountability for the development and practice of nursing in a changing health care environment.

The KCON undergraduate program provides learning experiences in a variety of settings that integrate liberal arts, humanities and sciences with nursing theory and clinical practice. Clinical sites can consist of a variety of hospital and health care agency settings in the community, with placement at varying times of the day or week. Students are prepared to provide nursing interventions at a beginning generalist level to individuals, families, groups, and communities.

Prior to beginning KCON clinical courses, students must complete comprehensive health compliance requirements including, but not limited to, a criminal background check, fingerprinting, and drug screening. Clinical sites can refuse to accept students who have not successfully completed all GVSU health requirements. It is the responsibility of the student to establish and maintain all compliance requirements. Please note: If there is illegal activity in the background check/fingerprinting or if there is evidence of one or more prohibited substance(s) in the drug test, the clinical sites have the right to refuse a student's placement, which may negatively impact a student's ability to progress in the B.S.N. program and subsequently graduate.

With regard to licensure:

All State Boards of Nursing review records of all pre-licensure B.S.N. graduates who have completed a nursing program to determine eligibility to take the National Council Licensure Examination-RN (NCLEX-RN). All State Boards of Nursing retain the right to deny a B.S.N. graduate permission to take the NCLEX-RN licensure examination if convicted of a crime.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Post-licensure B.S.N. students must be licensed as a registered nurse (RN) in their state of residency before beginning the applied learning experiences through clinical practicum in the senior nursing sequence. The student's RN licensure must remain unencumbered while enrolled in the RN to B.S.N. program.

Nursing majors must complete core courses in the humanities and the social, physical, natural, and health sciences. These core courses provide a strong scientific and humanistic foundation fundamental to subsequently required clinical nursing courses. Before graduation, students must also complete the general education requirements of the university. (See Degree Requirements Undergraduate in the General Academic Regulations section in the Grand Valley State University Undergraduate and Graduate Catalog.)

### **States/Jurisdictions Where KCON's Prelicensure B.S.N. Curriculum Meets State Educational Requirements for Professional Licensure:**

The prelicensure (traditional and second degree) nursing programs at Grand Valley State University's Kirkhof College of Nursing (KCON) position you to earn your Bachelor of Science in nursing degree and thereby gain eligibility to take the National Council Licensure Examination-Registered Nurse (NCLEX-RN) in the State of Michigan. Upon successfully passing the NCLEX-RN, the KCON nursing graduate achieves legal authority to practice under the protected title of registered nurse in the State of Michigan.

KCON B.S.N. prelicensure graduates seeking to practice as an RN in a state other than Michigan must meet the requirements of that state. GVSU/KCON has not made a determination on whether its curriculum meets the educational requirements of all states/jurisdictions. To view board of nursing professional licensure requirements by state of interest, visit the National Council of State Boards of Nursing at [ncsbn.org/14730.htm](http://ncsbn.org/14730.htm).

## **Bachelor of Science in Nursing - RN to B.S.N.**

The Kirkhof College of Nursing's RN to B.S.N. program is specifically designed for individuals currently working on or having completed academic preparation as an associate degree prepared nurse. Classes include content on research, evidence-based practice, safety and quality, professional identity, informatics, emergency preparedness, leadership, community and population health nursing.

For many associate degree prepared registered nurses, completing a B.S.N. degree affords additional career opportunities and a broader scope of practice. The RN to B.S.N. program is designed at a part-time pace and is currently being offered as a fully online program with applied learning experiences through clinical practicum in the senior year. Individualized program plans based on previously completed coursework are created for each applicant.

### **Admission**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

You must complete the RN to B.S.N. application to Grand Valley State University and seek admission as a degree-seeking student. Upon admission to GVSU, you must participate in Transfer Student Advising and Registration.

To be admitted to the RN to B.S.N. program, a prospective student must have earned an overall GPA of 3.0 or have earned a 3.0 GPA within their last 15 credits. In addition, a student must demonstrate completion of the required prerequisite courses with a minimum grade of C (2.0).

Prior to beginning the senior sequence, NUR 400-level applied learning experiences through clinical practicum, students must do the following:

Complete comprehensive health compliance requirements including, but not limited to, a criminal background check, fingerprinting, and drug screening. Clinical sites can refuse to accept students who have not successfully completed all GVSU health requirements. It is the responsibility of the student to establish and maintain all compliance requirements. Please note: If there is illegal activity in the background check/fingerprinting or if there is evidence of one or more prohibited substance(s) in the drug test, the clinical sites have the right to refuse a student's placement which may negatively impact a student's ability to progress in the B.S.N. program and subsequently graduate.

Be licensed as a registered nurse (RN) in their state of residency before beginning the applied learning experiences through clinical practicum in the senior nursing sequence. The student's RN licensure must remain unencumbered while enrolled in the RN to B.S.N. program.

## **Requirements for a Major in Nursing**

RN to B.S.N. students are required to

fulfill the university general education requirements;

complete a minimum of 120 semester hours of credit for graduation; and

earn 58 credits at a four-year institution with the last 30 uninterrupted credits earned at GVSU.

### **Prerequisite Courses:**

BMS 310 - Basic Pathophysiology (3 credits)

PSY 101 - Introductory Psychology (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

STA 215 - Introductory Applied Statistics (3 credits)

WRT 150 - Strategies in Writing (4 credits) **OR BOTH** WRT 120 - Strategies in Writing - Stretch I (3 credits) **AND** WRT 130 - Strategies in Writing - Stretch II (3 credits)

### **Required Courses**

One nursing elective: NUR 344, NUR 354, or NUR 500

NUR 265 - Introduction to Nursing Research and Evidence-based Practice (3 credits)

NUR 311 - Dimensions of Nursing Practice (2 credits)

NUR 312 - Professional Nursing Issues (2 credits)

NUR 411 - Community-based Nursing Care (4 credits)

NUR 412 - Nursing Care for Populations (4 credits)

NUR 414 - Collaboration for Nurses (2 credits)

NUR 456 - Transformative Nursing Leadership (4 credits)

### **Suggested Order of Coursework**

#### **Junior Level**

These nursing courses can be taken in any order and include:

NUR 311 - Dimensions of Nursing Practice (2 credits)

Prerequisite or general education course (3 credits)

NUR 312 - Professional Nursing Issues (2 credits)

Prerequisite or general education course (3 credits)

NUR 265 - Introduction to Nursing Research and Evidence-based Practice (3 credits)

Issues/elective (3 credits)

#### **Senior Level**

These nursing courses are offered once a year in a specific sequence of three semesters and include:

NUR 411 - Community-based Nursing Care (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

NUR 412 - Nursing Care for Populations (4 credits)

NUR 414 - Collaboration for Nurses (2 credits)

NUR 456 - Transformative Nursing Leadership (4 credits)

To progress in the B.S.N. program, a minimum grade of C (2.0) is required in the prerequisite, required, corequisite, and all nursing courses.

A grade less than a C (2.0) is considered a failure in all required B.S.N. courses. Students who fail more than one required course will not be allowed to remain in the program. Withdrawal from a course when "not in good standing" will be considered a course failure regardless of when the withdrawal occurs.

## **Bachelor of Science in Nursing - Second Degree**

### **Admissions Requirements**

Apply to and earn admission to Grand Valley State University

Declare nursing as a major

Earn a minimum cumulative grade point average of 3.0 (including transfer credits)

Complete with a grade of C (2.0) or better all admission prerequisite coursework by time of application

Earn a minimum prerequisite grade point average of 3.0 (including transfer credits)

Adhere to the KCON course repeat policy which states that a student may repeat three admission prerequisite courses and two of those courses can be BMS, CHM, or BIO. No prerequisite course may be repeated more than once.

Admission to the program is highly competitive and a student may not be admitted if only meeting the minimum requirements. Additional information about the admissions process, including application deadlines, can be found on the KCON website at [gvsu.edu/kcon](http://gvsu.edu/kcon).

Prior to beginning KCON clinical courses, students must complete comprehensive health compliance requirements including, but not limited to, a criminal background check, fingerprinting, and drug screening. Clinical sites can refuse to accept students who have not successfully completed all GVSU health requirements. It is the responsibility of the student to establish and maintain all compliance requirements. Please note: If there is illegal activity in the background check/fingerprinting or if there is evidence of one or more prohibited substance(s) in the drug test, the clinical sites have the right to refuse a student's placement which may

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

negatively impact a student's ability to progress in the B.S.N. program and subsequently graduate.

In addition, all State Boards of Nursing review records of all graduates who have completed a nursing program to determine eligibility to take the National Council Licensure Examination-RN (NCLEX-RN). All State Boards of Nursing retain the right to deny a B.S.N. graduate permission to take the NCLEX-RN licensure examination if convicted of a crime.

All courses listed as follows must be completed by B.S.N. students with a minimum grade of C (2.0). In addition, continued progression through the nursing major requires a minimum grade of C (2.0) in corequisite and nursing courses. All required courses for the nursing major must be taken for graded credit, with the exception of some clinical nursing courses that are designated as credit/no-credit.

### **Prerequisite Admission Courses**

Admission prerequisite courses that must be completed before applying to the nursing program (21 credits).

BIO 355 - Human Genetics (3 credits) (Prerequisites for BIO 355 are BIO 120 or both CMB 155 and CMB 156)

BMS 212 - Introductory Microbiology (3 credits) (Prerequisites for BIO 212 are BIO 120 OR CHM 155 with CMB 156; AND CHM 230)

BMS 250 - Anatomy and Physiology I (4 credits) (Prerequisites for BIO 355 are BIO 120 or both CMB 155 and CMB 156)

BMS 251 - Anatomy and Physiology II (4 credits) (Prerequisite for BMS 251 is BMS 250)

CHM 230 - Introduction to Organic and Biochemistry (4 credits) (Prerequisite for CHM 230 is CHM 109)

PSY 364 - Life Span Developmental Psychology (3 credits) (Prerequisite for PSY 364 is PSY 101)

Courses to be completed prior to the start of the professional nursing program.

BMS 305 - Clinical Nutrition (3 credits)

BMS 310 - Basic Pathophysiology (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

### **Corequisite and Nursing Courses**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

NUR 322 - Theoretical Foundations for Health Assessment and Promotion (3 credits)

NUR 323 - Clinical Application of Health Assessment and Promotion (4 credits)

NUR 324 - Introduction to Professional Nursing Theory (3 credits)

NUR 325 - Clinical Judgment in Health Assessment and Promotion (1 credit)

NUR 328 - Clinical Pharmacology for Nursing (3 credits)

NUR 332 - Adult Health Theory (6 credits)

NUR 333 - Adult Health Clinical (5 credits)

NUR 335 - Clinical Judgment in Adult Health (1 credit)

NUR 336 - Research and Evidence Based Nursing Practice (3 credits) **OR** NUR 338 - Critical Appraisal of Evidence Based Practice in Nursing (1 credit)

NUR 442 - Childbearing and Childrearing Theory (4 credits)

NUR 443 - Childbearing and Childrearing Clinical (3 credits)

NUR 445 - Clinical Judgment in Childbearing, Childrearing, Community Health and Mental Health (1 credit)

NUR 446 - Community Health and Mental Health Theory (4 credits)

NUR 447 - Community Health and Mental Health Clinical (2 credits)

NUR 472 - Transitions to Professional Nursing (3 credits)

NUR 473 - Clinical Immersion (4 credits)

NUR 475 - Clinical Judgment in Immersion (1 credit)

NUR 476 - Population Health theory (3 credits)

NUR 477 - Population Health Clinical (2 credits)

## **Suggested Order of Coursework**

### **Semester One**

There are 14 credits required, including:

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

NUR 322 - Theoretical Foundations for Health Assessment and Promotion (3 credits)

NUR 323 - Clinical Application of Health Assessment and Promotion (4 credits)

NUR 324 - Introduction to Professional Nursing Theory (3 credits)

NUR 325 - Clinical Judgment in Health Assessment and Promotion (1 credit)

NUR 328 - Clinical Pharmacology for Nursing (3 credits)

### **Semester Two**

There are 13-15 credits required, including:

NUR 332 - Adult Health Theory (6 credits)

NUR 333 - Adult Health Clinical (5 credits)

NUR 335 - Clinical Judgment in Adult Health (1 credit)

NUR 336 - Research and Evidence Based Nursing Practice (3 credits) **OR** NUR 338 - Critical Appraisal of Evidence Based Practice in Nursing (1 credit)

### **Semester Three**

There are 14 credits required, including:

NUR 442 - Childbearing and Childrearing Theory (4 credits)

NUR 443 - Childbearing and Childrearing Clinical (3 credits)

NUR 445 - Clinical Judgment in Childbearing, Childrearing, Community Health and Mental Health (1 credit)

NUR 446 - Community Health and Mental Health Theory (4 credits)

NUR 447 - Community Health and Mental Health Clinical (2 credits)

### **Semester Four**

There are 13 credits required, including:

NUR 472 - Transitions to Professional Nursing (3 credits)

NUR 473 - Clinical Immersion (4 credits)

NUR 475 - Clinical Judgment in Immersion (1 credit)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

NUR 476 - Population Health theory (3 credits)

NUR 477 - Population Health Clinical (2 credits)

To progress in the B.S.N. program, a minimum grade of C (2.0) is required in the prerequisite, required, corequisite, and all nursing courses.

A grade less than a C (2.0) is considered a failure in all required B.S.N. courses. Students who fail more than one required course will not be allowed to remain in the program. Withdrawal from a course when "not in good standing" will be considered a course failure regardless of when the withdrawal occurs.

**Minimum Number of Hours for Graduation:** Completion of 56 credits in the professional nursing curriculum is required for the Bachelor of Science in Nursing (B.S.N.) degree. 54 credits if approved to take NUR 338 instead of NUR 336.

## **Bachelor of Science in Nursing - Traditional**

Grand Valley's traditional Bachelor of Science in Nursing (B.S.N.) degree program focuses on evidence-based nursing practice. Students are prepared to provide nursing interventions for individuals, families, groups, and communities at a beginning, generalist level and will complete five semesters of clinical coursework.

### **Admission**

Earn a minimum cumulative grade point average of 3.0 (including transfer credits).

Demonstrate successful completion with a grade of C (2.0) or better of all prerequisite coursework.

Adhere to the KCON course repeat policy which states that a student may repeat three admission prerequisite courses and two of those courses can be BMS, CHM, or BIO. No required course may be repeated more than once.

KCON admits two cohorts into the traditional B.S.N. program on an annual basis; one cohort in the fall semester and one cohort in the winter semester. Admission to the program is highly competitive and a student may not be admitted if only meeting the minimum requirements. Additional information about the admissions process, including application deadlines, can be found on the KCON website at [gvsu.edu/kcon](http://gvsu.edu/kcon).

Prior to beginning KCON clinical courses, students must complete comprehensive health compliance requirements including, but not limited to, a criminal background check, fingerprinting, and drug screening. Clinical sites can refuse to accept students who have not successfully completed all GVSU health requirements. It is the responsibility of the student to establish and maintain all compliance requirements. Please note: If there is illegal activity in the

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background check/fingerprinting or if there is evidence of one or more prohibited substance(s) in the drug test, the clinical sites have the right to refuse a student's placement which may negatively impact a student's ability to progress in the B.S.N. program and subsequently graduate.

In addition, all State Boards of Nursing review records of all graduates who have completed a nursing program to determine eligibility to take the National Council Licensure Examination-RN (NCLEX-RN). All State Boards of Nursing retain the right to deny a B.S.N. graduate permission to take the NCLEX-RN licensure examination if convicted of a crime.

All courses listed as follows must be completed with a minimum grade of C (2.0). Continued progression through the nursing major requires a minimum grade of C (2.0) in corequisite and nursing courses. All required courses for the nursing major must be taken for graded credit with the exception of some clinical nursing courses that are designated as credit/no-credit.

### **Admission Prerequisite Courses**

BIO 120 - General Biology I (4 credits)

BMS 250 - Anatomy and Physiology I (4 credits)

CHM 109 - Introductory Chemistry (4 credits)

CHM 230 - Introduction to Organic and Biochemistry (4 credits)

PSY 101 - Introductory Psychology (3 credits)

WRT 150 - Strategies in Writing (4 credits) **OR BOTH** WRT 120 - Strategies in Writing - Stretch I (3 credits)

**AND** WRT 130 - Strategies in Writing - Stretch II (3 credits)

One general education course (3+ credits)

### **Additional Required Courses**

The following required courses must be completed with a grade of C (2.0) or better before the start of the nursing program.

BMS 212 - Introductory Microbiology (3 credits)

BMS 213 - Laboratory in Microbiology (1 credit)

BMS 251 - Anatomy and Physiology II (4 credits)

PSY 364 - Life Span Developmental Psychology (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

STA 215 - Introductory Applied Statistics (3 credits)

### **Corequisite Courses**

The following corequisite courses are designed for the student to take at a time that complements the nursing clinical courses.

BIO 355 - Human Genetics (3 credits)

BMS 305 - Clinical Nutrition (3 credits)

BMS 310 - Basic Pathophysiology (3 credits)

### **Transfer Students**

A student planning to transfer to GVSU from another college or university should work closely with their local academic advisor. As a transfer student, be sure to carefully review your GVSU transcript evaluation upon admission to the university.

To be considered for the B.S.N. program, a student must first be admitted to GVSU and declare nursing as a major prior to application.

Eligible applicants must

earn a minimum cumulative grade point average of 3.0 (including transfer credits);

demonstrate successful completion (with a grade of C (2.0) or better) of all prerequisite coursework; and

adhere to the KCON course repeat policy which states that a student may repeat three prerequisite courses and two of those courses can be BMS, CHM, or BIO. No required course may be repeated more than once.

KCON admits two cohorts into the traditional B.S.N. program on an annual basis; one cohort in the fall semester and one cohort in the winter semester. Admission to the program is highly competitive and a student may not be admitted if only meeting the minimum requirements. Additional information about the admissions process, including application deadlines, can be found on the KCON website at [gvsu.edu/kcon](http://gvsu.edu/kcon).

Prior to beginning KCON clinical courses, students must complete comprehensive health compliance requirements including, but not limited to, a criminal background check, fingerprinting, and drug screening. Clinical sites can refuse to accept students who have not successfully completed all GVSU health requirements. It is the responsibility of the student to establish and maintain all compliance requirements. Please note: If there is illegal activity in the background check/fingerprinting or if there is evidence of one or more prohibited substance(s) in the drug test, the clinical sites have the right to refuse a student's placement, which may

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negatively impact a student's ability to progress in the B.S.N. program and subsequently graduate.

In addition, all State Boards of Nursing review records of all graduates who have completed a nursing program to determine eligibility to take the National Council Licensure Examination-RN (NCLEX-RN). All State Boards of Nursing retain the right to deny a B.S.N. graduate permission to take the NCLEX-RN licensure examination if convicted of a crime.

All courses listed as follows must be completed with a minimum grade of C (2.0). Continued progression through the nursing major requires a minimum grade of C (2.0) in corequisite and nursing courses. All required courses for the nursing major must be taken for graded credit with the exception of some clinical nursing courses that are designated as credit/no-credit.

## **Traditional B.S.N. Program: Suggested Order of Coursework for a Major in Nursing**

### **Semester One**

There are 14 credits required, including:

BIO 120 - General Biology I (4 credits)

CHM 109 - Introductory Chemistry (4 credits)

PSY 101 - Introductory Psychology (3 credits)

General education (3 credits)

### **Semester Two**

There are 15 credits required, including:

CHM 230 - Introduction to Organic and Biochemistry (4 credits)

WRT 150 - Strategies in Writing (4 credits)

BMS 250 - Anatomy and Physiology I (4 credits)

General education course (3 credits)

### **Semester Three**

There are 17 credits required, including:

BMS 212 - Introductory Microbiology (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

BMS 213 - Laboratory in Microbiology (1 credit)

BMS 251 - Anatomy and Physiology II (4 credits)

STA 215 - Introductory Applied Statistics (3 credits)

PSY 364 - Life Span Developmental Psychology (3 credits)

General education course (3 credits)

#### **Semester Four**

There are 14 credits required, including:

NUR 266 - Professional Nursing I (4 credits)

NUR 267 - Clinical Nursing I (4 credits)

BMS 305 - Clinical Nutrition (3 credits)

BMS 310 - Basic Pathophysiology (3 credits)

#### **Semester Five**

There are 16 credits required, including:

NUR 265 - Introduction to Nursing Research and Evidence-based Practice (3 credits)

NUR 316 - Professional Nursing II (4 credits)

NUR 317 - Clinical Nursing II (6 credits)

NUR 328 - Clinical Pharmacology for Nursing (3 credits)

#### **Semester Six**

There are 16 credits required, including:

BIO 355 - Human Genetics (3 credits)

NUR 366 - Professional Nursing III (4 credits)

NUR 367 - Clinical Nursing III (6 credits)

General education course (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Semester Seven**

There are 15 credits required, including:

IPE 407 - Integrated Team Health Care (2 credits)

NUR 416 - Professional Nursing IV (4 credits)

NUR 417 - Clinical Nursing IV (6 credits)

General education course (3 credits)

## **Semester Eight**

There are 13 credits required, including:

NUR 467 - Professional Nursing V (10 credits)

General education course (3 credits)

**Total Credits:** 120

To progress in the B.S.N. program, a minimum grade of C (2.0) is required in the prerequisite, required, corequisite, and all nursing courses.

A grade less than a C (2.0) is considered a failure in all required B.S.N. courses. Students who fail more than one required course will not be allowed to remain in the program. Withdrawal from a course when "not in good standing" will be considered a course failure regardless of when the withdrawal occurs.

Total number of program credits may vary and could exceed 120 (based on general education course selections).

# **Doctor of Nursing Practice**

**Website:** [gvsu.edu/kcon](http://gvsu.edu/kcon)

The changing demands of this nation's complex health care environment require the highest level of scientific knowledge and practical experience to assure high-quality patient outcomes. The Kirkhof College of Nursing (KCON) offers programs of graduate study leading to a Doctor of Nursing Practice (D.N.P.) degree. The D.N.P. programs prepare nurse leaders who will contribute to the nursing profession and improve the health of society with an emphasis on advanced practice nursing (APN) clinical primary care or health systems leadership (HSL).

KCON D.N.P. graduates are prepared to

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

provide advanced and complex nursing care within their chosen area of specialization that is scientific- and evidence-based and incorporates the science of nursing and other disciplines to optimize the functioning of individuals, families, and communities;

use organizational and systems leadership, information technology, interprofessional collaboration, and policy advocacy to improve and transform health care; and

contribute to the practice of nursing through clinical scholarship for evidence-based practice and active leadership in local and national professional groups.

## **Admission**

The D.N.P. program is designed for nurses that hold either a B.S.N. or M.S.N. All applicants must have earned their degree from a program accredited by the Commission on Collegiate Nursing Education (CCNE) or Commission for Nursing Education Accreditation (CNEA). Applicants who have not completed a B.S.N. must do so before enrolling.

Complete the GVSU graduate application available at [gvsu.edu/kcon](http://gvsu.edu/kcon) specifying the D.N.P. option.

Select one of three program emphases: child/adolescent primary care nurse practitioner, adult/older adult primary care nurse practitioner, or health systems leadership.

Submit transcripts from all previous undergraduate and graduate coursework outside of GVSU.

Have a minimum cumulative GPA of 3.0 (on a 4.0 scale) for all undergraduate and graduate coursework.

Educational and professional goal statement. Statement must articulate how attaining a graduate nursing degree will facilitate goal achievement. Statement should be approximately two typed, double-spaced pages.

Submit a current curriculum vitae/resume.

Submit a scholarly writing exercise, using the guidelines in the online application.

Participate in a qualifying interview with KCON faculty.

International student applicants must meet TOEFL (Test of English as a Foreign Language), or IELTS (International English Language Testing System), MELAB (Michigan English Language Assessment Battery) or PTE (Pearson Test of English Academic).

Additionally, full admission is contingent on successful completion of the following:

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Current licensure to practice as a registered nurse in Michigan.

Criminal background check and drug screen.

Compliance with health record, immunization, and other KCON graduate program requirements.

New D.N.P. program cohorts begin each fall semester. The application and supplemental materials must be received by February first of the calendar year in which the student desires entry. Applications received after February first will be considered based upon program capacity.

### **Nurse Executive Certification**

Students completing the health systems leadership track will be qualified for and encouraged to sit for national certification as a nurse executive.

### **Advanced Practice Certification**

Post-B.S.N. students pursuing an advanced practice primary care emphasis must complete the didactic and clinical courses in a selected population (child/adolescent or adult/older adult) which will qualify them to sit for national primary care specialty certification (pediatrics or adult gerontology).

## **Doctor of Nursing Practice**

The post-B.S.N. D.N.P. curriculum for advanced practice consists of 77 credits completed over eight semesters. The post-B.S.N. D.N.P. curriculum for health systems leadership consists of 75 credits completed over eight semesters. Because program plans are individualized for post-B.S.N. and M.S.N. students, the number of credits and semesters needed to complete the D.N.P. program will vary depending on previous coursework and program emphasis. D.N.P. students must complete all coursework with a grade of B (3.0) or above.

All students must complete 1,035 clinical hours to ensure compliance with the minimum standards as required by the American Association for Colleges of Nursing and the licensing division of the State of Michigan. The current distribution of clinical hours are indicated after each applicable course in the course listing.

The D.N.P. courses will be offered primarily on the Health Campus. State-of-the-art facilities support the use of technology to enhance student learning. The D.N.P. courses are offered in a hybrid format consisting of online and classroom learning..

All courses listed below must be completed with a minimum grade of B (83 percent). An overall grade point of 3.0 must be achieved for graduation.

Students must complete comprehensive health compliance requirements including, but not limited to, a criminal background check, fingerprinting, and drug screening. Clinical sites can

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

refuse to accept students who have not successfully completed all GVSU health requirements. It is the responsibility of the student to establish and maintain all compliance requirements. Please note: If there is illegal activity in the background check/fingerprinting or if there is evidence of one or more prohibited substance(s) in the drug test, the clinical sites have the right to refuse a student's placement which may negatively impact a student's ability to progress in the program and subsequently graduate. Evidence of unencumbered RN licensure in the state of residency is required prior to admission, as well as during enrollment in KCON graduate clinical courses.

All courses listed below must be completed with a minimum grade of B (83 percent). An overall grade point of 3.0 must be achieved for graduation.

### **Core Courses - D.N.P., All Tracks**

- NUR 605 - Theoretical Perspectives in Nursing (3 credits)
- NUR 607 - Health Care System, Policy and Politics (3 credits)
- NUR 608 - Leadership Roles in Complex Systems (3 credits)
- NUR 625 - Health Issues in Vulnerable Populations (4 credits)
- NUR 690 - Introduction to Scientific Inquiry (3 credits)
- NUR 691 - Evidence-Based Practice in Nursing (3 credits)
- NUR 703 - Health Care Informatics (3 credits)
- NUR 704 - Quality Management in Healthcare (3 credits)
- NUR 792 - Scholarly Inquiry in Nursing Practice I (1 to 2 credits)
- NUR 793 - Scholarly Inquiry in Nursing Practice II (2 credits)
- STA 610 - Applied Statistics for Health Professions (3 credits)

### **Core Courses - APN Track**

- NUR 610 - Advanced Assessment and Diagnostic Reasoning (4 credits)
- NUR 620 - Clinical Pharmacology (3 credits)
- NUR 621 - Clinical Pathophysiology (4 credits)
- NUR 710 - D.N.P. Clinical Immersion I: Nurse Practitioner (1 credit)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

NUR 711 - DNP Clinical Immersion II: Nurse Practitioner (2 credits)

NUR 712 - DNP Clinical Immersion III: Nurse Practitioner (1 credit)

NUR 750 - Mental Health for Primary Care Practitioners (3 credits)

### **APN Track: Pediatric Primary Care**

Students also complete the D.N.P. and advanced practice core courses.

NUR 629 - Developmental Health: Child/Adolescent (3 credits)

NUR 751 - Primary Care Mental Health Practicum: Child/Adolescent (2 credits)

NUR 760 - Health Promotion and Risk Management: Child/Adolescent (2 credits)

NUR 761 - NP Practicum I: Health Promotion-Risk Management: Child/Adolescent (2 credits)

NUR 762 - Common Health Problems: Child/Adolescent (2 credits)

NUR 763 - NP Practicum II: Common Health Problems: Child/Adolescent (3 credits)

NUR 764 - Complex Health Problems: Child/Adolescent (2 credits)

NUR 765 - NP Practicum III: Complex Health Problems - Child/Adolescent (3 credits)

NUR 766 - Care Transitions/Interprofessional Practice: Child/Adolescent (3 credits)

NUR 767 - NP Practicum IV: Care Transitions/Interprofessional Practice: Child/Adolescent (3 credits)

### **APN Track: Adult/Older Adult Primary Care**

Students also complete the D.N.P. and advanced practice core courses.

NUR 630 - Developmental Health: Adult/Older Adult (3 credits)

NUR 752 - Primary Care Mental Health Practicum: Adult/Older Adult (2 credits)

NUR 770 - Health Promotion and Risk Management in the Adult and Older Adult (2 credits)

NUR 771 - NP Practicum I: Health Promotion-Risk Management: Adult/Older Adult (2 credits)

NUR 772 - Common Health Problems in Adults and Older Adults (2 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

NUR 773 - NP Practicum II: Common Health Problems: Adult/Older Adult (3 credits)

NUR 774 - Complex Health Problems in the Adult and Older Adult (2 credits)

NUR 775 - NP Practicum III: Complex Health Problems: Adult/Older Adult (3 credits)

NUR 776 - Care Transitions Interprofessional Practice: AOA (3 credits)

NUR 777 - NP Practicum IV: Care Transitions: Adult/Older Adult (3 credits)

### **Psychiatric/Mental Health**

Students also complete the D.N.P. core courses.

NUR 628 - Psychopharmacology for Advanced Practice (3 credits)

NUR 631 - Human Development Across the Lifespan (3 credits)

NUR 676 - Health Perspectives: Mental Health (3 credits)

NUR 677 - Mental Health Practicum: Diagnosis and Treatment of Individuals (3 credits)

NUR 678 - Mental Health Practicum: Group and Family Therapy (3 credits)

NUR 679 - Advanced Psychiatric Mental Health Nurse Practitioner Practicum (4 credits)

NUR 706 - Telehealth (3 credits)

NUR 753 - Primary Care for Mental Health Practitioners (4 credits)

### **Health Systems Leadership**

Students also complete the D.N.P. core courses.

NUR 646 - Theories of Health Systems Leadership Part I (4 credits)

NUR 650 - Business and Quality in Nursing (3 credits)

NUR 702 - Nursing Leadership and Health Services Research (3 credits)

NUR 740 - Health Systems Leadership: Practicum I (4 credits)

NUR 741 - Health Systems Leadership: Practicum II (5 credits)

NUR 742 - Health Systems Leadership: Practicum III (5 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

NUR 743 - Health Systems Leadership: Practicum IV (5 credits)

PNH 632 - Health Services Financial Management (3 credits)

Health system leadership students will also take a nine credit public administration cognate, where they will choose three courses from the following:

PNH 634 - Health Care Law and Ethics (3 credits)

PNH 635 - Hospital Organization and Management (3 credits)

PNH 636 - Health Care Quality Improvement (3 credits)

PNH 639 - Community Benefits Assessment and Management (3 credits)

PNH 643 - Strategic Management and Planning (3 credits)

## **Post-M.S.N. Health Systems Leadership Doctor of Nursing Practice**

Grand Valley State University's Doctor of Nursing Practice (D.N.P.) is offered through the university's Kirkhof College of Nursing and is designed for nurses seeking a terminal degree in nursing practice. It is the only program of its type in West Michigan.

The D.N.P. curriculum is consistent with the national agenda to transform American health care through interprofessional collaboration, health care policy advocacy, patient-centered care, quality/safety initiatives, and use of informatics. The program offers two emphasis areas: advanced nursing practice (child/adolescent or adult/older Adult) and health systems leadership.

**Website:** [gvsu.edu/grad/dnp](http://gvsu.edu/grad/dnp)

The post-M.S.N. health systems leadership (HSL) Doctor of Nursing Practice (D.N.P.) program is designed for nurses who have earned an M.S.N. degree. The D.N.P. degree builds on the foundational knowledge, skills, and competencies of the M.S.N.-prepared nurse. Students must complete the assigned coursework with a grade of B (3.0) or better. The post-M.S.N. Doctor of Nursing Practice courses are offered in a hybrid format that includes online coursework with two-five classroom learning sessions on campus/semester. Applied learning experiences through clinical practicum occur in the final year. The courses are offered primarily on the Health Campus. State-of-the-art facilities support the use of technology to enhance student learning.

**Mission:** The mission of the Kirkhof College of Nursing is to provide quality nursing education to a diverse population of students. Kirkhof College of Nursing strives to improve the well-being of people through leadership in nursing education, professional practice and scholarship.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

**Accreditation:** The D.N.P. program is accredited through the Commission on Collegiate Nursing Education (CCNE), a national accreditation agency.

**Minimum number of hours for graduation:** The post-M.S.N. HSL D.N.P. program consists of 38 credits completed over five semesters. An additional 8 credits will be granted in recognition of clinical practicums/courses that were completed in the M.S.N. degree (360 clinical hours; 1 credit = 45 clinical hours), meeting the university requirement of 45 earned credits for a doctoral degree.

**Admission:**

Complete the GVSU graduate application available at [gvsu.edu/kcon](http://gvsu.edu/kcon) specifying the D.N.P. option.

Select the Post-MSN HSL program

Transcripts from all undergraduate and graduate programs that verify completion of baccalaureate and master's program(s) in nursing from CCNE- or NLN-accredited schools. GPA will be calculated using all college coursework. 3.0/4.0 is required.

Current curriculum vitae or resume.

Full admission is contingent on the following:

Current licensure to practice in Michigan

Successful completion of a required criminal background check and drug screen

Compliance with health record, immunization, and other KCON graduate program requirements.

Educational and professional goal statement. Statement must articulate how attaining a graduate nursing degree will facilitate goal achievement. Statement should be approximately two typed, double-spaced pages.

Scholarly writing sample on a specified topic using the guidelines in the online application. Applicants will submit this electronically through the application system.

Participate in a qualifying interview with KCON faculty.

Test scores from the TOEFL (Test of English as a Foreign Language), or IELTS (International English Language Testing System), or MELAB (Michigan English Language Assessment Battery) for applicants whose native language is not English. Only original score reports will be accepted.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

**Program Location:** The D.N.P. degree program is offered at the Health Campus in Grand Rapids, Michigan.

### **Nurse Executive Certification**

Students completing the health systems leadership track will be qualified for and encouraged to sit for national certification as a nurse executive.

### **Requirements**

#### **Graduate Nursing Core (19 credits)**

NUR 607 - Health Care System, Policy and Politics (3 credits)

NUR 625 - Health Issues in Vulnerable Populations (4 credits)

NUR 691 - Evidence-Based Practice in Nursing (3 credits)

NUR 703 - Health Care Informatics (3 credits)

NUR 704 - Quality Management in Healthcare (3 credits)

STA 610 - Applied Statistics for Health Professions (3 credits)

#### **Leadership Core (19 credits)**

NUR 742 - Health Systems Leadership: Practicum III (5 credits)

NUR 743 - Health Systems Leadership: Practicum IV (5 credits)

NUR 792 - Scholarly Inquiry in Nursing Practice I (1 to 2 credits)

NUR 793 - Scholarly Inquiry in Nursing Practice II (2 credits)

PNH 632 - Health Services Financial Management (3 credits)

## **Master of Science in Nursing**

**Website:** [gvsu.edu/kcon](http://gvsu.edu/kcon)

Grand Valley State University's Master of Science in nursing (M.S.N.) is offered through the university's Kirkhof College of Nursing. The M.S.N. program prepares professional nurses to serve as leaders at the point of care. Students who complete the M.S.N. are prepared as advanced generalists for practice across the continuum of care within any health care setting.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

The M.S.N. curriculum is designed to provide students with leadership, quality improvement, and clinical outcomes management skills, advanced clinical knowledge, and an understanding of health care systems. These skills are essential for the integration of evidence-based practice into interprofessional care. Students become immersed in methods to monitor and improve the quality of care, and successfully coordinate care delivery processes to improve client outcomes in a cost-effective, fiscally responsible manner. Graduates are eligible to take the Clinical Nurse Leader certification examination.

## **Accreditation**

The M.S.N. program is accredited through the Commission on Collegiate Nursing Education (CCNE), a national accreditation agency. Graduating from a nationally accredited program is required for students to sit for the Clinical Nurse Leader certification exam.

## **Admission**

Admission to the M.S.N program requires the following:

Complete the **GVSU graduate application** specifying the M.S.N. option.

**Transcripts** from all undergraduate and graduate programs that verify completion of baccalaureate in nursing from a CNE-, CCNE, or NLN-accredited school. GPA will be calculated using all college coursework. 3.0/4.0 is required.

**Current curriculum vitae or résumé.**

**Educational and professional goal statement.** Statement must articulate an area of focus (advanced generalist) and describe how attaining a graduate nursing degree will facilitate goal achievement. Statement should be approximately two typed, double-spaced pages.

**Submit a scholarly writing exercise** using the guidelines in the online application.

**Participate in a qualifying interview** with KCON faculty.

**Test scores from the TOEFL** (Test of English as a Foreign Language), IELTS (International English Language Testing System), PTE (Pearson Test of English Academic), or MELAB (Michigan English Language Assessment Battery) for applicants whose native language is not English. Only original score reports will be accepted.

Full admission is contingent on the following:

Current licensure to practice in Michigan.

Successful completion of a required criminal background check and drug screen

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Compliance with health record, immunization, and other KCON graduate program requirements.

Students must complete comprehensive health compliance requirements including, but not limited to, a criminal background check, fingerprinting, and drug screening. Clinical sites can refuse to accept students who have not successfully completed all GVSU health requirements. It is the responsibility of the student to establish and maintain all compliance requirements.

Please note: If there is illegal activity in the background check/fingerprinting or if there is evidence of one or more prohibited substance(s) in the drug test, the clinical sites have the right to refuse a student's placement which may negatively impact a student's ability to progress in the program and subsequently graduate. Evidence of unencumbered RN licensure in the state of residency is also required prior to beginning as well as during enrollment in KCON graduate clinical courses.

## **Master of Science in Nursing**

### **Requirements**

The M.S.N. curriculum for an advanced generalist consists of 37 credits completed over five semesters. Students must complete the assigned coursework with a grade of B (3.0) or higher. M.S.N. courses are offered primarily on the Health Campus. State-of-the-art facilities support the use of technology to enhance student learning. The M.S.N. courses are offered in a hybrid format consisting of online and classroom learning.

All students must complete 405 clinical hours to ensure compliance with the minimum standards as required by the American Associate of Colleges of Nursing and the licensing division of the State of Michigan.

All courses listed below must be completed with a minimum grade of B (83 percent). An overall grade point of 3.0 must be achieved for graduation.

### **Graduate Nursing Core**

There are nine credits required.

NUR 607 - Health Care System, Policy and Politics (3 credits)

NUR 608 - Leadership Roles in Complex Systems (3 credits)

STA 610 - Applied Statistics for Health Professions (3 credits)

### **Clinical Nursing Core**

There are 13 credits required.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

NUR 500 - Comprehensive Health Assessment for Nurses (3 credits)

NUR 620 - Clinical Pharmacology (3 credits)

NUR 621 - Clinical Pathophysiology (4 credits)

NUR 703 - Health Care Informatics (3 credits)

### **Advanced Generalist Core**

There are 15 credits required.

NUR 612 - Quality Improvement and Clinical Outcomes in Nursing (4 credits)

NUR 613 - Nursing Research and Evidence-Based Practice (3 credits)

NUR 615 - Advanced Generalist Clinical Practicum I (4 credits)

NUR 616 - Advanced Generalist Clinical Practicum II (4 credits)

## **Palliative and Hospice Care Graduate Certificate**

### **Requirements**

The certificate content will be delivered in a series of three courses and a directed elective.

#### **Required Courses (9 credits)**

NUR 581 - Chronic and Terminal Illness: The Palliative/Hospice Model (3 credits)

NUR 582 - Complex Pain and Symptom Management (3 credits)

SW 669 - Responses to Loss and Death (3 credits)

#### **Elective Course (3 credits)**

Choose one of the following:

NUR 607 - Health Care System, Policy and Politics (3 credits)

NUR 620 - Clinical Pharmacology (3 credits)

SW 671 - Social Work Practice in Health Care (3 credits)

PNH 634 - Health Care Law and Ethics (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

# Psychiatric Mental Health Nurse Practitioner Graduate Certificate

## Requirements for Admission

Graduate of an accredited Advanced Practice Registered Nurse (APRN), M.S.N., or D.N.P. program

Currently certified as a CNS, NP, CNM or CRNA

Minimum of 3.0 or higher on a 4.0 scale

Curriculum vitae or resume

Licensed as an RN in the State of Michigan

Educational and professional goal statement

Interview with KCON faculty

Test scores on TOEFL, PTE, IELTS, or MELAB for applicants whose native language is not English.

Successful completion of background check and drug screen

Compliance with health records, immunizations, and other KCON graduate program requirements

## Certificate Requirements

The following prerequisite courses must be completed before beginning the program:

NUR 610 - Advanced Assessment and Diagnostic Reasoning (4 credits)

NUR 620 - Clinical Pharmacology (3 credits)

NUR 621 - Clinical Pathophysiology (4 credits)

The certificate content will be delivered in a series of six courses that can be completed in four semesters:

NUR 628 - Psychopharmacology for Advanced Practice (3 credits)

NUR 631 - Human Development Across the Lifespan (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

NUR 676 - Health Perspectives: Mental Health (3 credits)

NUR 677 - Mental Health Practicum: Diagnosis and Treatment of Individuals (3 credits)

NUR 678 - Mental Health Practicum: Group and Family Therapy (3 credits)

NUR 679 - Advanced Psychiatric Mental Health Nurse Practitioner Practicum (4 credits)

## **Psychiatric Mental Health Nurse Practitioner Graduate Certificate**

Students wishing to pursue the psychiatric mental health nurse practitioner certificate must submit an official GVSU graduate degree seeking application indicating the certificate as the intended area of study. This post graduate certificate is designed for Advanced Practice Registered Nurses (APRN) who have a master's degree in nursing or a Doctor of Nursing Practice degree and who wish to expand their practice to manage the care of people, across the lifespan, with disruptions in their mental health. The certificate program will focus on the main treatment methods for mental health care, including medication management and interpersonal interventions for individuals, groups, and families.

### **Program Content**

Courses will engage students using multiple teaching strategies including lecture, discussions, case studies, simulation, and practicum experiences. Physiological and psychological theories of mental health and disruptions in mental health will be incorporated as the basis for comprehensive care of this population. Graduates of this psychiatric mental health nurse practitioner certificate will be prepared to manage patients across the lifespan within the mental health system and/or within a primary care environment.

### **Program Objectives**

At the completion of the certificate, learners will be able to do the following:

Apply advanced theoretical knowledge for using psychopharmacology and evidence-based and effective treatment modalities for persons with mental health disorders.

Provide evidence-based treatment to individuals, families, and groups with mental health disorders using advanced communication skills.

Design and implement age appropriate mental health treatment for persons with mental health disorders across the lifespan.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Demonstrate the ability to implement the role of the advanced practice nurse through the use of at least two psychiatric/mental health treatment modalities (individual, family, and/or group treatment) to persons with mental health disorders.

Use evidence-based measurements to determine effectiveness and modifications needed for treatment of mental health disorders.

Collaborate effectively with inter-professional teams that provide treatment to persons with mental health disorders.

### **Audience**

The certificate is designed for APRNs with a master's or doctor of nursing practice degree. Admission to Grand Valley State University is required to complete the certificate.

## **Occupational Safety and Health Management**

For additional information about opportunities your college offers, please refer to the Seymour and Esther Padnos College of Engineering and Computing section in this catalog.

**Website:** [gvsu.edu/osh](http://gvsu.edu/osh)

### **Degree Offered**

Bachelor of Science in occupational safety and health management

The occupational safety and health management (OSHM) curriculum is designed to fulfill the undergraduate educational requirements of those wishing to enter the professional safety field. Considerable federal and state legislation enacted during the past half century has firmly established safety as a fundamental goal for improving the quality of work life in this country. Occupationally related injuries and illnesses are extensive and profoundly affect every element of our society. The demand for competent, fully qualified safety professionals to assume positions within government, industry, and community agencies is increasing.

Grand Valley's B.S. in OSHM is structured to provide students with the proper balance of safety management and scientific training required in the field. The program prepares graduates for careers in both the private and public sectors.

The B.S. in OSHM is a secondary admission program. Because many of the occupational safety and health courses serve students in other majors or minors (as elective credit) students wishing to take particular OSH courses should seek instructor approval. The following courses are not open to non-OSH majors: OSH 390, OSH 416, OSH 440, OSH 490, or OSH 495. A student who has declared an OSH major is assigned an academic advisor from the professional advising staff in student services for the first two years and then from the faculty of the OSH Department after secondary admission.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Program Educational Objectives**

Graduates of the occupational safety and health program are expected within a few years of graduation to:

- apply a broad educational background to effectively lead, influence, and achieve the OSH goals and objectives of their employers;
- effectively communicate and collaborate inside a diverse work environment;
- work in an ethical and professional manner; and
- engage in professional development to continue to grow throughout their careers.

## **Student Outcomes**

Graduates will have the ability to

- apply knowledge of mathematics, science, and occupational safety and health;
- design and conduct experiments/investigations, as well as to analyze and interpret data in the field of occupational safety and health;
- design a system, process, or program to meet occupational safety and health needs;
- function on multidisciplinary teams;
- identify and solve occupational safety and health problems;
- understand professional and ethical responsibility in occupational safety and health;
- communicate effectively in a professional environment;
- understand the impact of occupational safety and health solutions in a global and societal context;
- recognize the need for and an ability to engage in professional development in pursuit of life-long learning;
- demonstrate knowledge of the contemporary issues surrounding occupational safety and health; and
- use techniques, skills, and modern scientific and technical tools necessary for professional practice of occupational safety and health.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Grand Valley's OSHM degree program has a firm foundation of industrial support. Michigan and local industries are sought out to contribute to the development of the OSH curriculum by providing both financial support and opportunities for internships and other experiential learning opportunities for students. The OSH program is served by an Industrial Advisory Board composed of OSH professionals from various industries in the local community.

### **Accreditation**

The occupational safety and health management major is accredited under the General Criteria and Safety Criteria by the Applied and Natural Sciences Accreditation Commission of ABET, 415 N. Charles St., Baltimore, MD 21201. Telephone (410) 347-7700, abet.org.

### **OSH Certifications Available Upon Graduation**

The Board of Certified Safety Professionals has deemed the OSHM degree program a Qualified Academic Program. This allows OSHM program graduates to receive, upon application, the Graduate Safety Practitioner (GSP) designation. Graduates obtaining the GSP designation will be recognized for being in a path toward the Certified Safety Professional (CSP) certification, recognized for the level of preparation for professional safety practice, and be granted a waiver of the ASP examination requirements for CSP eligibility.

The Institute of Hazardous Materials Management has approved the OSHM degree program as a qualified program. Graduates of the OSHM program can receive, upon application, the Associate of Safety and Health Management designation. This designation will put students on a path to obtain the Certified Safety and Health Manager certification.

## **Bachelor of Science in Occupational Safety and Health Management**

### **Requirements for a Major in Occupational Safety and Health Management**

Students planning to major in occupational safety and health management (OSHM) must complete the following requirements:

#### **Degree Requirements**

The general university degree requirements must be met as identified in the General Academic Policies section of the Grand Valley State University Undergraduate and Graduate Catalog. Note that some of the OSHM fundamentals courses listed as follows meet these requirements.

#### **Fundamentals**

Admission to major standing in the OSHM program requires approval of a secondary application. Applicants must meet at least the following:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

GPA of 2.3 or above in the following OSHM fundamentals courses

Completion of each course in the OSHM fundamentals with a grade of C (2.0) or above with not more than one repeat

The OSHM fundamentals courses, 33 to 38 credits, are as follows:

**EITHER** BIO 105 - Environmental Science (3 credits) **OR** BIO 104 - Biology for the 21st Century (4 credits) **OR** BIO 120 - General Biology I (4 credits) **OR BOTH** CMB 155 - Introduction to Cell and Molecular Biology (3 credits) **AND** CMB 156 - Discoveries in Cell and Molecular Biology: A Research-based Laboratory Course (1 credit)

BMS 202 - Anatomy and Physiology (4 credits) **OR** BMS 208 - Human Anatomy (3 credits)

CHM 109 - Introductory Chemistry (4 credits) **OR** CHM 115 - Principles of Chemistry I (4 credits)

CHM 230 - Introduction to Organic and Biochemistry (4 credits) **OR** CHM 232 - Biological Chemistry (4 credits)

MTH 122 - College Algebra (3 credits) **OR** MTH 125 - Survey of Calculus (3 credits) **OR** MTH 201 - Calculus I (4 credits)

OSH 300 - Introduction to Occupational Safety and Health (3 credits)

PHY 200 - Physics for the Life Sciences (4 credits) **OR** PHY 220 - General Physics I (5 credits) **OR** PHY 230 - Principles of Physics I (5 credits)

PSY 101 - Introductory Psychology (3 credits)

STA 215 - Introductory Applied Statistics (3 credits) **OR** STA 220 - Statistical Modeling for Engineers (2 credits)

**EITHER** WRT 150 - Strategies in Writing (4 credits) **OR BOTH** WRT 120 - Strategies in Writing - Stretch I (3 credits) **AND** WRT 130 - Strategies in Writing - Stretch II (3 credits)

### **Core Courses**

A minimum of 37 semester hours are required, including:

OSH 310 - Hazard Control (3 credits)

OSH 316 - Health and Safety Techniques (3 credits)

OSH 326 - Principles of Industrial Hygiene (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- OSH 330 - Principles of Loss Control (3 credits)
- OSH 350 - Behavioral Aspects of Safety (3 credits)
- OSH 390 - OSH Internship Preparation (1 credit)
- OSH 400 - Critical Incident Analysis (3 credits)
- OSH 410 - Ergonomic Safety Engineering (3 credits)
- OSH 414 - Environmental Safety and Health Regulations (3 credits)
- OSH 424 - Fire Science (3 credits)
- OSH 440 - Safety and Health Program Development (3 credits)
- OSH 490 - Internship in Occupational Safety and Health Management (3 to 6 credits)
- OSH 495 - Safety and Health Administration (3 credits)

### **Elective Courses**

In addition to the preceding, students must take nine hours of electives from the list as follows:

- OSH 360 - Motor Fleet Safety (3 credits)
- OSH 370 - Product Safety and Liability (3 credits)
- OSH 416 - Advanced Industrial Hygiene (3 credits)
- OSH 420 - Health Care Facility Safety (3 credits)
- OSH 430 - Construction Safety (3 credits)
- OSH 460 - Environmental Compliance Applications (3 credits)

### **Suggested Order of Coursework**

This suggested order of coursework for students pursuing a major in OSHM assumes that students will complete the fundamentals and general education courses with the help of their advisor and apply for admission by February 1 of the winter semester of their sophomore year.

### **Year One**

- General education Foundations courses (9 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Free elective

BIO 105 - Environmental Science (3 credits) **OR** BIO 120 - General Biology I (4 credits)

CHM 109 - Introductory Chemistry (4 credits)

PSY 101 - Introductory Psychology (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

WRT 150 - Strategies in Writing (4 credits)

## **Year Two**

General education Foundations courses (9 credits)

Free elective

BMS 202 - Anatomy and Physiology (4 credits) **OR** BMS 208 - Human Anatomy (3 credits)

CHM 230 - Introduction to Organic and Biochemistry (4 credits)

MTH 125 - Survey of Calculus (3 credits)

OSH 300 - Introduction to Occupational Safety and Health (3 credits)

PHY 200 - Physics for the Life Sciences (4 credits)

## **Year Three**

OSHM electives (6 credits)

General education Issues (6 credits)

OSH 310 - Hazard Control (3 credits)

OSH 316 - Health and Safety Techniques (3 credits)

OSH 326 - Principles of Industrial Hygiene (3 credits)

OSH 390 - OSH Internship Preparation (1 credit)

OSH 400 - Critical Incident Analysis (3 credits)

OSH 414 - Environmental Safety and Health Regulations (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

OSH 424 - Fire Science (3 credits)

Summer Between Third and Fourth Years:

OSH 490 - Internship in Occupational Safety and Health Management (3 to 6 credits)

#### **Year Four**

OSHM elective (3 credits)

Free electives as needed to complete 120 total credits

OSH 330 - Principles of Loss Control (3 credits)

OSH 350 - Behavioral Aspects of Safety (3 credits)

OSH 410 - Ergonomic Safety Engineering (3 credits)

OSH 440 - Safety and Health Program Development (3 credits)

OSH 495 - Safety and Health Administration (3 credits)

## **Occupational Safety and Health Minor**

### **Requirements**

A minor in occupational safety and health consists of 21 credits chosen with the consent of the OSH advisor.

Notes:

Many of the occupational safety and health courses serve students in other majors or minors as elective credit. These students should seek instructor approval for registration in each OSH course.

The following courses are not open to non-OSH majors: OSH 390, OSH 416, OSH 440, OSH 490, or OSH 495.

## **Occupational Therapy**

For additional information about opportunities your college offers, please refer to the College of Health Professions section of this catalog.

**Website:** [gvsu.edu/ot](http://gvsu.edu/ot)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Degree Offered**

Master of Science (M.S.) in occupational therapy

## **Mission**

The mission of the GVSU Occupational Science and Therapy Department is to educate and empower students to have a positive impact on the health of individuals and groups in our society through innovation and leadership in occupation-based practice.

## **Occupational Science**

Occupational science is an interdisciplinary field in the social and behavioral sciences dedicated to the study of the daily activities (known as occupations) of human beings. The word "occupation" refers to the goal-directed activities that are part of daily human life as well as the habits and patterned routines of purposeful activity that occur over the lifespan. The study of occupations includes how these various purposeful and productive patterns, habits, and activities affect health and well-being.

Occupational science began as an effort by several scholars in different disciplines, in order to understand better how people used their time, and how they made decisions about time use. The field was named and given additional credibility in 1989 by Elizabeth Yerxa, a visionary leader of occupational therapy and her team of faculty at the University of Southern California (USC). The vision of Dr. Yerxa was that occupational science would be the unique scientific and research base for evidence-based practice in occupational therapy. USC offers the premier Doctor of Philosophy degree in occupational science.

Occupational science now includes many other university-based academic programs leading to undergraduate and graduate degrees in the field. The disciplines that incorporate occupational scientists include architecture, education, marketing, psychology, sociology, anthropology, economics, occupational therapy, leisure science, public health, and geography. There are several national, regional, and international societies dedicated to promoting the continued evolution of occupational science, and several academic journals devoted heavily to occupational science including the *Journal of Occupational Science*, *Occupational Therapy Journal of Research: Occupation, Participation and Health*, *The Journal of Leisure Research*, *Journal of Happiness Studies*, *Quality of Life Research*, *Applied Research in Quality of Life*, and numerous international journals of occupational science and therapy.

## **Occupational Therapy**

Learning, growing, playing, working, managing our homes, and caring for our families are among the occupations of life. Unfortunately, physical, emotional, or other challenges often prevent people from fully participating in the job of living. Diseases, injuries, or developmental problems can make it difficult for people to do everyday tasks or be active and independent.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Occupational therapy uses meaningful and purposeful activity as a therapeutic intervention to help an individual with injuries or disabilities to reach his/her highest level of independent functioning. These meaningful and purposeful activities are referred to as occupations. Occupations include work skills, play/leisure activities, rest, and self-care activities such as preparing a meal or taking a shower.

Occupational therapists provide clients with services ranging from prevention/wellness to full rehabilitation, directed toward achieving maximum functional independence in daily life occupations. Occupational therapy may include the use of devices such as, but not limited to, adaptive silverware, computer access enhancers, environmental modifications, and writing aids to assist individuals to achieve a desired level of independence in any given occupation.

Occupational therapists interact and practice in collaboration with a variety of health professionals. They also educate the public and advocate for the clients. Occupational therapy makes it possible for people to achieve full participation in life. By choosing a career in occupational therapy, you will make a difference, improving the lives of people, from newborns to the oldest adults.

### **Accreditation**

The occupational therapy (OT) traditional program and the OT hybrid program are accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA), located at 6116 Executive Boulevard, Suite 200, North Bethesda, MD 20852-4929. ACOTE's phone number is (301) 652-AOTA and its web address is [acoteonline.org](http://acoteonline.org). Graduates of the program will be able to sit for the national certification examination for the occupational therapist, administered by the certifying body, National Board for Certification in Occupational Therapy (NBCOT), 800 S. Frederick Ave., Ste. 200, Gaithersburg, MD 20877-4150. After successful completion of this exam, the individual will be an occupational therapist, registered (OTR). Most states require licensure in order to practice. However, state licenses are usually based on the results of the NBCOT Certification Examination.

## **Master of Science in Occupational Therapy**

For additional information about opportunities your college offers, please refer to the College of Health Professions section in this catalog.

**Website:** [gvsu.edu/ot](http://gvsu.edu/ot)

The occupational therapy (OT) traditional program is a two-year graduate curriculum leading to an entry-level Master of Science degree. The occupational therapy hybrid program is a three-year graduate curriculum that also leads to an entry-level Master of Science degree. Both programs contain the same content, but the traditional program is intended for those students who can take 15 to 16 credits per semester and is totally in-seat, while the hybrid program is intended for students who wish to maintain full-time employment throughout the curriculum and take a reduced credit load of seven to 11 credits per semester.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

The occupational therapy graduate curriculum is built around the science of occupation as the core knowledge base, which is predicated upon the assumption that occupational therapists must operate from a common base of knowledge, skills, values, and philosophy. The curriculum is designed to produce professional practitioners and socially conscious citizens who appreciate the unique perspective of individuals and the cultures that influence them, value a democratic perspective of health care and social services delivery, and apply problem-solving, critical thinking, and lifelong learning toward meeting the needs of society.

Incoming first-year students interested in occupational therapy should begin by selecting an undergraduate major in their first year. Suggested majors include allied health sciences, biology, behavioral neuroscience, psychology, or sociology. Although these degrees provide a well-rounded background, any undergraduate major may be selected as long as the required occupational therapy prerequisite courses are completed along with the undergraduate degree before beginning the professional program. Once a selection of major has been made, students should work with the academic advisor from that department and with an occupational therapy program advisor to ensure that all major requirements are completed, along with the required prerequisite courses. All of these required prerequisite courses must be taken for a letter grade. Students may apply for admittance to the occupational therapy programs during the year in which they attain senior status. All students accepted into the occupational therapy programs must have a completed baccalaureate degree from an accredited institution of higher learning prior to the beginning of the master's program coursework.

Admission to the occupational therapy graduate programs is competitive. Maximum traditional class size is 40; the maximum class size for the hybrid program is 22. For the traditional program, the candidates are ranked on a total score basis and our top 40 candidates (minus early admits from GVSU, CMU, U of M, and Hope and deferrals) are sent a letter offering them seats in the program. Each alternate candidate is offered admission one-for-one in rank order if any of the original 40 candidates decline admission. For the hybrid program, candidates are also ranked on a total score basis and the top 22 candidates are sent a letter offering seats in the program. Each alternate candidate is offered admission one-for-one in rank order if any of the original 22 candidates decline admission.

Admission decisions will be made in the first and second semesters of the calendar year. Once enrolled in one of the occupational therapy programs, students will take professional courses in individual and group interventions, clinical reasoning, occupational therapy theory and practice, advanced professional issues, and research.

All courses taken with the occupational therapy program must be taken for an earned letter grade, excluding fieldwork and research courses, unless otherwise specified by the occupational therapy department chair. Degree requirements include a final research project or thesis, three level I fieldwork assignments (60 to 80 hours each), and two full-time level II fieldwork assignments (480 hours each). The level II fieldwork assignments may be local or they may be in other areas of the country. It is important to note that level II fieldwork assignments must be completed within 24 months of completion of the didactic curriculum. Part-time level II fieldwork assignments are available if circumstances warrant.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Candidate Information**

A new class enters each year in late August. The traditional program admits 40 students per year. The hybrid program admits 22 students per year. By the application deadline, all candidates must have completed at least nine credit hours of the prerequisite requirements (the elective and statistics course do not count toward this total) and at least 50 hours of volunteer experience with a licensed OTR.

The application deadline is January 15 of the year you intend to start the program. There are two phases to the admission process.

### **Phase One**

Includes a review of the following:

Prerequisite GPA

GPA in last 60 credit hours earned

Achievement Profile form: A minimum score of 8.0 is required

Two recommendation forms; one from a professor or employer if degree is already completed and one from an OT you have volunteered with.

Documentation of OT Experience form(s)

### **Phase Two**

Includes the following:

An individual interview with a faculty member.

A 90-minute writing exercise.

All eligible candidates will be invited to take part in the interview and writing exercise. Phase two is typically conducted between late February and mid-March; all candidates are notified of the admission decisions by late March or early April.

## **Degree**

Many students who are admitted to the program are psychology majors. However, we have students who have degrees in behavioral sciences, health sciences, sociology, social work, anthropology, recreational therapy, and kinesiology. These are all excellent degrees that provide a solid background for occupational therapy. As long as the prerequisite courses are completed, the undergraduate degree may be in any field. We have had students with business, art, and information technology degrees, to name a few others.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Prerequisites**

The Prerequisite GPA Calculation Form details the prerequisite course requirements for the program and allows you to document your progress.

If you have any questions regarding the prerequisites, you may contact the College of Health Professions (CHP) Student Services office at [gvsu.edu/chpss](http://gvsu.edu/chpss). The OT program Admissions Committee must approve any prerequisite not posted on [gvsu.edu/ot/guide-list.htm](http://gvsu.edu/ot/guide-list.htm) or [gvsu.edu/studentapps/mtn](http://gvsu.edu/studentapps/mtn). The OT program accepts prerequisite courses that have been taken at accredited community colleges and/or universities. All non-GVSU prerequisite courses not found in either of these guides should be first reviewed by a Student Services advisor; a member of the OT program Admissions Committee may be consulted to ensure the course meets admissions standards. It is better to ask questions and have the prerequisite course reviewed/approved prior to your enrollment in the course. This will avoid potential barriers in the admission process.

Some prerequisites might be available through Michigan Colleges Online at [micollegesonline.org](http://micollegesonline.org).

## **Course Equivalencies**

Courses that fulfill GVSU's OT prerequisites for all Michigan four-year colleges/universities are located on the OT webpage under Prospective Students.

Course equivalencies for all Michigan four-year colleges/universities and community colleges can be found on the GVSU Registrar's webpage at [gvsu.edu/registrar](http://gvsu.edu/registrar); or by visiting [gvsu.edu/studentapps/mtn](http://gvsu.edu/studentapps/mtn).

To navigate the equivalency guide, do the following:

Select a college or university from the drop-down menu and click the submit button.

Press "CTRL" + "F" on your keyboard to search for a specific course.

Once you find the course you are looking for, the GVSU course will appear in the right column and the course equivalent from the selected school will appear in the left column.

## **GPA Requirements**

At a minimum, each candidate must have at least a 3.0 GPA average in the last 60 hours of coursework completed prior to the application. Additionally, each candidate must have at least a 3.0 GPA average in the prerequisite coursework with no individual course grade below a C. If a student elects to repeat a course, the program will use the higher grade of the two courses in the prerequisite GPA calculation. The program does not consider courses that have been repeated

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

more than once. The OT program Admissions Committee will not review applications with GPA scores lower than 3.0 in either category.

### **Five-Year Prerequisite Requirement**

Note: All prerequisite coursework must have been completed within five years of the year of application.

### **Competitive GPA**

To be most competitive for admission, a candidate should have a prerequisite GPA in the 3.6 to 3.8 range and a last 60-hour GPA in the 3.6 to 3.8 range. It is very difficult to gain admission to the program with a last-60 hour GPA and prerequisite GPA of between 3.0 to 3.3.

Grades account for approximately 30 percent of the total consideration for admission to the program. The GVSU admissions process looks at multiple factors besides grades for admission.

### **Admission**

A candidate can only apply to one program, either the traditional or hybrid program, each year and must indicate either the traditional or hybrid program on the graduate application. Maximum class size for the traditional program is 40 and for the hybrid program is 22.

Admission to either program within the occupational science and therapy department first requires completion of the Grand Valley State University graduate application, regardless of previous college attended. Candidates must complete all prerequisite courses and earn a bachelor's degree prior to entering the program. There will be no waivers or exceptions to this policy.

Completed applications should be submitted by January 15 for both traditional and hybrid programs. All paper application forms and supplemental application materials should be mailed to the Admissions Office, 1 Campus Dr., Allendale, MI 49401. It is the candidate's responsibility to ensure that all application materials are received and processed by Admissions by the January 15 deadline.

International student applicants should be able to communicate effectively in English and submit the following materials:

- Original or certified original transcripts

- Written TOEFL score minimum of 550; Minimum IELTS score of 6.5

- Official transcript credential evaluation (e.g., WES, ECE)

For further details, please read:

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

## Candidate Information Sheet

GVSU Department of Occupational Science and Therapy technical standards to ensure they are capable of meeting the requirements of the program prior to applying

## Admissions Policy

## Application Process

The GVSU Admissions Office must receive the following documents via OTCAS for your application to be complete. Applicant must do the following:

Complete The Graduate School application online within OTCAS.

Submit official transcripts from all colleges and universities attended through the fall semester prior to January 15 deadline via OTCAS. Students are responsible for sending official transcripts at the end of each semester for proof of completion of prerequisites and if admitted to the program, to demonstrate progress toward or completion of a bachelor's degree.

Submit two recommenders within OTCAS; One must be from an OTR and one must be from a professor or an employer if your degree is already completed.

Complete the Prerequisite GPA Calculation form and upload into OTCAS.

At least nine credit hours of prerequisite coursework must be completed at the time of application. The elective and the statistics course are not included in this requirement. Each individual prerequisite course must be completed with a grade of C or better.

GPA scores for the prerequisite courses and for the last 60 hours must both be at or above 3.0.

A plan for completion of prerequisites that are not fulfilled at the time of application must also be included in the Prerequisite GPA Calculation form.

Complete the Achievement Profile Form detailing student accomplishments that reflect the core values of the program and upload into OTCAS.

Complete the Documentation of OT Experience Form detailing minimum of 50 hours of experience under the supervision of an occupational therapist and upload into OTCAS. All hours must be included. A minimum of 50 hours must be completed for an application to be considered complete. Volunteer hours accrued outside the United States may only account for a maximum of 25 of the required 50 hours.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

After the application deadline, the OT Admissions Committee will meet to review all completed applications. The top 60 for the traditional program and the top 40 for the hybrid program will be invited to the next step of the application process.

### **Next Step**

An interview and an onsite writing sample.

Candidates are ranked on a total score basis.

**Traditional Program:** The top 40 candidates (minus early admits from Grand Valley State University, Central Michigan University, University of Michigan, and Hope College) are sent a letter offering them seats in the program. Candidates are asked to provide a written reply within a two-week deadline. Remaining candidates are considered alternates for admission, ranked according to total score. Each alternate candidate is offered admission one-for-one in rank order if any of the original 40 candidates decline admission.

**Hybrid Program:** The top 22 candidates (minus early admits from Grand Valley State University, Central Michigan University, University of Michigan, and Hope College) are sent a letter offering them seats in the program. They are asked to provide a written reply within a two-week deadline. Remaining candidates are considered alternates for admission, ranked according to total score. Each alternate candidate is offered admission one-for-one in rank order if any of the original 22 candidates decline admission.

Candidates who are not selected are informed once each cohort is filled and are welcome to request a meeting with a member of the OT Admissions Committee to discuss their application. This advising session is recorded and placed in the candidate's program file for future reference.

Candidates who are not selected may reapply the following year.

### **Prerequisite Courses**

<b>Prerequisite Course Name</b>	<b>GVSU Course Equivalent</b>
Anatomy and Physiology Sequence A	BMS 208 <b>AND</b> BMS 290 <b>AND</b> BMS 309
<b>OR</b> Anatomy and Physiology Sequence B	<b>BMS 250 AND BMS 251</b>
Kinesiology	MOV 300
Psychopathology	PSY 303
Lifespan Developmental Psychology	PSY 364
One of the following:	<b>EITHER:</b>

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Foundations of Behavioral Neuroscience PSY 330

Neuropsychology **OR** PSY 431

Neuroanatomy **OR** BMS 427

Intro to Statistics STA 215

One elective from psychology, sociology, anthropology, public health, or related field (200-level or higher).

## **Degree Requirements**

Completion of 81 to 82 credits in the professional curriculum is required for the master's degree in occupational therapy. General graduate academic policies can be found in the Grand Valley State University Undergraduate and Graduate Catalog. General university degree requirements are in the Academic Regulations section of the catalog and the requirements for undergraduate majors are in the Academic Programs section.

Because the occupational therapy program prepares students to practice in a variety of settings, the department assumes the responsibility to assure the public that our students have met high standards of professional behavior, academic achievement, and consistent evidence of response to consumer needs. Criminal background checks and drug screens may be required prior to participation in certain clinical experiences. The cost of this evaluation is the responsibility of the student.

The program requires that students attain a minimum of 84-percent competency in each course. This requirement is reflected in each course syllabus across the professional curriculum.

OST 502 - Theoretical Foundations in Occupational Therapy (3 credits)

OST 503 - Group Occupations in Practice (3 credits)

OST 505 - Limitations on Occupation (3 credits)

OST 551 - Conceptual Foundations of Occupational Therapy (3 credits)

OST 552 - Practical Foundations of Occupational Therapy (3 credits)

OST 553 - Level I Fieldwork (Part 1) (2 credits)

OST 555 - Professional Socialization in Occupational Therapy (3 credits)

OST 557 - Research Design in Occupational Therapy (2 credits)

OST 558 - Mental Health Services in Occupational Therapy (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

OST 559 - Mental Health Laboratory (2 credits)

OST 561 - Child and Adolescent Practice (3 credits)

OST 562 - Child and Adolescent Laboratory (2 credits)

OST 563 - Level I Fieldwork (Part 2) (1 credit)

OST 564 - Occupational Therapy Research Proposal (2 credits)

OST 565 - Occupational Therapy Services Administration (3 credits)

OST 571 - Adult Practice (3 credits)

OST 572 - Adult Laboratory (3 credits)

OST 573 - Level I Fieldwork (Part 3) (1 credit)

OST 600 - Occupational Science for Therapy (2 credits)

OST 651 - Older Adult Practice (3 credits)

OST 652 - Older Adult Laboratory (3 credits)

OST 653 - Level I Fieldwork (Part 4) (1 credit)

\* OST 660 - Level II Fieldwork (Part 1) (9 credits)

\* OST 661 - Level II Fieldwork (Part 2) (9 credits)

IPE 507 - Integrated Team Health Care (2 credits)

PNH 535 - Grant Writing (3 credits)

STA 610 - Applied Statistics for Health Professions (3 credits)

**EITHER** OST 693 - Occupational Therapy Research Project (1 to 3 credits) (3 credits overall)  
**OR** OST 695 - Occupational Therapy Master's Thesis (2 to 4 credits) (6 credits overall)

\* Level II fieldwork must be completed within 24 months of completion of the academic program.

## **Suggested Order of Coursework for Traditional Program**

### **Year One**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Fall Semester:

OST 502 - Theoretical Foundations in Occupational Therapy (3 credits)

OST 551 - Conceptual Foundations of Occupational Therapy (3 credits)

OST 552 - Practical Foundations of Occupational Therapy (3 credits)

OST 553 - Level I Fieldwork (Part 1) (2 credits)

OST 557 - Research Design in Occupational Therapy (2 credits)

STA 610 - Applied Statistics for Health Professions (3 credits)

Winter Semester:

OST 505 - Limitations on Occupation (3 credits)

OST 558 - Mental Health Services in Occupational Therapy (3 credits)

OST 559 - Mental Health Laboratory (2 credits)

OST 561 - Child and Adolescent Practice (3 credits)

OST 562 - Child and Adolescent Laboratory (2 credits)

OST 563 - Level I Fieldwork (Part 2) (1 credit)

OST 564 - Occupational Therapy Research Proposal (2 credits)

Spring/Summer Semester:

OST 503 - Group Occupations in Practice (3 credits)

OST 571 - Adult Practice (3 credits)

OST 572 - Adult Laboratory (3 credits)

OST 573 - Level I Fieldwork (Part 3) (1 credit)

OST 693 - Occupational Therapy Research Project (1 to 3 credits) **OR** OST 695 - Occupational Therapy Master's Thesis (2 to 4 credits)

PNH 535 - Grant Writing (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## Year Two

### Fall Semester:

OST 555 - Professional Socialization in Occupational Therapy (3 credits)

OST 565 - Occupational Therapy Services Administration (3 credits)

OST 600 - Occupational Science for Therapy (2 credits)

OST 651 - Older Adult Practice (3 credits)

OST 652 - Older Adult Laboratory (3 credits)

OST 653 - Level I Fieldwork (Part 4) (1 credit)

OST 680 - Special Topics in Occupational Therapy (1 to 6 credits)

**EITHER** OST 693 - Occupational Therapy Research Project (1 to 3 credits)

**OR** OST 695 - Occupational Therapy Master's Thesis (2 to 4 credits)

### Winter Semester:

OST 660 - Level II Fieldwork (Part 1) (9 credits)

### Spring/Summer Semester:

OST 661 - Level II Fieldwork (Part 2) (9 credits)

## Suggested Order of Coursework for Hybrid Delivery Model

### Fall One

OST 502 (3 credits)

OST 551 (3 credits)

OST 552 (3 credits)

OST 680 (3 credits)

**TOTAL: 12 credits**

### Winter One

OST 503 (3 credits)

OST 505 (3 credits)

OST 553 (2 credits)

**TOTAL: 8 credits**

### Spring/Summer One

PNH 535 (3 credits)

OST 555 (3 credits)

OST 600 (2 credits)

**TOTAL: 8 credits**

### Fall Two

OST 557 (2 credits)

OST 561/OST 562 (5 credits)

OST 563 (1 credit)

**Total: 8 credits**

### Winter Two

OST 558/OST 559 (3/4 credits)

OST 564 (2 credits)

OST 565 (3 credits)

**Total: 9 credits**

### Spring/Summer Two

OST 571/OST 572 (6 credits)

OST 573 (1 credit)

OST 693/OST 695 (1 to 3/2 to 4 credits)

**Total: 8 credits**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

**Fall Three**

OST 651/OST 652 (6 credits)  
 OST 653 (1 credit)  
 OST 693/OST 695 (1 to 3/2 to  
 4 credits)

**Total: 9 to 10 credits****Winter Three**

OST 660 (FW) (9 credits)

**Total: 9 credits****Spring/Summer Three**

OST 661 (FW) (9 credits)

**Total: 10 credits****Total Credits: 81 to 82 credits****Occupational Therapy Traditional and Hybrid Programs****Research Sequence**

OST 557

OST 564 Prerequisite: OST 557.

OST 568 Prerequisite: OST 564.

OST 693 or OST 695 Prerequisite: OST 568 and STA 610.

**Core Content Sequence**

OST 551

OST 561 Prerequisites: OST 551 and 502; Corequisites: OST 652 and OST 653.

OST 571 Prerequisites: OST 561; Corequisites: OST 572 and OST 573.

OST 651 Prerequisites: OST 571; Corequisites: OST 652 and OST 653.

OST 552

OST 562 Prerequisites: OST 552 and OST 502; Corequisites: OST 561 and OST 563.

OST 572 Prerequisite: OST 562; corequisites: OST 571 and OST 573.

OST 652 Prerequisite: OST 572; corequisites: OST 651 and OST 653.

OST 551 and OST 552

OST 558 Prerequisite: OST 551; corequisite: OST 559.

OST 559 Prerequisite: OST 552; corequisite: OST 558.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

OST 553

OST 563 Prerequisite: OST 553; corequisites: OST 561 and OST 562.

OST 573 Prerequisite: OST 563; corequisites: OST 571 and OST 572.

OST 653 Prerequisite: OST 573; corequisites: OST 651 and OST 652.

OST 660 Prerequisites: OST 558, OST 559, OST 651, OST 652, OST 653, and either OST 693 or OST 695.

OST 661 Prerequisite: OST 660.

## **Combined Master of Science in Occupational Therapy and Post-Professional Doctorate in Occupational Therapy**

Qualified M.S. in OT students may be admitted to a combined master's/doctoral program in order to obtain both a master's in occupational therapy (M.S. in OT) and a postprofessional doctorate in occupational therapy (Dr.O.T.) within an accelerated time frame. Students admitted to the combined degree program will count up to nine credits of doctoral work taken during their M.S. in OT degree in partial satisfaction of the requirements for the M.S. in OT. After completing 82 credits (to include the nine credits of Dr.O.T. courses) and all requirements for the M.S. OT degree, students are awarded their master's degree and will be eligible to continue with the Dr.O.T. coursework.

The Dr.O.T. degree constitutes 36 credits; the M.S. in OT-Dr.O.T. combined degree has a minimum of 27 credits remaining for the doctoral degree after completion of the 82 credits required for the M.S. in OT degree. All M.S. in OT requirements must be met, including the research project and completion of Level II Fieldwork experiences. Upon completion of the M.S. in OT, graduates will be qualified to sit for the professional certification exam offered by the National Board for Certification in Occupational Therapy (NBCOT). The OST Department recommends students pursuing the combined M.S. in OT/Dr.O.T. degree to take and pass the NBCOT certification exam prior to the start of full-time Dr.O.T. coursework. The department requires that the certification exam be successfully completed prior to the end of the second Dr.O.T. semester. Any student who has not passed the certification exam after the second Dr.O.T. semester will be granted a one semester leave of absence in order to achieve this program criteria.

Graduate students enrolled in the occupational science and therapy Master of Science traditional and hybrid programs will be eligible to apply for conditional admission in the combined degree program after completion of the first semester of coursework in the Master's program. Conditional admission will require M.S. in OT students to submit a letter of interest and commitment. Students will be assigned a Dr.O.T. faculty advisor throughout the M.S. in OT program to complete the application process. Students will complete the remaining Dr.O.T. application steps in the final semester of the M.S. in OT program, which consists of the

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

completion of GVSU's graduate application, summative course documentation for the combined degree courses, a critical evaluation of an occupational therapy article, submission of a personal statement that includes goals for program completion, as well as an interview with Dr.O.T. faculty. This will be a two-step process (conditional admission and final approval) that ensures students have ample time to explore professional interests and gain insight into research opportunities prior to finalizing the decision to apply to the Dr.O.T. program. In addition, students who did not choose to apply early in the program for conditional admission, may still apply later in the program as long as they complete the necessary admission requirements and faculty advising.

### **Application Requirements to the Combined Degree:**

Students may apply to the Dr.O.T. program as early as the completion of their first semester in the M.S. in OT program; students in both the traditional and hybrid cohorts are eligible to apply. In order to take full advantage of the combined degree option, interested students will need to apply for the combined degree program prior to registering for any of the three M.S.O.T. courses that will be replaced. Based on the current M.S. in OT course sequence, traditional students would apply before the spring/summer I semester; hybrid students would apply before the winter I semester. Students may apply after this time frame, but the combined degree would be granted with three to six M.S. in OT course credits being replaced with Dr.O.T. course credits.

Requirements for application include:

- Good standing in the M.S. in O.T. program, minimum GPA of a 3.25 in M.S. in O.T. courses

- Critical evaluation of an occupational therapy article

- Submission of a personal statement, including specific goals and timelines for completion

- Interview with OST faculty members

- Three letters of support from professional colleagues, supervisors, or faculty

- Professional resume

Requirements for combined degree program students:

- Attainment of NBCOT certification following completion of Level II Fieldwork

- Continuous employment as an occupational therapist throughout doctoral coursework

### **Graduation Requirements for Combined Degree:**

Students who are accepted to the combined degree program will take courses in the M.S.in OT and apply three Dr.O.T. courses as a substitution for related M.S.in OT content areas. The students will complete the following Dr.O.T. courses during the M.S.in OT coursework:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

OST 710 - Health Disparities and Social Determinants of Health (3 credits)

OST 715 - Critical Analysis of Occupational Science (3 credits)

OST 735 - Public Policy and Advocacy (3 credits)

The combined degree course sequence guides at the bottom of this document contain the plans for completion of the M.S.in OT courses and fieldwork experiences with the three listed Dr.O.T. courses taken in lieu of three M.S.O.T. courses. Combined degree course sequence guides for completion of the M.S.in OT. and Dr.O.T. degrees through both the traditional and hybrid M.S.in OT course delivery options are included.

Students will graduate with their M.S. degree in occupational therapy at the conclusion of Level II Fieldwork part one (OST 660) and part two (OST 661), provided they meet all university and degree requirements for the M.S.in OT degree.

### **Graduation without completion of the Doctoral Program:**

For those students who are accepted to the combined degree program but decide to pursue the master's degree only, the OST Department will accept the three completed Dr.O.T. courses (OST 710, OST 715, and OST 735) as meeting the program requirements for the master's degree. The students taking the Dr.O.T. courses in lieu of three M.S.in OT courses will meet, and exceed, the M.S.in OT student learning outcomes from OST 555 - Professional Socialization in Occupational Therapy, OST 660 - Level II Fieldwork (Part 1), and PNH 535 - Grant Writing.

Students who complete the M.S.in OT degree with the three Dr.O.T. courses but elect to matriculate into the Dr.O.T. program at a later date are required to reapply to the Dr.O.T. and fulfill its General Admission Requirements, but can utilize the nine credits of OST 710, OST 715 and OST 735 toward the degree. Per GVSU's Graduate School policy, in order to be awarded the Dr.O.T. degree and credential the remainder of the Dr.O.T. coursework would need to be completed within a period of eight years from the date of entry in the initial Dr.O.T. course.

### **Occupational Therapy Traditional Delivery Sequence of Courses**

#### **Fall I**

OST 502 - Theoretical Foundations in Occupational Therapy (3 credits)

OST 551 - Conceptual Foundations of Occupational Therapy (3 credits)

OST 552 - Practical Foundations of Occupational Therapy (3 credits)

OST 553 - Level I Fieldwork (Part 1) (2 credits)

OST 557 - Research Design in Occupational Therapy (2 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

STA 610 - Applied Statistics for Health Professions (3 credits)

### **Winter I**

OST 505 - Limitations on Occupation (3 credits)

OST 558 - Mental Health Services in Occupational Therapy (3 credits)

OST 559 - Mental Health Laboratory (2 credits)

OST 561 - Child and Adolescent Practice (3 credits)

OST 562 - Child and Adolescent Laboratory (2 credits)

OST 563 - Level I Fieldwork (Part 2) (1 credit)

OST 564 - Occupational Therapy Research Proposal (2 credits)

### **Spring/Summer I**

OST 503 - Group Occupations in Practice (3 credits)

OST 571 - Adult Practice (3 credits)

OST 572 - Adult Laboratory (3 credits)

OST 573 - Level I Fieldwork (Part 3) (1 credit)

OST 735 - Public Policy and Advocacy (3 credits) (replaces PNH 535)

OST 693 - Occupational Therapy Research Project (1 to 3 credits)

### **Fall II**

OST 710 - Health Disparities and Social Determinants of Health (3 credits) (replaces OST 555)

OST 565 - Occupational Therapy Services Administration (3 credits)

OST 651 - Older Adult Practice (3 credits)

OST 652 - Older Adult Laboratory (3 credits)

OST 653 - Level I Fieldwork (Part 4) (1 credit)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

OST 693 - Occupational Therapy Research Project (1 to 3 credits)

OST 715 - Critical Analysis of Occupational Science (3 credits) (replaces OST 600)

### **Winter II**

OST 660 - Level II Fieldwork (Part 1) (9 credits)

### **Spring/Summer II**

OST 661 - Level II Fieldwork (Part 2) (9 credits)

### **TOTAL: 82 credits**

Upon completion of these 82 credits, students will be awarded their M.S. in OT degree, will take and pass their NBCOT certification exam, and begin Dr.O.T. coursework listed as follows.

### **Occupational Therapy Hybrid Delivery Sequence of Courses**

#### **Fall I**

OST 502 - Theoretical Foundations in Occupational Therapy (3 credits)

OST 551 - Conceptual Foundations of Occupational Therapy (3 credits)

OST 552 - Practical Foundations of Occupational Therapy (3 credits)

#### **Winter I**

OST 503 - Group Occupations in Practice (3 credits)

OST 505 - Limitations on Occupation (3 credits)

OST 553 - Level I Fieldwork (Part 1) (2 credits)

OST 715 - Critical Analysis of Occupational Science (3 credits) (replaces OST 600)

#### **Spring/Summer I**

OST 710 - Health Disparities and Social Determinants of Health (3 credits) (replaces OST 555)

OST 735 - Public Policy and Advocacy (3 credits) (replaces PNH 535)

STA 610 - Applied Statistics for Health Professions (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

**Fall II**

OST 557 - Research Design in Occupational Therapy (2 credits)

OST 561 - Child and Adolescent Practice (3 credits)

OST 562 - Child and Adolescent Laboratory (2 credits)

OST 563 - Level I Fieldwork (Part 2) (1 credit)

**Winter II**

OST 558 - Mental Health Services in Occupational Therapy (3 credits)

OST 559 - Mental Health Laboratory (2 credits)

OST 564 - Occupational Therapy Research Proposal (2 credits)

OST 565 - Occupational Therapy Services Administration (3 credits)

**Summer II\***

OST 571 - Adult Practice (3 credits)

OST 572 - Adult Laboratory (3 credits)

OST 573 - Level I Fieldwork (Part 3) (1 credit)

OST 693 - Occupational Therapy Research Project (1 to 3 credits)

**Fall III\***

OST 651 - Older Adult Practice (3 credits)

OST 652 - Older Adult Laboratory (3 credits)

OST 653 - Level I Fieldwork (Part 4) (1 credit)

OST 693 - Occupational Therapy Research Project (1 to 3 credits)

**Winter III\*\***

OST 660 - Level II Fieldwork (Part 1) (9 credits)

**Spring/Summer III\*\***

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

OST 661 - Level II Fieldwork (Part 2) (9 credits)

**TOTAL: 82 credits**

\*Part-time fieldwork; \*\*Full-time fieldwork

Upon completion of these 82 credits, students will be awarded their M.S.in OT degree, will take and pass their NBCOT certification exam, and begin Dr.O.T. coursework listed as follows.

**Core Courses (All Dr.O.T. students will take):**

**Policy, Advocacy, and Leadership Courses**

OST 710 - Health Disparities and Social Determinants of Health (3 credits)

OST 725 - Leadership for Occupational Therapy (3 credits)

OST 735 - Public Policy and Advocacy (3 credits)

**Education Courses**

OST 750 - Critical Thinking and Transformative Learning (3 credits)

OST 754 - Curriculum Design in Occupational Therapy (3 credits)

**Advanced Practice Courses**

OST 715 - Critical Analysis of Occupational Science (3 credits)

OST 720 - Cultural and Contextual Influences on Occupational Performance (3 credits)

**Doctoral Project:**

OST 730 - Applied Research Strategies for Practice (3 credits)

OST 790 - Doctoral Project Preparation (3 credits)

OST 793 - Doctoral Project Defense (1 to 6 credits)

**Additional Credits**

All Dr.O.T. students will complete ONE of the following:

OST 780 - Special Topics in Occupational Therapy (1 to 3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

OST 799 - Independent Study in Occupational Therapy (1 to 3 credits)

Elective

Upon completion of these 27 credits, students will be awarded their Dr.O.T. degree.

## **Postprofessional Doctorate in Occupational Therapy**

This program will be available to only master's prepared occupational therapists.

Master prepared occupational therapists admitted to the program are required to complete 36 credits of doctoral level coursework. All doctoral courses will have an advanced-practice focus, that may include service learning, problem-based learning, and/or global learning, to demonstrate applicability to a broad clientele. Additionally, a Capstone project grounded in theory and evidence-producing research will be required. Students completing this program will have sufficient understanding of research to be intelligent consumers of research publications and be able to use research findings to support evidence-based practice.

### **Accreditation**

Higher Learning Commission, 230 South LaSalle St, Suite 7-500, Chicago, IL 60604.  
Phone: (800) 621-7440.

### **Admission**

The following is required for admission to the doctorate in occupational therapy program:

A minimum of two years of practice as a registered occupational therapist.

Cumulative GPA for last 60 credit hours of 3.25.

Critical evaluation of an occupational therapy article selected by the OST Department faculty.

Identification of specific, individual goals and timelines for seeking the Dr.O.T. degree, within a personal statement.

Personal interview with two members of the OST Department faculty.

Three letters of support from professional colleagues, supervisors, or department heads.

Note: Students must maintain at least part-time employment throughout their matriculation in the doctoral program. Exceptions to this requirement will be addressed by a faculty committee on a case-by-case basis.

### **Dr.O.T. Curriculum**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## Core Courses

Required of all Dr.O.T. students.

### Policy, Advocacy, and Leadership Courses

OST 710 - Health Disparities and Social Determinants of Health (3 credits)

OST 725 - Leadership for Occupational Therapy (3 credits)

OST 735 - Public Policy and Advocacy (3 credits)

### Advanced Practice Courses

OST 715 - Critical Analysis of Occupational Science (3 credits)

OST 720 - Cultural and Contextual Influences on Occupational Performance (3 credits)

### Education Courses

OST 750 - Critical Thinking and Transformative Learning (3 credits)

OST 754 - Curriculum Design in Occupational Therapy (3 credits)

### Doctoral Project

OST 730 - Applied Research Strategies for Practice (3 credits)

OST 790 - Doctoral Project Preparation (3 credits)

OST 793 - Doctoral Project Defense (1 to 6 credits)

### Additional Credits

All Dr.O.T. students will complete one of the following courses:

OST 780 - Special Topics in Occupational Therapy (1 to 3 credits)

OST 799 - Independent Study in Occupational Therapy (1 to 3 credits)

### Potential Elective Courses within the OST Department

OST 738 - Outcome Measures for Occupational Performance (3 credits)

OST 740 - Best Practice in School-Based Occupational Therapy (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

OST 744 - Advanced Occupational Therapy Practice: Birth to 3 years (3 credits)

OST 758 - Evaluation in Occupational Therapy Education (3 credits)

OST 760 - Introduction to Hand Rehabilitation (3 credits)

Notes:

All electives in the OST department will be offered as three credit courses.

Electives from outside the program will be approved by the Dr.O.T program coordinator.

Students may consider courses from: education, public health, assistive technology certificate program, or other master's level courses offered at GVSU.

## **Full-Time Course Sequence**

Semester One

OST 715 - Critical Analysis of Occupational Science (3 credits)

OST 730 - Applied Research Strategies for Practice (3 credits)

OST 750 - Critical Thinking and Transformative Learning (3 credits)

Semester Two

OST 720 - Cultural and Contextual Influences on Occupational Performance (3 credits)

OST 725 - Leadership for Occupational Therapy (3 credits)

OST 790 - Doctoral Project Preparation (3 credits)\*

Semester Three

OST 710 - Health Disparities and Social Determinants of Health (3 credits)

OST 754 - Curriculum Design in Occupational Therapy (3 credits)

OST 793 - Doctoral Project Defense (1 to 6 credits)\*

OST 780 - Special Topics in Occupational Therapy (1 to 3 credits) **OR** OST 799 - Independent Study in Occupational Therapy (1 to 3 credits),  
**OR** elective from outside program

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

\*OST 793 - Doctoral Project Defense (1 to 6 credits)

\* Designates a hybrid course

## **Part-Time Course Sequence**

### Semester One

OST 715 - Critical Analysis of Occupational Science (3 credits)

OST 750 - Critical Thinking and Transformative Learning (3 credits)

### Semester Two

OST 720 - Cultural and Contextual Influences on Occupational Performance (3 credits)

OST 725 - Leadership for Occupational Therapy (3 credits)

### Semester Three

OST 710 - Health Disparities and Social Determinants of Health (3 credits)

OST 730 - Applied Research Strategies for Practice (3 credits)

### Semester Four

OST 735 - Public Policy and Advocacy (3 credits)

\*OST 790 - Doctoral Project Preparation (3 credits)

### Semester Five

OST 780 - Special Topics in Occupational Therapy (1 to 3 credits) **OR** OST 799 - Independent Study in Occupational Therapy (1 to 3 credits), **OR** elective

\*OST 793 - Doctoral Project Defense (1 to 6 credits)

### Semester Six

OST 754 - Curriculum Design in Occupational Therapy (3 credits)

\*OST 793 - Doctoral Project Defense (1 to 6 credits)

\* Designates a hybrid course

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

# Operations Management

## Bachelor of Business Administration in Operations Management

This major is designed to prepare a student in the technical and strategic aspects of producing goods and services. Operations management involves the application of managerial, quantitative, and computer skills to areas of lean, six-sigma, ERP, inventory management, forecasting and scheduling, with the goal of giving students the tools to effectively manage service and manufacturing operations. Practical analytical tools, along with SAP® (the enterprise resource planning (ERP) software) and other software packages, are integrated into the operations management courses. SAP®, ERP software, and other software packages, are integrated into the majority of the operations management courses.

### Requirements for the B.B.A.

#### Core Courses

All business core courses acquaint you with various fields in business and help you learn to communicate, to interact, and to assume responsible positions in your chosen field.

For the B.B.A., you must complete the following courses:

ACC 212 - Principles of Financial Accounting (3 credits)

ACC 213 - Principles of Managerial Accounting (3 credits)

BUS 201 - Legal Environment for Business (3 credits)

**BOTH** ECO 210 - Introductory Macroeconomics (3 credits) **AND** ECO 211 - Introductory Microeconomics (3 credits)

**OR ONLY** ECO 200 - Business Economics (3 credits)

Upper-division economics course, other than ECO 490 (3 credits)

FIN 320 - Managerial Finance (3 credits)

MGT 268 - Business Processes and Management Information Systems (3 credits)

MGT 331 - Managing People and Organizations (3 credits)

MGT 366 - Operations Management (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MGT 495 - Administrative Policy (3 credits)

MKT 350 - Marketing Management (3 credits)

Students are required to select one class from the following list. This course may count toward the major or minor if applicable:

ACC 333 - Corporate Governance and Accounting Ethics (3 credits)

ECO 440 - Public Economics and Ethics (3 credits)

FIN 330 - Ethics in Finance (3 credits)

MGT 340 - Ethics and Business, Social Justice and Sustainability (3 credits)

MGT 438 - Business Ethics (3 credits)

MKT 375 - Marketing Ethics (3 credits)

### **Required Business Electives**

Three upper-division Seidman College of Business courses are not applied to the major or minor (nine credits total). However, these courses can be applied toward a second business major if one is declared.

### **Elective Courses**

Students may elect nonbusiness or business courses to fulfill their elective course requirements. Students may apply up to six hours of internship and independent research credit, in any combination, toward their degree requirements. Business majors may not take any of the major courses, except the internship and study abroad courses, on a credit/no-credit basis.

### **Required Courses**

In addition to the business core, the following courses are required:

MGT 361 - Management Science (3 credits)

MGT 362 - Computers in Operations Management (3 credits)

MGT 367 - Manufacturing Planning and Control (3 credits)

STA 215 - Introductory Applied Statistics (3 credits)

Choose one of the following quantitative courses:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MTH 122 - College Algebra (3 credits)

MTH 125 - Survey of Calculus (3 credits)

MTH 201 - Calculus I (4 credits)

PHI 103 - Logic (3 credits)

Choose two of the following courses:

MGT 363 - Managing Quality (3 credits)

MGT 364 - Service Operations Management (3 credits)

MGT 365 - Strategic Management of Operations (3 credits)

Choose two of the following courses:

MGT 337 - Supply Chain Management (3 credits)

MGT 466 - International Management and Multinational Corporations (3 credits)

MGT 467 - Advanced Topics in Operations and Supply Chain Management (3 credits)

MKT 457 - Logistics and Transportation (3 credits)

## **Palliative and Hospice Care**

Students wishing to pursue the interprofessional certificate in palliative and hospice care must submit an official GVSU application. The postbaccalaureate graduate palliative/hospice certificate is designed to explore the growing discipline of palliative and hospice care as a health specialty and compassionate care option for persons with terminal or life-limiting illness. The certificate is designed for interested individuals across health and related helping professions who seek to develop focal expertise in the field. This certificate program will review and critique the growing field of hospice and palliative care and explore the common human experience of death and terminal illness from a personal, professional, and societal empathetic perspective.

### **Program Content**

Courses will engage students using multiple teaching strategies, including discussion and debate, case studies, and simulation to expose learners to common challenges surrounding death, dying, and loss in America and other societies. Philosophies of palliative/hospice care and common dilemmas in terminal illness will serve as focal points for discussion. Coursework will consist of in-depth discussions in end-of-life care as well as factors that serve as facilitators or barriers to palliative and/or hospice care utilization.

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

## **Program Objectives**

At the completion of the certificate, learners will be able to do the following:

Contrast the interdisciplinary philosophy and delivery of palliative and hospice care with existing traditional medical models.

Delineate common types of pain and pain syndromes that contribute to symptom burden in individuals with life-limiting illness.

Develop strategies to alleviate the complex symptoms of individuals with chronic and terminal illness using a team approach.

Incorporate behaviors that acknowledge grieving and loss into routine care planning for individuals seeking palliative and hospice care.

Assimilate evidence-based strategies into effective provider communication that integrates patients and families as the unit of care.

Utilize an interdisciplinary framework to support and develop a plan of care for individuals who require palliative and/or hospice care.

## **Audience**

The certificate is designed for an interdisciplinary audience. It is directed toward postbaccalaureate graduates of nursing, social work, pharmacy, spiritual care, occupational and recreational therapy, and others; as well as the roles of physician, nurse practitioner, and physician assistant who wish to gain focused knowledge of the discipline. Admission to Grand Valley State University is required to complete the certificate.

## **Requirements for Admission**

Earned baccalaureate degree from an accredited, qualifying university.

Cumulative grade point of 3.0 or higher (on a 4.0 scale), or permission of instructor.

Submission of a curriculum vitae/resume.

Application for admission to GVSU.

## **Badge in Palliative/Hospice Care Complex Symptom Management**

Learners will be able to do the following:

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

Analyze the total symptom burden of persons requiring palliative and/or end-of-life (EOL) care in the United States across disciplines.

Compare and contrast the diagnosis and evidence-based strategies to assess and manage pain in persons requiring hospice and/or palliative care.

Formulate a comprehensive, interdisciplinary approach to physical and supportive care needs of persons with life-limiting illness.

Interpret common symptom clusters and therapeutic approaches to improve symptom burden and quality of life from an interdisciplinary perspective.

Appraise cultural influences on pain, symptom burden, and perceptions of life-limiting illness.

### **Requirements**

NUR 582 - Complex Pain and Symptom Management (3 credits) with a B or better

## **Badge in Palliative/Hospice Care Model**

Learners will be able to do the following:

Analyze evolving demographics and healthcare economics that require an improved understanding of healthcare services for individuals who require palliative and/or hospice care.

Apply evidence-based practice strategies and research findings to design and implement interdisciplinary care to individuals requiring palliative and/or hospice care.

Differentiate and apply legal and ethical principles in the analysis of complex issues in palliative and hospice care.

Analyze common barriers and facilitators of timely and effective palliative and/or hospice care.

Examine the history, trends, and the global state of palliative/hospice care with the goal of defining a discipline-specific philosophy for practice.

Create culturally sensitive interdisciplinary healthcare based on awareness of socio-cultural preferences.

### **Requirements**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

NUR 581 - Chronic and Terminal Illness: The Palliative/Hospice Model (3 credits) with a B or better

## **Pedagogical Content Knowledge for Elementary Teaching Major (BA/BS)**

The pedagogical content knowledge for elementary teaching (PCKET) major is designed for students seeking certification at the elementary level. Major courses meet professional and content-specific standards established in the Michigan Department of Education Standards for the Preparation of Teachers of Lower and Upper Elementary Education. Students in the PCKET program can earn certification for teaching prekindergarten through grade three (PK-3) and/or grade three through grade six (3-6). Students in either the PK-3 or 3-6 program also have the option of adding courses that will earn them an endorsement in teaching English as a second language, elementary Spanish, or special education (K-12). Students in the 3-6 program also concentrate in one of four content areas: English language arts, mathematics, integrated science, or social studies.

Regardless of emphasis area, the PCKET major provides a solid foundation in subject-matter knowledge and pedagogical approaches across all content areas taught at the elementary level: English language arts, mathematics, science, social studies, fine arts, and health and physical education. Students complete several field experiences in classrooms, and learn to plan instruction and assessments for diverse populations.

### **Associated Programs**

#### **Educational Studies Major**

In order to achieve elementary-level certification, all students (other than special education; see as follows) must also complete the educational studies major through the College of Education and Community Innovation. Together with the PCKET major, this major offers courses that meet Michigan Department of Education Standards for the Preparation of Teachers of Early and Upper Elementary Education.

#### **Special Education Program**

Students seeking special education teaching certification complete the PCKET major as well as a second major in special education through the College of Education and Community Innovation . Successful completion of both the PCKET major and the special education major certifies the student to teach the special education endorsement areas in kindergarten through grade 12.

#### **Spanish Elementary Education**

Students seeking an endorsement in Spanish elementary education complete the PCKET major for PK-3 and/or 3-6, the educational studies major, and the Spanish elementary minor.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Completion of these programs certifies the student to teach Spanish and other content areas in a self-contained classroom in PK-3 and/or 3-6 (as either a specialist or in a Spanish immersion classroom).

### **Applied Linguistics-English as a Second Language (ESL)**

The ESL track of the applied linguistics minor is designed for students seeking PK-3 and/or 3-6 certification. Completion of the PCKET major, the educational studies major, and the ESL minor leads to teacher certification and an endorsement in ESL.

## **Bachelor of Arts or Bachelor of Science in Pedagogical Content Knowledge for Elementary Teaching Major**

Students in the pedagogical content knowledge for elementary teaching major (PCKET) at Grand Valley State University must follow all general education requirements as defined in the Grand Valley State University Undergraduate and Graduate Catalog. Students seeking a Bachelor of Science should follow the curriculum as proposed. Students desiring the Bachelor of Arts in either PK-3 or 3-6 must complete the following courses to satisfy program requirements:

### **B.A. Course Requirements**

Students seeking a Bachelor of Arts in the PCKET major will have additional requirements. B.A. students must demonstrate third-semester proficiency in a foreign language by successfully completing a 201-level language course, passing a proficiency exam in the language chosen, or through AP credit.

### **PCKET Major Requirements for PK-3 Certification (44 credits)**

Students who would like to become certified to teach PK-3 must choose one of the following emphasis areas:

#### **PCKET for PK-3 Emphasis**

This emphasis is for students who plan to earn certification for teaching general populations in PK-3 classrooms. Though not required, students also have the option of adding a content area concentration in English Language Arts, Mathematics, Integrated Science, or Social Studies by taking the concentration courses listed under the 3-6 emphasis areas.

#### **PCKET for PK-3 Emphasis with a specialized teaching endorsement**

This emphasis is for students who would like to be certified to teach PK-3 and endorsed to teach specialized populations or content at the elementary level. Students with this emphasis will combine the PCKET for PK-3 major emphasis with an ESL minor, Spanish minor, or special education major.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Required coursework for PK-3 is as follows. Note that PSY 101 (3) and MTH 126 (2) are prerequisite courses not included in the major's core courses listed as follows. MTH 126 (2) taken in combination with STA 126 (2) will fulfill the Mathematical Sciences general education requirement:

**Fine Arts (3 credits)**

MUS 128 - Strum and Drum for Everyone (3 credits) **OR** ART 231 - Integrating the Visual Arts Across Disciplines (3 credits)

**Health and Physical Education (3 credits)**

HPE 267 - Health and Movement Education for Elementary Teachers (3 credits)

**English as a Second Language (3 credits)**

ENG 355 - Teaching English Learners, PK-6 (3 credits)

**Mathematics (10 credits)**

MTH 226 - Mathematics for PK-6: Whole Numbers and Operations (3 credits)

MTH 326 - Math for PK-6: Fractions, Decimals, and Proportional Reasoning (3 credits)

MTH 328 - Early Childhood Mathematics (PK-3) (3 credits)

MTH 428 - Teaching Math in the Elementary Grades (1 credit)

**English Language Arts (9 credits)**

ENG 201 - Foundations of Literacy Instruction (3 credits)

ENG 301 - Reading and Writing in the Elementary Classroom (3 credits)

ENG 401 - Languages, Literacies, and Cultures (3 credits)

**Social Studies (6 credits)**

HST 209 - History and Social Studies for Elementary Teachers (3 credits)

SST 308 - Teaching Elementary Social Studies: Grades PK-3 (3 credits)

**Integrated Science (7 credits)**

SCI 225 - Integrated Life Science for PK-3 Teachers (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

SCI 226 - Integrated Physical Science for PK-3 Teachers (3 credits)

### **Capstone (3 credits)**

PCK 495 - Integrated Discipline-Based Research in the PK-6 Classrooms (Capstone) (3 credits)

Students with a PK-3 emphasis can also choose an optional content area concentration by taking the concentration courses listed under the 3-6 emphases. In addition, students can combine PK-3 certification with 3-6 certification.

### **PCKET Major Requirements for 3-6 Certification (56 credits)**

Students who would like to become certified to teach 3-6 must choose one of the following emphasis areas:

#### **PCKET for 3-6 with Math, English Language Arts, Integrated Science, or Social Studies concentration**

This emphasis is for students who would like to be certified to teach grades three through six. The PCKET major for 3-6 certification requires a content area concentration in one of the four core content areas. Required coursework, along with coursework for each of the four concentration areas, is listed below.

#### **PCKET for 3-6 with specialized teaching endorsement**

This emphasis is for students who would like to be certified to teach 3-6 and endorsed to teach specialized populations or content at the elementary level. Those who choose this emphasis will combine 3-6 coursework with an ESL minor, Spanish minor, or special education major. Because students in this emphasis are choosing a specialization area, they will not be required to choose a content area concentration.

Required coursework for 3-6 emphases is as follows. Note that PSY 101 (3) and MTH 126 (2) are prerequisite courses not included in the major's core courses listed as follows. MTH 126 (2) taken in combination with STA 126 (2) will fulfill the Mathematical Sciences general education requirement:\*

#### **Fine Arts (3 credits)**

MUS 128 - Strum and Drum for Everyone (3 credits) **OR** ART 231 - Integrating the Visual Arts Across Disciplines (3 credits)

#### **Health and Physical Education (3 credits)**

HPE 267 - Health and Movement Education for Elementary Teachers (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

**English as a Second Language (3 credits)**

ENG 355 - Teaching English Learners, PK-6 (3 credits)

**Mathematics (10 credits)**

MTH 226 - Mathematics for PK-6: Whole Numbers and Operations (3 credits)

MTH 326 - Math for PK-6: Fractions, Decimals, and Proportional Reasoning (3 credits)

MTH 428 - Teaching Math in the Elementary Grades (1 credit)

**English Language Arts (9 credits)**

ENG 201 - Foundations of Literacy Instruction (3 credits)

ENG 301 - Reading and Writing in the Elementary Classroom (3 credits)

ENG 401 - Languages, Literacies, and Cultures (3 credits)

**Social Studies (6 credits)**

HST 209 - History and Social Studies for Elementary Teachers (3 credits)

SST 309 - Teaching Elementary Social Studies: Grades 3-6 (3 credits)

And one of the following+:

HST 205 - American History to 1877 (3 credits)

SST 308 - Teaching Elementary Social Studies: Grades PK-3 (3 credits)

SST 311 - Data Literacy for Social Studies Teachers (3 credits)

**Integrated Science (7 credits)**

SCI 225 - Integrated Life Science for PK-3 Teachers (4 credits)

SCI 226 - Integrated Physical Science for PK-3 Teachers (3 credits)

SCI 227 - Integrated Life and Earth Science for 3-6 Teachers (3 credits)

**Capstone (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

PCK 495 - Integrated Discipline-Based Research in the PK-6 Classrooms (Capstone) (3 credits)

Concentration Area<sup>+</sup> (Students not seeking endorsement in special education, Spanish elementary education, or ESL must choose one of the following).

**Math Concentration (9 credits):**

MTH 322 - Geometry for Elementary Teachers (3 credits)

MTH 323 - Probability and Statistics for Elementary Teachers (3 credits)

MTH 324 - Algebra for Elementary Teachers (3 credits)

**English Language Arts Concentration (9 credits; cannot double-count courses):**

One of the following:

ENG 215 - Foundations of Literary Study: Genre (3 credits)

ENG 216 - Foundations of Literary Study: Critical Approaches (3 credits)

ENG 261 - Foundations of Language Study (3 credits)

And one of the following:

ENG 215 - Foundations of Literary Study: Genre (3 credits)

ENG 216 - Foundations of Literary Study: Critical Approaches (3 credits)

ENG 261 - Foundations of Language Study (3 credits)

ENG 304 - International Literature for Children and Young Adults (3 credits)

ENG 334 - American Multicultural Literature for Children and Young Adults (3 credits)

ENG-prefix Issues course (3 credits)

And one of the following:

ENG 215 - Foundations of Literary Study: Genre (3 credits)

ENG 216 - Foundations of Literary Study: Critical Approaches (3 credits)

ENG 261 - Foundations of Language Study (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

ENG-prefix Philosophy and Literature General Education (3 credits)

**Integrated Science Concentration (9 credits):**

BIO 205 - Genetics for PK-6 Teachers (3 credits)

CHM 201 - Introduction to Chemical Sciences (3 credits)

SCI 495 - Teaching Science in the 21st Century (3 credits)

**Social Studies Concentration (9 credits; cannot double-count courses already taken for core required coursework):**

At least one geography course:

GPY 220 - Cultural Geography (3 credits) **OR** GPY 235 - Geography for a Changing World (3 credits)

At least one history course, which must include:

HST 205 - American History to 1877 (3 credits)

And one of the following:

SST 308 - Teaching Elementary Social Studies: Grades PK-3 (3 credits)

SST 311 - Data Literacy for Social Studies Teachers (3 credits)

HST 301 - Colonial America (3 credits)

HST 302 - Revolutionary America (3 credits)

HST 312 - History of American Women (3 credits)

HST 314 - African American History (3 credits)

HST 315 - Latinos: The Forging of Ethnic Identities (3 credits)

HST 318 - History of Democracy in America (3 credits)

HST 320 - American Indians (3 credits)

HST 323 - Michigan History (3 credits)

HST 328 - U.S. Constitutional and Legal History (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

PLS 102 - American Government and Politics (3 credits)

PLS 203 - State Politics (3 credits)

PLS 206 - American Constitutional Foundations (3 credits)

Students with a 3-6 emphasis also have the option of combining with a PK-3 emphasis. Courses under the 3-6 emphasis marked with a + are courses that are not in the PK-3 emphasis.

### **PCKET Major Requirements for Combined PK-3 and 3-6 Certification (59 credits)**

Students who would like to become certified to teach both PK-3 and 3-6 must choose both of the following emphasis areas:

#### **PCKET for PK-3 Emphasis**

This emphasis is for students who plan to earn certification for teaching general populations in PK-3 classrooms. Though not required, students also have the option of adding a content area concentration in English language arts, mathematics, integrated science, or social studies by taking the concentration courses listed under the 3-6 emphasis areas.

#### **PCKET for 3-6 with Math, English Language Arts, Integrated Science, or Social Studies Concentration**

This emphasis is for students who would like to be certified to teach grades three through six. The PCKET major for 3-6 certification requires a content area concentration in one of the four core content areas. Required coursework, along with coursework for each of the four concentration areas is listed as follows.

Required coursework for 3-6 emphases is as follows. Note that PSY 101 (3) and MTH 126 (2) are prerequisite courses not included in the major's core courses listed as follows. MTH 126 (2) taken in combination with STA 126 (2) will fulfill the Mathematical Sciences general education requirement:\*

#### **Fine Arts (3 credits)**

MUS 128 - Strum and Drum for Everyone (3 credits) **OR** ART 231 - Integrating the Visual Arts Across Disciplines (3 credits)

#### **Health and Physical Education (3 credits)**

HPE 267 - Health and Movement Education for Elementary Teachers (3 credits)

#### **English as a Second Language (3 credits)**

ENG 355 - Teaching English Learners, PK-6 (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

**Mathematics (10 credits)**

MTH 226 - Mathematics for PK-6: Whole Numbers and Operations (3 credits)

MTH 326 - Math for PK-6: Fractions, Decimals, and Proportional Reasoning (3 credits)

MTH 328 - Early Childhood Mathematics (PK-3) (3 credits)

MTH 428 - Teaching Math in the Elementary Grades (1 credit)

**English Language Arts (9 credits)**

ENG 201 - Foundations of Literacy Instruction (3 credits)

ENG 301 - Reading and Writing in the Elementary Classroom (3 credits)

ENG 401 - Languages, Literacies, and Cultures (3 credits)

**Social Studies (6 credits)**

HST 209 - History and Social Studies for Elementary Teachers (3 credits)

SST 308 - Teaching Elementary Social Studies: Grades PK-3 (3 credits)

SST 309 - Teaching Elementary Social Studies: Grades 3-6 (3 credits)

**Integrated Science (7 credits)**

SCI 225 - Integrated Life Science for PK-3 Teachers (4 credits)

SCI 226 - Integrated Physical Science for PK-3 Teachers (3 credits)

SCI 227 - Integrated Life and Earth Science for 3-6 Teachers (3 credits)

**Capstone (3 credits)**

PCK 495 - Integrated Discipline-Based Research in the PK-6 Classrooms (Capstone) (3 credits)

**Concentration Area (Choose one of the following concentrations)****Math concentration (9 credits):**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MTH 322 - Geometry for Elementary Teachers (3 credits) **AND** MTH 323 - Probability and Statistics for Elementary Teachers (3 credits) **AND** MTH 324 - Algebra for Elementary Teachers (3 credits)

**English Language Arts Concentration (9 credits; cannot double-count courses):**

One of the following:

ENG 215 - Foundations of Literary Study: Genre (3 credits)

ENG 216 - Foundations of Literary Study: Critical Approaches (3 credits)

ENG 261 - Foundations of Language Study (3 credits)

And one of the following:

ENG 215 - Foundations of Literary Study: Genre (3 credits)

ENG 216 - Foundations of Literary Study: Critical Approaches (3 credits)

ENG 261 - Foundations of Language Study (3 credits)

ENG 304 - International Literature for Children and Young Adults (3 credits)

ENG 334 - American Multicultural Literature for Children and Young Adults (3 credits)

ENG-prefix Issues course (3 credits)

And one of the following:

ENG 215 - Foundations of Literary Study: Genre (3 credits)

ENG 216 - Foundations of Literary Study: Critical Approaches (3 credits)

ENG 261 - Foundations of Language Study (3 credits)

ENG-prefix Philosophy and Literature General Education (3 credits)

**Integrated Science Concentration (9 credits):**

BIO 205 - Genetics for PK-6 Teachers (3 credits)

CHM 201 - Introduction to Chemical Sciences (3 credits)

SCI 495 - Teaching Science in the 21st Century (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

**Social Studies Concentration (9 credits; cannot double-count courses already taken for core required coursework):**

At least one geography course:

GPY 220 - Cultural Geography (3 credits) **OR** GPY 235 - Geography for a Changing World (3 credits)

At least one history course, which must include:

HST 205 - American History to 1877 (3 credits)

And one of the following:

SST 311 - Data Literacy for Social Studies Teachers (3 credits)

HST 301 - Colonial America (3 credits)

HST 302 - Revolutionary America (3 credits)

HST 312 - History of American Women (3 credits)

HST 314 - African American History (3 credits)

HST 315 - Latinos: The Forging of Ethnic Identities (3 credits)

HST 318 - History of Democracy in America (3 credits)

HST 320 - American Indians (3 credits)

HST 323 - Michigan History (3 credits)

HST 328 - U.S. Constitutional and Legal History (3 credits)

PLS 102 - American Government and Politics (3 credits)

PLS 203 - State Politics (3 credits)

PLS 206 - American Constitutional Foundations (3 credits)

**Suggested Order of Coursework for Pre-K-3 Emphasis**

College of Education and Community Innovation courses included; 110 credits total.

**Year One**

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

## Fall

EDF 115 - Introduction to Education: An Exploration of Schooling in America (3 credits)

MTH 126 - Mathematics for Elementary Teachers (2 credits)

PSY 101 - Introductory Psychology (3 credits)

WRT 150 - Strategies in Writing (4 credits)

HST 209 - History and Social Studies for Elementary Teachers (3 credits)

## Winter

EDF 215 - Introduction to Philosophies of Early Childhood (3 credits)

ENG 201 - Foundations of Literacy Instruction (3 credits)

PSY 301 - Child Development (3 credits)

SCI 225 - Integrated Life Science for PK-3 Teachers (4 credits)

STA 126 - Statistics for Elementary Teachers (2 credits)

## Year Two

### Fall

EDF 315 - Diverse Perspectives on Education (3 credits)

EDI 317 - Collaborating with Families and Professionals (3 credits)

ENG 355 - Teaching English Learners, PK-6 (3 credits)

HPE 267 - Health and Movement Education for Elementary Teachers (3 credits)

MUS 128 - Strum and Drum for Everyone (3 credits) **OR** ART 231 - Integrating the Visual Arts Across Disciplines (3 credits)

### Winter

EDF 260 - Educational Research and Assessment: Foundations of Practice (3 credits)

EDR 320 - Emergent Literacy and the Development of Reading, Writing, and Language (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

EDS 318 - Teaching Students with Learning and Behavior Difficulties (3 credits)

MTH 226 - Mathematics for PK-6: Whole Numbers and Operations (3 credits)

Optional Specialization (3 credits)

### **Year Three**

#### Fall

EDR 323/EDS 323 - Teaching Students with Language and Literacy Learning Difficulties (3 credits)

EDT 476 - Teaching with Technology (3 credits)

MTH 326 - Math for PK-6: Fractions, Decimals, and Proportional Reasoning (3 credits)

SCI 226 - Integrated Physical Science for PK-3 Teachers (3 credits)

Optional Specialization (3 credits)

#### Winter

EDI 312 - Child Guidance (3 credits)

ENG 301 - Reading and Writing in the Elementary Classroom (3 credits)

MTH 328 - Early Childhood Mathematics (PK-3) (3 credits)

PCK 495 - Integrated Discipline-Based Research in the PK-6 Classrooms (Capstone) (3 credits)

SST 308 - Teaching Elementary Social Studies: Grades PK-3 (3 credits)

### **Year Four**

#### Fall

EDI 310 - Building and Sustaining Positive Learning Environments (3 credits)

EDI 330 - Elementary Apprenticeship PK-6 (6 credits)

ENG 401 - Languages, Literacies, and Cultures (3 credits)

Optional Specialization (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Winter

EDF 495 - Capstone: Reflective Inquiry and Practice (3 credits)

EDI 430 - Student Teaching, Elementary (10 credits)

MTH 428 - Teaching Math in the Elementary Grades (1 credit)

### **Suggested Order of Coursework for 3-6 Emphasis**

College of Education and Community Innovation courses included; 110 credits total.

### **Year One**

Fall

EDF 115 - Introduction to Education: An Exploration of Schooling in America (3 credits)

MTH 126 - Mathematics for Elementary Teachers (2 credits)

PSY 101 - Introductory Psychology (3 credits)

WRT 150 - Strategies in Writing (4 credits)

HST 209 - History and Social Studies for Elementary Teachers (3 credits)

Winter

MUS 128 - Strum and Drum for Everyone (3 credits) **OR** ART 231 - Integrating the Visual Arts Across Disciplines (3 credits)

ENG 201 - Foundations of Literacy Instruction (3 credits)

PSY 301 - Child Development (3 credits)

SCI 225 - Integrated Life Science for PK-3 Teachers (4 credits)

STA 126 - Statistics for Elementary Teachers (2 credits)

### **Year Two**

Fall

EDF 315 - Diverse Perspectives on Education (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

EDI 317 - Collaborating with Families and Professionals (3 credits)

ENG 355 - Teaching English Learners, PK-6 (3 credits)

HPE 267 - Health and Movement Education for Elementary Teachers (3 credits)

Philosophy and Literature General Education (3 credits)

#### Winter

EDF 260 - Educational Research and Assessment: Foundations of Practice (3 credits)

EDR 320 - Emergent Literacy and the Development of Reading, Writing, and Language (3 credits)

EDS 318 - Teaching Students with Learning and Behavior Difficulties (3 credits)

MTH 226 - Mathematics for PK-6: Whole Numbers and Operations (3 credits)

Required content area concentration course (3 credits)

#### Year Three

##### Fall

EDR 323/EDS 323 - Teaching Students with Language and Literacy Learning Difficulties (3 credits)

EDT 476 - Teaching with Technology (3 credits)

MTH 326 - Math for PK-6: Fractions, Decimals, and Proportional Reasoning (3 credits)

SCI 226 - Integrated Physical Science for PK-3 Teachers (3 credits)

SST 311 - Data Literacy for Social Studies Teachers (3 credits)

##### Winter

ENG 301 - Reading and Writing in the Elementary Classroom (3 credits)

PCK 495 - Integrated Discipline-Based Research in the PK-6 Classrooms (Capstone) (3 credits)

SCI 227 - Integrated Life and Earth Science for 3-6 Teachers (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

SST 309 - Teaching Elementary Social Studies: Grades 3-6 (3 credits)

Required content area concentration course (3 credits)

## **Year Four**

### Fall

EDI 310 - Building and Sustaining Positive Learning Environments (3 credits)

EDI 330 - Elementary Apprenticeship PK-6 (6 credits)

ENG 401 - Languages, Literacies, and Cultures (3 credits)

Required content area concentration course (3 credits)

### Winter

EDF 495 - Capstone: Reflective Inquiry and Practice (3 credits)

EDI 430 - Student Teaching, Elementary (10 credits)

MTH 428 - Teaching Math in the Elementary Grades (1 credit)

## **Suggested Order of Coursework for PK-3 and 3-6 Emphases**

College of Education and Community Innovation courses included; 122 credits total.

## **Year One**

### Fall

EDF 115 - Introduction to Education: An Exploration of Schooling in America (3 credits)

MTH 126 - Mathematics for Elementary Teachers (2 credits)

PSY 101 - Introductory Psychology (3 credits)

WRT 150 - Strategies in Writing (4 credits)

HST 209 - History and Social Studies for Elementary Teachers (3 credits)

### Winter

EDF 215 - Introduction to Philosophies of Early Childhood (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

ENG 201 - Foundations of Literacy Instruction (3 credits)

PSY 301 - Child Development (3 credits)

SCI 225 - Integrated Life Science for PK-3 Teachers (4 credits)

STA 126 - Statistics for Elementary Teachers (2 credits)

## **Year Two**

### Fall

EDF 315 - Diverse Perspectives on Education (3 credits)

EDI 317 - Collaborating with Families and Professionals (3 credits)

ENG 355 - Teaching English Learners, PK-6 (3 credits)

HPE 267 - Health and Movement Education for Elementary Teachers (3 credits)

MUS 128 - Strum and Drum for Everyone (3 credits) **OR** ART 231 - Integrating the Visual Arts Across Disciplines (3 credits)

### Winter

EDF 260 - Educational Research and Assessment: Foundations of Practice (3 credits)

EDR 320 - Emergent Literacy and the Development of Reading, Writing, and Language (3 credits)

EDS 318 - Teaching Students with Learning and Behavior Difficulties (3 credits)

MTH 226 - Mathematics for PK-6: Whole Numbers and Operations (3 credits)

SCI 226 - Integrated Physical Science for PK-3 Teachers (3 credits)

## **Year Three**

### Fall

EDR 323/EDS 323 - Teaching Students with Language and Literacy Learning Difficulties (3 credits)

EDT 476 - Teaching with Technology (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

MTH 326 - Math for PK-6: Fractions, Decimals, and Proportional Reasoning (3 credits)

SCI 227 - Integrated Life and Earth Science for 3-6 Teachers (3 credits)

Required content area concentration course (3 credits)

#### Winter

EDI 312 - Child Guidance (3 credits)

ENG 301 - Reading and Writing in the Elementary Classroom (3 credits)

MTH 328 - Early Childhood Mathematics (PK-3) (3 credits)

PCK 495 - Integrated Discipline-Based Research in the PK-6 Classrooms (Capstone) (3 credits)

SST 308 - Teaching Elementary Social Studies: Grades PK-3 (3 credits)

#### Spring/Summer

Required content area concentration course (3 credits)

### **Year Four**

#### Fall

EDI 310 - Building and Sustaining Positive Learning Environments (3 credits)

EDI 330 - Elementary Apprenticeship PK-6 (6 credits)

ENG 401 - Languages, Literacies, and Cultures (3 credits)

Required content area concentration course (3 credits)

#### Winter

EDF 495 - Capstone: Reflective Inquiry and Practice (3 credits)

EDI 430 - Student Teaching, Elementary (10 credits)

MTH 428 - Teaching Math in the Elementary Grades (1 credit)

## **Philosophy**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

Philosophy is an activity, a practice, and a way of life that is intimately associated with the ideals of liberal education. Philosophy is also a discipline and a subject matter, one that arises from the history of its primary activity of asking and answering questions about reality, meaning, and value. Through both the activity and the discipline aspects, the study of philosophy contributes to the development of the whole person. Philosophy cuts across other disciplines by uncovering the basic assumptions of our various ways of understanding reality, making it possible for us to be alert and responsive at this level. This same inherently interdisciplinary quality also makes it possible for us to achieve a conception of the world as a whole, which supports an informed scale of value. The ongoing study of philosophy is not only informative, but transformative, enabling us to live an examined life and to grow toward the way of being that the liberally educated person and the philosopher exemplify.

**Website:** [gvsu.edu/philosophy](http://gvsu.edu/philosophy)

### **Philosophy Minors**

Students seeking a minor in philosophy are invited to work out an appropriate program with any member of the department. The program must include a minimum of 18 hours of philosophy, at least six hours of which must be upper-division (300- or 400-level), and at least one course must be chosen from PHI 400, PHI 420, PHI 430, PHI 440, PHI 450, PHI 460, or PHI 470.

The Department of Philosophy also offers the following interdisciplinary minors: STEM ethics, health care ethics, and ethics, culture, and society.

### **Graduate and Professional School Opportunities**

Any graduate, professional, or career program depending on a liberal arts curriculum will welcome work done in philosophy. Schools of law, theology, and religious studies are particularly enthusiastic about philosophy as an undergraduate major. Students interested in attending law school should contact Professor John Uglietta, the department's prelaw advisor.

### **Participating Programs**

#### **Special Programs**

Study abroad programs directed by philosophy faculty are especially beneficial for philosophy students. The GVSU Summer School in China represents a rare opportunity to study many aspects of Chinese culture, including Buddhist, Daoist, and Confucian philosophy, in China.

The undergraduate teaching apprentice program is directed toward philosophy majors planning to attend graduate school, and is designed to provide an opportunity for selected students to apprentice in teaching philosophy. For such students, experience in this aspect of the practice of philosophy is an important complement to the undergraduate major.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

# **Bachelor of Arts in Philosophy**

## **Requirements for a Major in Philosophy**

In an era when many majors are inflated because of the influence of careerism, specialization, and external accrediting agencies, the credit-hour requirements for the philosophy major remain modest at only 30. This is because we take seriously the value of electives in the student's college program, the value of exploring and discovering one's real interests. The number of required hours in philosophy is also modest because we wish to encourage students to discover the importance of relating philosophy to other fields through double majors, minors, and clusters of elective courses indicating developed proficiencies.

The previous information emphasizes the importance of the advising relationship. In order to facilitate this relationship, the philosophy major requires a study plan through which the student's work can be consciously developed and articulated. A first draft of the study plan must be completed with the advisor by the beginning of the junior year, revised each successive semester, and completed in the Capstone course.

## **Degree Requirements**

The philosophy B.A. requires third-semester proficiency in a foreign language (201). We strongly encourage completing the fourth semester of the language (202) as well.

## **Major Course Requirements**

Students majoring in philosophy must complete a minimum of 30 hours in the department.

The following course is required for all philosophy majors:

PHI 103 - Logic (3 credits)

Choose four of the following courses:

PHI 311 - Origins of Western Thought: Ancient Philosophy (3 credits)

PHI 312 - Divine Revelation meets Greek Rationality: Medieval Philosophy (3 credits)

PHI 313 - Reason, Experience, Morality at the Dawn of Modernity: Early Modern Philosophy (3 credits)

PHI 314 - Capitalism, Secularism, Nationalism: 19th Century Philosophy (3 credits)

PHI 315 - Philosophy Now: Contemporary Great Philosophers (3 credits)

Choose one of the following courses:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

PHI 210 - Eastern Philosophy (3 credits)

PHI 240 - Middle Eastern Philosophy (3 credits)

PHI 400 - Wisdom of the East: Advanced Topics in Asian Philosophy (3 credits)

The following Capstone course is required for all philosophy majors:

- PHI 495 - Reality, Knowledge, and Value (Capstone) (3 credits)

### **Elective Courses**

Students may choose electives from any other courses in the philosophy program course listings. At least one elective must be chosen from PHI 400, PHI 420, PHI 430, PHI 440, PHI 450, PHI 460, or PHI 470. Courses numbered PHI 311, PHI 312, PHI 313, PHI 314, PHI 315, and PHI 380 may be repeated for credit when their content varies.

### **Suggested Order of Coursework**

#### **Year One**

- PHI 103 - Logic (3 credits)
- PHI 101 - Introduction to Philosophy (3 credits) **OR** PHI 102 - Ethics (3 credits) **OR** PHI 220 - Aesthetics (3 credits)
- Beginning language course (101 and 102) for students seeking a B.A. degree.

#### **Years Two Through Four**

- Additional required PHI courses
- PHI electives
- Intermediate language course (201) for students seeking a B.A. degree; fourth semester language (202) is recommended.

#### **Final Year**

- PHI 495 - Reality, Knowledge, and Value (Capstone) (3 credits)

## **Philosophy Minor**

### **Requirements for a Minor in Philosophy**

Students seeking a minor in philosophy are invited to work out an appropriate program with any member of the department. The program must include a minimum of 18 hours of philosophy, at least six hours of which must be upper-division (300- or 400-level), and at least one course must

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

be chosen from PHI 400, PHI 420, PHI 430, PHI 440, PHI 450, PHI 460, or PHI 470. You can also choose a study of ethics from one of the practical ethics minors as follows.

### Practical Ethics Minors

Choosing one of these minors will add a complementary credential to students in any Grand Valley major program by providing them with a thorough grounding in philosophical thinking about ethics and value. Students can choose courses tailored to their specific area of study. A grounding in philosophical thinking, especially thinking about ethics and value, is of significant personal, practical, and professional value to students pursuing many different major programs.

Students from all majors can elect one and only one of these minors. A minimum of 18 credits are required for any of the minors. Two courses are required courses in each of the minors, PHI 102 and PHI 460. Additionally, the student must select four electives, two of which must be upper division courses (300- or 400-level).

### **Ethics, Culture, and Society Minor**

#### **Courses Required**

Students must complete the following:

- PHI 102 - Ethics (3 credits)
- PHI 460 - Rights, Duties, and the Meaning of Life: Moral Philosophy (3 credits)

#### **Elective Courses**

Select four courses (at least 12 credits) two of which must be upper division courses (300- or 400-level courses) from the list below. These four elective courses can include up to two courses noted with asterisks:

- BIO 338 - Environmental Ethics (3 credits)
- NRM 300 - Ethical Recreation: Leave No Trace (1 credit)
- \*PHI 101 - Introduction to Philosophy (3 credits)
- \*PHI 103 - Logic (3 credits)
- PHI 210 - Eastern Philosophy (3 credits)
- \*PHI 220 - Aesthetics (3 credits)
- PHI 230 - American Philosophy (3 credits)
- \*PHI 250 - Existentialism (3 credits)
- PHI 300 - Theories of Human Nature (3 credits)
- PHI 320 - Power, Justice, and Freedom: Social and Political Philosophy (3 credits)
- PHI 325 - Ethics in Professional Life (3 credits)
- PHI 341 - Philosophy of Death and Dying (3 credits)
- PHI 370 - Sex Matters: Feminist Philosophy in the Contemporary World (3 credits)
- PHI 440 - Perception, Hallucination, Trust: Perspectives on Knowledge (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Health Care Ethics Minor**

### **Courses Required**

Students must complete the following:

- PHI 102 - Ethics (3 credits)
- PHI 460 - Rights, Duties, and the Meaning of Life: Moral Philosophy (3 credits)

### **Elective Courses**

Select four courses (at least 12 credits) two of which must be upper division courses (300- or 400-level courses) from the list below. These four elective courses can include up to two courses noted with asterisks:

- AHS 321 - Ethical and Legal Responsibilities in Health Care (3 credits)
- BIO 328 - Biomedical Ethics (3 credits)
- \*PHI 101 - Introduction to Philosophy (3 credits)
- \*PHI 103 - Logic (3 credits)
- PHI 202 - Philosophy and Ethics of Health (3 credits)
- PHI 210 - Eastern Philosophy (3 credits)
- \*PHI 220 - Aesthetics (3 credits)
- PHI 230 - American Philosophy (3 credits)
- \*PHI 250 - Existentialism (3 credits)
- PHI 300 - Theories of Human Nature (3 credits)
- PHI 320 - Power, Justice, and Freedom: Social and Political Philosophy (3 credits)
- PHI 325 - Ethics in Professional Life (3 credits)
- PHI 341 - Philosophy of Death and Dying (3 credits)
- PHI 370 - Sex Matters: Feminist Philosophy in the Contemporary World (3 credits)
- PHI 420 - Philosophy of Science (3 credits)
- PHI 440 - Perception, Hallucination, Trust: Perspectives on Knowledge (3 credits)

## **Ethics, Culture, and Society Minor**

### **Courses Required**

Students must complete the following:

- PHI 102 - Ethics (3 credits)
- PHI 460 - Rights, Duties, and the Meaning of Life: Moral Philosophy (3 credits)

### **Elective Courses**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Select four courses (at least 12 credits) two of which must be upper division courses (300- or 400-level courses) from the list below. These four elective courses can include up to two courses noted with asterisks:

- BIO 338 - Environmental Ethics (3 credits)
- DS 360 - Ethics of Digital Culture (3 credits)
- \*PHI 101 - Introduction to Philosophy (3 credits)
- \*PHI 103 - Logic (3 credits)
- PHI 210 - Eastern Philosophy (3 credits)
- \*PHI 220 - Aesthetics (3 credits)
- PHI 230 - American Philosophy (3 credits)
- \*PHI 250 - Existentialism (3 credits)
- PHI 300 - Theories of Human Nature (3 credits)
- PHI 320 - Power, Justice, and Freedom: Social and Political Philosophy (3 credits)
- PHI 325 - Ethics in Professional Life (3 credits)
- PHI 341 - Philosophy of Death and Dying (3 credits)
- PHI 370 - Sex Matters: Feminist Philosophy in the Contemporary World (3 credits)
- PHI 420 - Philosophy of Science (3 credits)
- PHI 440 - Perception, Hallucination, Trust: Perspectives on Knowledge (3 credits)

## Photography

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences website.

**Website:** [gvsu.edu/photography](http://gvsu.edu/photography)

Studies in photography at Grand Valley State University encompass the history, critical and aesthetic theory, and varied practice of photography as a medium of visual communication and expression in culture and society.

The photography program, in supporting the mission of the Department of Visual and Media Arts and the university, develops liberally educated professional image-makers and media scholars through student-centered inquiry and practice in visual communication and the history, theory, criticism, and production of photographic images using state-of-the-art methods, tools, and facilities.

Students are encouraged to explore a variety of photographic formats, including 35mm and 4x5 view camera, and to acquire experience in black and white, color, and digital imaging processes.

Working closely with a faculty advisor, students plan at least 37 semester credits directly relating to photography, plus the communications core (nine credits), and the Capstone (three credits). Students connect photography to related fields in the visual arts, performing arts, business, media and publications, and the humanities. The emphasis of the photography program is on the

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

students' growth as educated picture makers who not only know photography, but also know something about themselves, about the world around them, and about the culture that has shaped them. Students are expected to develop working knowledge in many areas of visual communication, and are encouraged to pursue elective studies in areas that provide a broad understanding of social and cultural issues and the role of the visual communicator in contemporary society.

Students beginning the photography curriculum with no prior credits toward the major are encouraged to take PHO 171 - Photo I and PHO 266 - History of Photography I in the fall semester, and PHO 172 - Photo II and ART 149 - Intro to Visual Composition in the winter semester of their first year. All others are encouraged to meet with their advisor before scheduling courses in the photography sequence. A 35mm film camera is required. A digital SLR and a laptop are recommended for the program.

### **Accreditation**

The photography program is accredited by the National Association of Schools of Art and Design (NASAD).

## **Bachelor of Arts or Bachelor of Science in Photography**

### **Requirements for a Major in Photography**

#### **Core Courses**

All students majoring in photography must complete the following core courses, for a total of nine credits:

- COM 101 - Concepts of Communication (3 credits)
- COM 295 - Communication Theory (3 credits)
- COM 201 - Speech (3 credits) **OR** COM 215 - Story Making (3 credits)

### **B.A. and B.S. Requirements**

#### **B.A. in Photography Degree**

The Bachelor of Arts degree in photography requires a third-semester proficiency in a foreign language of the student's choice.

#### **B.S. in Photography Degree**

The Bachelor of Science degree in photography requires the following three courses:

- STA 215 - Introductory Applied Statistics (3 credits)
- COM 275 - Foundations of Communication Research (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- COM 375 - Communication Research (3 credits)

### **Photography Core**

Nine courses, for a minimum of 31 credits.

- ART 149 - Introduction to Visual Composition (3 credits)
- PHO 171 - Photography I (4 credits)
- PHO 172 - Photography II (3 credits)
- PHO 266 - History of Photography I (3 credits)
- PHO 272 - Digital Photography 1 (3 credits)
- PHO 273 - Classic 4 x 5 Photography (3 credits)
- PHO 279 - Color Photography 1 (3 credits)
- PHO 366 - History of Photography II (3 credits)
- PHO 375 - Studio Photography (3 credits)
- PHO 495 - Photography Capstone and Thesis Seminar (1 to 6 credits)

### **Elective Courses**

A minimum of nine elective credits must be chosen from the following list of courses:

- PHO 371 - Experimental Black and White Photography (3 credits)
- PHO 373 - Digital Photography 2 (3 credits)
- PHO 374 - Color Photography 2 (3 credits)
- PHO 377 - The Social Eye (4 credits) (offered fall semester of even-numbered years)
- PHO 378 - Advanced Problems in Photography (3 credits)
- PHO 399 - Independent Study (1 to 6 credits)
- PHO 490 - Internship (1 to 6 credits)
- PHO 280/PHO 380/PHO 480 Special Topics (TBA) (3 credits)

### **Suggested Order of Coursework**

Students should complete the following courses during year one:

Semester One:

- PHO 171 - Photography I (4 credits)
- PHO 266 - History of Photography I (3 credits)

Semester Two:

- ART 149 - Introduction to Visual Composition (3 credits)
- PHO 172 - Photography II (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

# Photography Minor

## Required Courses

- PHO 171 - Photography I (4 credits) **OR** PHO 175 - Understanding Still Photography (3 credits)
- PHO 266 - History of Photography I (3 credits)
- PHO 272 - Digital Photography 1 (3 credits)

## Elective Courses

Choose four of the following courses:

- PHO 172 - Photography II (3 credits)
- PHO 273 - Classic 4 x 5 Photography (3 credits)
- PHO 279 - Color Photography 1 (3 credits)
- PHO 366 - History of Photography II (3 credits)
- PHO 371 - Experimental Black and White Photography (3 credits)
- PHO 373 - Digital Photography 2 (3 credits)
- PHO 374 - Color Photography 2 (3 credits)
- PHO 375 - Studio Photography (3 credits)
- PHO 377 - The Social Eye (4 credits)
- PHO 378 - Advanced Problems in Photography (3 credits)

# Physical Therapy

For additional information about opportunities your college offers, please refer to the College of Health Professions section in this catalog.

**Website:** [gvsu.edu/pt](http://gvsu.edu/pt)

## Degree Offered

Doctor of Physical Therapy

## Accreditation

The Doctor of Physical Therapy (D.P.T.) program is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE), 1111 North Fairfax Street, Alexandria, Virginia 22314, Telephone: (703) 706-3245; Email: [accreditation@apta.org](mailto:accreditation@apta.org); Website: [capteonline.org](http://capteonline.org).

## Career Description

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Physical therapy is the care and services provided by or under the direction and supervision of a physical therapist, including examining clients with physical impairments, functional limitations, and disabilities or other health-related conditions in order to determine a diagnosis, prognosis, and intervention; designing, implementing and modifying therapeutic interventions to address impairments and functional limitations; preventing injury, impairments, functional limitations, and disability, including the promotion and maintenance of fitness, health, and quality of life in all age groups; and engaging in consultation, education, and research.

Physical therapists provide clients, infants through elderly adults, with services at the preventive, acute, and rehabilitative stages directed toward achieving enhanced functional independence. Physical therapists interact and practice in collaboration with a variety of health professionals. They educate and inform others about the services they offer and their effective and cost-efficient delivery. Physical therapists are required to be licensed by the states in which they practice.

### **Mission**

To prepare exceptional physical therapists who will optimize the health, well-being, and movement ability of individuals and society.

### **Vision**

The GVSU D.P.T. program will develop autonomous, collaborative and reflective physical therapists who are specialists in assessing, diagnosing, and treating the human movement system using evidence-based practice. Our graduates will be recognized in their communities as the provider of choice to prevent and manage movement related disorders across the lifespan, thereby optimizing health and function at both the individual and community levels. As life-long learners, they will be professional and community leaders who effect change in their organizations and communities to best meet the healthcare needs of a diverse, multicultural society.

The Department of Physical Therapy and Athletic Training upholds the following core values:

- Professional and ethical behavior
- Respect and appreciation for diversity in all forms
- Lifelong learning
- Excellence in teaching, scholarship, and practice
- Collegiality and collaboration
- Social responsibility
- Evidence based practice
- Reflective practice
- Advocacy
- Leadership

### **Undergraduates Interested in Physical Therapy**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Incoming freshmen should select a major and work with a faculty advisor in that department, as well as with the College of Health Professions Student Services prephysical therapy academic advisor. Suggested majors include but are not limited to allied health sciences, biology, biomedical science, behavioral neuroscience, exercise science, and athletic training. All of the physical therapy prerequisite curriculum course requirements must be taken for a letter grade.

### **Reasons to Attend PT at GVSU**

- Faculty credentials include 14 with doctoral degrees, and 11 with clinical specializations in orthopedics, neurology, geriatrics, manual therapy, pediatrics, and sports.
- More than 35 part-time instructors.
- Curriculum includes research experience for all students.
- Five advanced electives (sports PT, spinal manual therapy, neurologic PT, cardiopulmonary PT, and pediatric PT).
- Thirty-eight weeks of full-time clinical internship in five settings across the U.S. International opportunities may also be available.
- State-of-the-art facilities and equipment.
- Four major hospitals close by to provide educational experiences.
- A 98% ultimate pass rate on licensure examination.

### **Admission**

Grand Valley State University's clinical Doctorate of Physical Therapy (D.P.T.) program utilizes the Physical Therapist Centralized Application System (PTCAS) for the application process. Please refer to [ptcas.org](http://ptcas.org) to get general information about the PTCAS process. GVSU's specific information is posted on the PTCAS website. Students may begin applying when the application portal opens in July of each year.

All application and supporting documents for PTCAS and GVSU have a receipt deadline of October 15. It is strongly recommended that applicants submit application materials four to six weeks prior to October 15 to allow for PTCAS processing time.

### **Admission eligibility requires the following:**

#### University Requirements

- Baccalaureate degree from an accredited institution of higher education (must be completed by the first day of classes).
- Completion of GVSU supplemental form. This form is available through the PTCAS online application (PTCAS Supplemental Form).
- Thirty dollar application fee payable to GVSU. Application fee is waived for those who have previously applied to GVSU and paid the \$30 application fee.

#### Program Requirements

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

- PTCAS online application (ptcas.org).
- Completion of prerequisite courses:

The prerequisites must be completed by the first day of classes of the professional program. All of the physical therapy prerequisite curriculum course requirements must be taken for a letter grade. The program does accept AP courses for prerequisites (scores of 3, 4, or 5). For each prerequisite course, a grade of C or better is required.

- To view courses from Michigan universities that fulfill GVSU D.P.T. prerequisites, please visit [gvsu.edu/pt/guide-list.htm](http://gvsu.edu/pt/guide-list.htm).

<b>Prerequisite Course Name</b>	<b>GVSU Course Equivalent</b>
Introductory biology (that includes cellular structure and function) with lab	BIO 120
Anatomy with lab	BMS 208 <b>AND</b> BMS 309, strongly preferred
Two chemistry courses with labs	Options include: CHM 109, CHM 115, CHM 116, CHM 230, CHM 231, CHM 232, CHM 241, CHM 242, CHM 461
Physiology with lab	BMS 290 <b>AND</b> BMS 391, strongly preferred
Anatomy and Physiology I and II may substitute for the preceding two requirements	BMS 250 <b>AND</b> BMS 251
Exercise physiology	MOV 304
College algebra or trigonometry or calculus	MTH 122 <b>OR</b> MTH 123 <b>OR</b> MTH 125 <b>OR</b> MTH 201
Statistics	STA 215
Two sequential courses in physics with lab	PHY 220 <b>AND</b> PHY 221
Introductory psychology	PSY 101
Lifespan developmental psychology	PSY 364
Introductory sociology or social problems or cultural anthropology	SOC 101 <b>OR</b> SOC 105 <b>OR</b> ANT 204

- Official transcripts from all colleges and universities attended.
- Students must have a minimum average GPA of 3.2 on a 4.0 scale in prerequisite course requirements, and a 3.2 overall GPA to be considered for admission.
- Official results from the Graduate Record Exam (GRE) general and written test.
- Subject tests are not required. GRE scores must be sent directly to PTCAS using GVSU's PTCAS GRE code 0282.
- Two recommendations, one of which must be completed by a licensed physical therapist with whom you have worked, job shadowed, or volunteered. Submit the names and email addresses of your two references on the PTCAS electronic application. Your references complete and return the electronic form directly to PTCAS. The deadline for receipt is October 15.
- PTCAS application fees.
- Documentation of volunteer/work/job shadow physical therapy hours on the PTCAS application.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

- A minimum of 50 hours of observational experience in physical therapy is required at the time of application; the experience may be volunteer or paid. Observational experience in a variety of clinical settings is valued. Examples of clinical settings include in-patient, out-patient, extended care, and school. GVSU does not require students to submit PTCAS verification forms.
- Employment, professional, leadership, scholarly, extracurricular, and volunteer activities are valued and taken into consideration in the admission process. All activities should be documented on the PTCAS application.
- Ability to perform all essential functions of the physical therapy program.

### **International Student Admission Materials**

In addition to the required PTCAS and GVSU admissions materials, the following items must be sent directly to GVSU's Admission's Office:

- **Original or certified original transcripts\***.
- **Official TOEFL test score\***.

Minimum score of 610 (paper-based) or 253 (computer-based) or 102 (Internet-based) required

- **Statement of financial support\*** (refer to GVSU Physical Therapy Supplemental Form).
- **Official credential evaluation\*** (WES, ECE).

\*Test scores and documents must be sent directly to:

Grand Valley State University  
Admissions Office  
1 Campus Drive  
Allendale, MI 49401-9403

### **Degree Completion Requirements**

Demonstration of completion of the 119 credits in the professional curriculum is required for completion of the Doctor of Physical Therapy degree.

### **General Degree Requirements**

General graduate academic policies and regulations can be found in the GVSU Undergraduate and Graduate Catalog.

Criminal background check, drug screen check, proof of immunizations and antibody titer checks are required prior to participation in full-time clinical experiences. The cost of this evaluation will be the responsibility of the student.

### **Professional Conduct**

The physical therapy faculty values and mentors the following student abilities: commitment to learning, interpersonal skills, communication skills, effective use of time and resources, use of

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

constructive feedback, problem solving, professionalism, responsibility, critical thinking, and stress management. Definitions and criteria provided upon entry into the program.

### **Graduate Assistantships**

Graduate assistants work with physical therapy faculty, administrators, and staff to provide quality education, research, and service. Qualified candidates are selected on the basis of aptitude, interest, and background.

### **Graduate Outcomes**

Students graduate in 36 months. Students may take the national licensing exam during their last semester or after graduation. Ninety percent of students pass the exam on the first attempt. Ninety-eight percent of students pass with subsequent attempts. One hundred percent of graduates are successful finding job placements in Michigan and across the United States.

### **Progression, Retention, and Termination**

A student must achieve passing grades in every course to meet the prerequisite requirement of the next semester's courses. Any course grade that results in probation may result in the student being held back one year. A grade of F always results in the student being held back a year. A graduate GPA less than 3.0 with nine or more hours for which a grade of less than B was earned will result in dismissal from the graduate school.

### **Grounds for Probation**

- A final grade below a 2.7 (B-) in any required course in the D.P.T. program. Note: An instructor, or the D.P.T. faculty at large, is afforded this option at his/her discretion and is not required to offer remediation.
- A cumulative graduate-level GPA less than 3.0 (B) after completion of nine or more hours of graduate level coursework (i.e., at the end of semester one).
- A GPA below 3.0 for any semester in the D.P.T. program.
- Failure to remediate a specific course requirement at the required level that leads to faculty recommendation for probation.
- A final grade of no credit in PT 636, PT 656, PT 675, PT 677, or PT 681.
- Issuance of three faculty letters of reprimand regarding professional conduct on file.
- Faculty recommendation to withhold student from clinical education experience due to deficient professional behavior.

### **Clinical Education**

Students will not be allowed to participate in clinical experiences if there is a reason to believe they are unprepared for this type of experience. Sufficient reasons include:

- Probationary status.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- Questions about the student's ability to safely manage patients.
- Evidence of unethical or illegal behavior.
- Medical or psychological conditions that could endanger the safety of the student or the patients entrusted to them, or that prevent the student from fully participating in the clinical experience.
- Problems identified with professional behaviors may result in a student being regarded by faculty as unprepared for clinical assignment. With the assistance of faculty, the student must resolve the problem area prior to the clinical assignment.
- Clinical education courses are sequenced (I, II, III, IV, V). If a student does not satisfactorily complete one course, he/she may not progress to the next course without completion of remedial work or repeat of the course.

### **Grounds for Removal from the PT Program**

Any one of the following items may constitute grounds for removal from the program:

- Failure to complete required remedial work at the required level, and in a timely fashion, while on probation.
- Failure to complete items required in a remediation contract at the required level, and in a timely fashion, while on probation.
- Final grades in two semesters that result in probation.
- Failure to demonstrate "continued competency" per VII. B.
- At the time of application to physical therapy, and throughout matriculation as a PT student, failure to report a felony record or arrest for a crime for which criminal charges are pending.
- Evidence of unethical, illegal or dishonest behavior in academic or community life from the date that GVSU's offer of admission is accepted to the date of graduation.
- See IX for automatic removal.

### **Program Location**

- Semester one takes place in the Cook-DeVos Center for Health Sciences, Health Campus, located in downtown Grand Rapids, MI, and on Grand Valley's main campus in Allendale, MI.
- Semesters two through six and eight take place in the Cook-DeVos Center for Health Sciences, Health Campus, located in downtown Grand Rapids, MI.
- Clinical experiences take place in Michigan and other selected states during semesters three, five, seven, and nine.

## **Doctor of Physical Therapy**

**Website:** [gvsu.edu/gs](http://gvsu.edu/gs)

### **Professional Program Requirements**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Demonstration of completion of the 119 credits in the professional curriculum is required for completion of the Doctor of Physical Therapy.

- BMS 538 - Advanced Neuroscience (3 credits)
- BMS 561 - Prosected Regional Anatomy (4 credits)
- PSY 668 - Health Profession Disability Psychology (3 credits)
- PT 510 - Lifespan Motor Development (2 credits)
- PT 511 - Foundations in Physical Therapy Examination (3 credits)
- PT 512 - Introduction to Evidence Based Practice in Physical Therapy (1 credit)
- PT 513 - Clinical Science I (2 credits)
- PT 515 - Professional Topics I (1 credit)
- PT 517 - Kinesiology and Biomechanics I (3 credits)
- PT 521 - Musculoskeletal Examination (4 credits)
- PT 522 - Musculoskeletal Interventions (4 credits)
- PT 523 - Clinical Science II (3 credits)
- PT 526 - Clinical Seminar I (2 credits)
- PT 528 - Kinesiology and Biomechanics II (3 credits)
- PT 610 - Research in Physical Therapy (2 credits)
- PT 631 - Cardiopulmonary Physical Therapy I (2 credits)
- PT 632 - Integumentary Practice Management (2 credits)
- PT 634 - Clinical Seminar II (1 credit)
- PT 636 - Clinical Education I (4 credits)
- PT 641 - Neuromuscular Examination (4 credits)
- PT 642 - Interventions in Neuromuscular Physical Therapy (4 credits)
- PT 643 - Clinical Science III (3 credits)
- PT 644 - Clinical Seminar III (2 credits)
- PT 647 - Cardiopulmonary Physical Therapy II (2 credits)
- PT 651 - Spinal Exam and Intervention (4 credits)
- PT 654 - Applied Geriatric Practice (2 credits)
- PT 655 - Professional Topics II (1 credit)
- PT 656 - Clinical Education II (5 credits)
- PT 657 - Teaching for Physical Therapists (2 credits)
- PT 661 - Exam and Intervention for Rehabilitation (4 credits)
- PT 662 - Pediatric Practice Management (3 credits)
- PT 665 - Professional Topics III (2 credits)
- PT 675 - Clinical Education III (6 credits)
- PT 677 - Clinical Education IV (6 credits)
- PT 681 - Advanced Clinical Decision-Making (2 credits)
- PT 682 - Health, Wellness and Special Topics in Physical Therapy (3 credits)
- PT 685 - Professional Topics IV (2 credits)
- PT 698 - Clinical Education V (6 credits)
- PT 790 - Physical Therapy Research I (1 credit) (two semesters required)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- PT 793 - Physical Therapy Research II (2 credits)
- STA 610 - Applied Statistics for Health Professions (3 credits)

### **Elective Courses**

- PT 580 - Special Topics in Physical Therapy (1 to 3 credits)
- PT 680 - Special Topics in Physical Therapy (1 to 3 credits)
- PT 684 - Advanced Topics: Sports Physical Therapy (3 credits)
- PT 686 - Advanced Topics: Pediatric Physical Therapy (3 credits)
- PT 687 - Advanced Topics: Spinal Manual Therapy (3 credits)
- PT 688 - Advanced Topics: Neurologic Physical Therapy (3 credits)
- PT 689 - Advanced Topics: Cardiopulmonary Physical Therapy (2 credits)
- PT 699 - Independent Study in Physical Therapy (1 to 3 credits)

### **Suggested Order of Coursework for Doctor of Physical Therapy**

#### **Year One**

Fall Semester (14 credits):

- BMS 561 - Prosected Regional Anatomy (4 credits)
- PT 511 - Foundations in Physical Therapy Examination (3 credits)
- PT 512 - Introduction to Evidence Based Practice in Physical Therapy (1 credit)
- PT 513 - Clinical Science I (2 credits)
- PT 515 - Professional Topics I (1 credit)
- PT 517 - Kinesiology and Biomechanics I (3 credits)

Winter Semester (16 credits):

- PT 521 - Musculoskeletal Examination (4 credits)
- PT 522 - Musculoskeletal Interventions (4 credits)
- PT 523 - Clinical Science II (3 credits)
- PT 526 - Clinical Seminar I (2 credits)
- PT 528 - Kinesiology and Biomechanics II (3 credits)

Spring/Summer Semester (17 credits):

First five weeks.

- PT 636 - Clinical Education I (4 credits)

Next eight weeks.

- BMS 538 - Advanced Neuroscience (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- PT 510 - Lifespan Motor Development (2 credits)
- PT 631 - Cardiopulmonary Physical Therapy I (2 credits)
- PT 632 - Integumentary Practice Management (2 credits)
- PT 634 - Clinical Seminar II (1 credit)
- STA 610 - Applied Statistics for Health Professions (3 credits)

## **Year Two**

Fall Semester (17 credits):

- PT 610 - Research in Physical Therapy (2 credits)
- PT 641 - Neuromuscular Examination (4 credits)
- PT 642 - Interventions in Neuromuscular Physical Therapy (4 credits)
- PT 643 - Clinical Science III (3 credits)
- PT 644 - Clinical Seminar III (2 credits)
- PT 647 - Cardiopulmonary Physical Therapy II (2 credits)

Winter Semester (15 credits):

First six weeks.

- PT 656 - Clinical Education II (5 credits)

Next eight weeks.

- PT 654 - Applied Geriatric Practice (2 credits)
- PT 655 - Professional Topics II (1 credit)
- PT 657 - Teaching for Physical Therapists (2 credits)
- PT 661 - Exam and Intervention for Rehabilitation (4 credits)
- PT 790 - Physical Therapy Research I (1 credit)

Spring/Summer Semester (13 credits):

- PSY 668 - Health Profession Disability Psychology (3 credits)
- PT 651 - Spinal Exam and Intervention (4 credits)
- PT 662 - Pediatric Practice Management (3 credits)
- PT 665 - Professional Topics III (2 credits)
- PT 790 - Physical Therapy Research I (1 credit)

## **Year Three**

Fall Semester (12 credits):

- PT 675 - Clinical Education III (6 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- PT 677 - Clinical Education IV (6 credits)

Winter Semester (9 credits):

- PT 681 - Advanced Clinical Decision-Making (2 credits)
- PT 682 - Health, Wellness and Special Topics in Physical Therapy (3 credits)
- PT 685 - Professional Topics IV (2 credits)
- PT 793 - Physical Therapy Research II (2 credits)

Optional:

- PT 684 - Advanced Topics: Sports Physical Therapy (3 credits)
- PT 686 - Advanced Topics: Pediatric Physical Therapy (3 credits)
- PT 687 - Advanced Topics: Spinal Manual Therapy (3 credits)
- PT 688 - Advanced Topics: Neurologic Physical Therapy (3 credits)
- PT 689 - Advanced Topics: Cardiopulmonary Physical Therapy (2 credits)

Spring/Summer Semester (6 credits):

- PT 698 - Clinical Education V (6 credits)

## Physician Assistant Studies

For additional information about opportunities your college offers, please refer to the College of Health Professions section in this catalog.

**Website:** [gvsu.edu/pas](http://gvsu.edu/pas)

### Degree Offered

Master of Physician Assistant Studies

Physician assistants (PAs) are valued members of the health care team. PAs are currently certified and licensed in the United States by delegation or regulatory authority. Working in collaboration with doctors of allopathic medicine and/or doctors of osteopathic medicine, PAs obtain medical histories, perform physical examinations, establish diagnoses, treat illnesses, provide patient education, counsel patients, assist in surgery, dictate proper treatment orders, and interpret laboratory/diagnostic studies. In all 50 states, as well as the District of Columbia and Guam, laws are in place that authorize PAs to prescribe medications or transmit orders for dispensing medication, including controlled substances. Educated in the medical model, PAs have close working relationships with physicians and the other members of the health care team. PAs see many of the same types of patients and perform many of the same tasks as physicians. PA responsibilities will depend on state laws and regulations, years of experience and training, and the practice setting. These factors comprise a PAs scope of practice.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

# Physician Assistant Studies at Grand Valley

Grand Valley State University established its physician assistant studies (PAS) program in the 1990s, accepting its first class for entry in 1995 and graduating the inaugural class into the profession in 1998. The program awards a Master of Physician Assistant Studies degree following completion of a 28-month (seven semesters) curriculum of professional studies.

Applicants to the PAS program must possess or be in the process of completing a baccalaureate degree from either GVSU or another institution of higher learning. All applicants must complete prerequisite courses, minimum health care experience hours, GRE, and submit recommendation rubrics (see application procedures [gvsu.edu/pas](https://gvsu.edu/pas)). Students begin the professional curriculum after they have been admitted to the program. During the PAS didactic phase, students take coursework in human anatomy, medical physiology, clinical applications, clinical medicine, pathophysiology, practical therapeutics, PA professional issues, hospital community experiences, clinical problem solving, and evidence-based medicine. The curriculum combines traditional classroom sessions with Web-based instruction, case studies, laboratory, and problem-based learning (PBL). Students spend the final three semesters completing rotations in various clinical specialties, by working in clinics, emergency departments, and hospitals throughout Michigan, out-of-state communities, and potentially international communities. This curriculum provides students with the knowledge base and clinical acumen to sit for their national certification examination and practice medicine competently upon graduation.

## Accreditation

The Accreditation Review Commission on Education for the Physician Assistant, Inc. (ARC-PA) has granted Accreditation-Continued status to the Grand Valley State University Physician Assistant Program sponsored by Grand Valley State University. Accreditation-Continued is an accreditation status granted when a currently accredited program is in compliance with the ARC-PA Standards.

Accreditation remains in effect until the program closes or withdraws from the accreditation process or until accreditation is withdrawn for failure to comply with the standards. The approximate date for the next validation review of the program by the ARC-PA will be September 2024. The review date is contingent upon continued compliance with the Accreditation Standards and ARC-PA policy.

## Application Procedures

Admission to the PAS program is competitive. Please see detailed application requirements. Applicants may contact the PAS program at (616) 331-5700 or by visiting [gvsu.edu/pas](https://gvsu.edu/pas) to address additional questions. The PAS program utilizes the Centralized Application Service for Physician Assistants (CASPA) for processing applications.

Selected prerequisite courses, health care experience hours, GRE, and recommendation rubrics must be completed by the application deadline unless a rare extension has been granted by appeal to the PAS Admissions Committee (see as follows for details). All application criteria and

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

completion of undergraduate degree requirements must be completed by the month of May before starting the professional program.

High school seniors interested in a PAS degree must complete an undergraduate application to GVSU. During their first year, students will begin their preprofessional studies and declare a major. The most common majors for students admitted to the program from GVSU are Biomedical Sciences (BMS) and Allied Health Sciences (AHS) although students may elect to choose a different major. Academic advisors in the College of Health Professions Student Services can assist students with the selection of a major.

Transfer students (from community or four-year colleges) must complete an undergraduate application to GVSU. We strongly encourage students to transfer by the beginning of their junior year to ensure completion of their undergraduate degree and preprofessional requirements. Transfer students are encouraged to consult with an academic advisor in the College of Health Professions Student Services Office before entering GVSU or very soon thereafter, in addition to consulting their assigned undergraduate faculty/advisor based upon the declared major.

The application deadline is September 1 during the calendar year preceding the year the student wishes to begin the program. CASPA applications must be complete by September 1 in the year of application. An application is considered complete when the online application and all supporting documents have been received by CASPA. The GVSU PAS Admissions Committee will review completed applications and choose candidates for interviews by mid-October. After interviews are complete, the GVSU PAS Admissions Committee will offer positions to qualified applicants.

### **Admission to the Master of Physician Assistant Studies Program**

- **Transcripts:** Applicants must submit official transcripts for all colleges and/or universities attended directly to CASPA.
- **Academic achievement:** Applicants must demonstrate a minimum 3.0 overall GPA, prerequisite course GPA, and last 60 hours of coursework GPA to be considered for admission. Please see [gvsu.edu/pas](http://gvsu.edu/pas) for a description of how each GPA is calculated.
- **Prerequisite coursework:** A minimum grade of C must be attained in each prerequisite course. Please see [gvsu.edu/pas](http://gvsu.edu/pas) for a complete list of prerequisite courses.
  - Human anatomy, human physiology, organic chemistry, biochemistry, and microbiology must be completed prior to application.
  - ALL prerequisite coursework and a bachelor's degree must be completed by the month of May prior to the start of the PAS program.
  - The following prerequisite courses must be completed within five calendar years preceding and including the year of application: human anatomy, human physiology, microbiology, and biochemistry.
  - **GRE:** Test scores are valid for five years. See the GRE website for additional details [ets.org/gre/revised\\_general/scoresets.org/gre/revised\\_general/scores](https://ets.org/gre/revised_general/scoresets.org/gre/revised_general/scores). The GRE code for GVSU on CASPA is 252.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

- **Recommendations:** A minimum of two recommendation rubrics must be submitted. These rubrics will be emailed by CASPA to evaluators when the application is submitted. At least one recommendation rubric must be completed by a health care professional. The other recommendation rubric may be completed by either a second health care professional or a professor. Separate letters of reference are not acceptable substitutes for the recommendation rubrics.
- **Health care experience:** Applicants must show evidence of 500 hours of significant volunteer, work, and/or observational experience in a health care environment. Hands-on patient care activities are highly encouraged. Health care experiences are documented on the CASPA application. Further information about health care experience requirements can be found at the PAS website [gvsu.edu/pas](http://gvsu.edu/pas) under prospective students.
- **International students:** Students whose first language is not English should be able to speak and write in fluent English and submit the following materials.
  - Official test scores from TOEFL (Test of English as a Foreign Language), IELTS (International English Language Testing System), MELAB (Michigan English Language Assessment Battery), or PTE Academic (Pearson Tests of English Academic).
  - The minimum TOEFL score is 80 Internet-based, the minimum IELTS score is 6.5, the minimum MELAB score is 77, and the minimum PTE Academic score is 53.
  - Only original score reports will be accepted.
  - Students who completed higher education studies outside of the U.S. must also submit:
    - Original or certified original transcripts.
    - Official transcript credential information (e.g. WES, ECE).
    - Transcripts demonstrating 30 hours of higher education coursework taken at an established and accredited U.S. institution.
  - Note: Students who think they have highly unusual circumstances that impact their ability to meet the previously listed criteria may appeal in writing to the PAS Admissions Committee by submitting an Academic Request Form (ARF). An ARF only needs to be filled out if a student does NOT meet all application requirements and has extenuating circumstances that have either mitigated the necessary requirements (as in a five-year course waiver) or prevented the completion of a course (as in a course extension). An ARF expires after the completion of the cycle in which the student applies. All ARFs are due on or before July 15 in the year of application. No late ARF forms will be accepted.

### **Selection Factors**

Grand Valley State University is an affirmative action/equal opportunity institution. It encourages diversity and provides equal opportunity in education, employment, all of its programs, and the use of its facilities. Applicants are considered without regard to age, color, disability, familial status, height, marital status, national origin, political affiliation, race, religion, sex/gender, sexual orientation, veteran status, or weight.

Factors used to select applicants for interview may include any or all of the following: GPA, GRE, recommendation rubrics, and health care experience hours. Motivational factors, life experiences, patient care experience, maturity, and personal characteristics are evaluated during the interview day. Applicants must meet health and technical standards that demonstrate their capacity to function as a physician assistant. Copies of these standards may be obtained from the PAS program office or from the PAS website: [gvsu.edu/pas](http://gvsu.edu/pas).

## **Degree Requirements**

Demonstration of completion of the 103 credits in the professional curriculum is required for the student to be granted the M.P.A.S. degree. General graduate academic policies and regulations can be found elsewhere in this catalog or in the GVSU graduate bulletin.

In addition, each PAS course or discrete unit of instruction within the professional curriculum has a minimum proficiency level established. A minimum of a grade B is required for passing all PAS courses. Additionally, the student's overall GPA must not fall below 3.0 in any semester or the student may be placed on academic probation, remediated, or dismissed from the PAS program.

## **Professional Conduct**

Interpersonal skills, communication skills, responsibility, and professionalism are crucial for success in the PA profession. These skills are tracked during the program; advancement in proficiency and behavior is expected. A complete copy of these skills is available from the program and may also be viewed on the program website under Core Competencies at [gvsu.edu/pas](http://gvsu.edu/pas).

All students in the program are expected to comply with the ethical principles that embody the practice of medicine and the PA profession. A complete copy of the PA profession's code of ethics are available from the program and may also be viewed under the PA profession tab at [gvsu.edu/pas](http://gvsu.edu/pas).

Degree following completion of a 28-month (seven semesters) curriculum study.

Criminal background checks and/or drug screens are required prior to admission into the PA studies program. After enrollment, certain clinical placements or state licensing requirements may require additional background checks and drug screens. Positive findings may negatively impact the educational process at GVSU or future licensure as a physician assistant. The cost of these evaluations are the responsibility of the applicant or student.

# **Master of Physician Assistant Studies**

**Website:** [gvsu.edu/grad/mpas](http://gvsu.edu/grad/mpas)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Preprofessional Curriculum Course Requirements**

One course in each of the following:

- biochemistry\*
- general biology
- general chemistry
- human anatomy\*
- human genetics
- human physiology\*
- microbiology
- organic chemistry
- physics
- psychology
- statistics

\*This course must have been completed within the last five years or must be retaken. Applicants may also take higher level courses or competency examinations for credit. Waivers of the five-year rule may be granted on a case-by-case basis for candidates with documented academic excellence and appropriate clinical experience at the discretion of the admissions committee or the PAS program director.

## **Professional Curriculum Course Recommendations\*\***

One course in each of the following:

- immunology
- medical ethics
- nutrition
- pathophysiology
- pharmacology

**AND** one lab course in:

- human cadaver anatomy

\*\*These courses have been found beneficial for success in the program, but are not required to apply.

## **Professional Curriculum Course Requirements**

- BMS 561 - Prosected Regional Anatomy (4 credits)
- PAS 501 - Clinical Applications I (2 credits)
- PAS 502 - Clinical Applications II (1 credit)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- PAS 503 - Clinical Applications III (1 credit)
- PAS 504 - Clinical Applications IV (1 credit)
- PAS 511 - Foundations of Clinical Medicine (4 credits)
- PAS 512 - Clinical Medicine I (6 credits)
- PAS 513 - Clinical Medicine II (6 credits)
- PAS 514 - Clinical Medicine III (6 credits)
- PAS 521 - Medical Physiology (3 credits)
- PAS 522 - Clinical Pathophysiology I (1 credit)
- PAS 523 - Clinical Pathophysiology II (1 credit)
- PAS 524 - Clinical Pathophysiology III (3 credits)
- PAS 532 - Practical Therapeutics I (2 credits)
- PAS 533 - Practical Therapeutics II (2 credits)
- PAS 534 - Practical Therapeutics III (2 credits)
- PAS 542 - Clinical Problem Solving Sessions I (1 credit)
- PAS 543 - Clinical Problem Solving Sessions II (1 credit)
- PAS 544 - Clinical Problem Solving Sessions III (1 credit)
- PAS 551 - Physician Assistant Profession Issues I (1 credit)
- PAS 554 - Physician Assistant Profession Issues II (1 credit)
- PAS 561 - Clinical Applications Lab I (1 credit)
- PAS 562 - Clinical Applications Lab II (1 credit)
- PAS 563 - Clinical Applications Lab III (1 credit)
- PAS 564 - Clinical Applications Lab IV (1 credit)
- PAS 572 - Hospital Community Experience I (1 credit)
- PAS 573 - Hospital Community Experience II (1 credit)
- PAS 574 - Hospital Community Experience III (1 credit)
- PAS 582 - Evidence-based Medicine I (3 credits)
- PAS 583 - Evidence-based Medicine II (2 credits)
- PAS 584 - Evidence-Based Medicine III (2 credits)
- PAS 610 - Clinical Rotations I (12 credits)
- PAS 620 - Clinical Rotations II (12 credits)
- PAS 630 - Clinical Rotations III (12 credits)
- STA 610 - Applied Statistics for Health Professions (3 credits)

## **Professional Level Curriculum**

### **Fall Semester One (17 credits):**

- BMS 561 - Prosected Regional Anatomy (4 credits)
- PAS 501 - Clinical Applications I (2 credits)
- STA 610 - Applied Statistics for Health Professions (3 credits)
- PAS 511 - Foundations of Clinical Medicine (4 credits)
- PAS 521 - Medical Physiology (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- PAS 561 - Clinical Applications Lab I (1 credit)

**Winter Semester Two** (17 credits):

- PAS 502 - Clinical Applications II (1 credit)
- PAS 512 - Clinical Medicine I (6 credits)
- PAS 522 - Clinical Pathophysiology I (1 credit)
- PAS 532 - Practical Therapeutics I (2 credits)
- PAS 542 - Clinical Problem Solving Sessions I (1 credit)
- PAS 551 - Physician Assistant Profession Issues I (1 credit)
- PAS 562 - Clinical Applications Lab II (1 credit)
- PAS 572 - Hospital Community Experience I (1 credit)
- PAS 582 - Evidence-based Medicine I (3 credits)

**Spring/Summer Semester Three** (15 credits):

- PAS 503 - Clinical Applications III (1 credit)
- PAS 513 - Clinical Medicine II (6 credits)
- PAS 523 - Clinical Pathophysiology II (1 credit)
- PAS 533 - Practical Therapeutics II (2 credits)
- PAS 543 - Clinical Problem Solving Sessions II (1 credit)
- PAS 563 - Clinical Applications Lab III (1 credit)
- PAS 573 - Hospital Community Experience II (1 credit)
- PAS 583 - Evidence-based Medicine II (2 credits)

**Fall Semester Four** (18 credits):

- PAS 504 - Clinical Applications IV (1 credit)
- PAS 514 - Clinical Medicine III (6 credits)
- PAS 524 - Clinical Pathophysiology III (3 credits)
- PAS 534 - Practical Therapeutics III (2 credits)
- PAS 544 - Clinical Problem Solving Sessions III (1 credit)
- PAS 554 - Physician Assistant Profession Issues II (1 credit)
- PAS 564 - Clinical Applications Lab IV (1 credit)
- PAS 574 - Hospital Community Experience III (1 credit)
- PAS 584 - Evidence-Based Medicine III (2 credits)

**Winter Semester Five** (12 credits):

- PAS 610 - Clinical Rotations I (12 credits)

**Spring/Summer Semester Six** (12 credits):

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- PAS 620 - Clinical Rotations II (12 credits)

**Fall Semester Seven** (12 credits):

- PAS 630 - Clinical Rotations III (12 credits)

**Total Professional Curriculum:** 103 credits

## Physics

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

**Website:** [gvsu.edu/physics](http://gvsu.edu/physics)

Physicists are explorers of the physical universe. They seek to know and understand the fundamental behavior of nature, from elementary particles to the galaxies. Physicists must develop both experimental and analytical skills to carry out their search for a detailed description of the behavior of matter and energy.

The Physics Department offers a bachelor's degree with a major in physics. This is a well-defined program of observation, experimentation, and theoretical study of the various phenomena of nature. A highlight of our program is the senior project, which requires each student to perform an independent research project in collaboration with a faculty mentor.

The department also offers a minor in physics and the option for secondary teacher certification with the major or minor.

The undergraduate physics curriculum requires careful planning because most courses in physics and the required cognates can be taken only in sequence. Students who expect to major or minor in physics should consult a faculty member of the Physics Department to plan their programs at the earliest opportunity, preferably before registration for their first term. It is especially important that transfer students meet with a department faculty advisor to evaluate previous work and plan an appropriate program of study.

### Honors Organization

Sigma Pi Sigma is the national honor society of the SPS. Students who have 80 credits (with a minimum of one year of study at GVSU) may be elected to become Sigma Pi Sigma members based on academic achievement and service. An annual induction ceremony is held in April.

## Bachelor of Science in Physics

### Requirements for a Major in Physics

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

The following courses fulfill the B.S. degree requirements:

- MTH 201 - Calculus I (4 credits)
- MTH 202 - Calculus II (4 credits)
- PHY 230 - Principles of Physics I (5 credits)

In addition, students must complete the general university degree requirements as identified in the General Academic Policies section of the catalog.

### **Core Courses**

Major students must complete 39 semester credit hours of required physics courses with a minimum grade of C (2.0) in each course.

Transfer students must complete at least 11 credit hours in physics courses taken at Grand Valley at the 300-level or above.

All physics majors must complete the following (39 credits):

- PHY 230 - Principles of Physics I (5 credits)
- PHY 231 - Principles of Physics II (5 credits)
- PHY 302 - Introduction to Modern Physics (4 credits)
- PHY 309 - Experimental Methods in Physics (4 credits)
- PHY 311 - Advanced Laboratory II (2 credits)
- PHY 330 - Intermediate Mechanics (4 credits)
- PHY 340 - Electromagnetic Fields (4 credits)
- PHY 350 - Introduction to Quantum Mechanics (4 credits)
- PHY 360 - Statistical Thermodynamics (4 credits)
- PHY 485 - Senior Physics Project (Capstone) (1 credit)
- PHY 486 - Senior Physics Project (Capstone) (2 credits)

### **Cognate Courses**

The following cognate courses must be completed with a minimum grade of C (2.0) in each course (25 to 28 credits):

- CHM 115 - Principles of Chemistry I (4 credits)
- CIS 162 - Computer Science I (4 credits)
- MTH 201 - Calculus I (4 credits)
- MTH 202 - Calculus II (4 credits)
- MTH 203 - Calculus III (4 credits)

Option One:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- MTH 204 - Linear Algebra I (3 credits) **AND** MTH 304 - Analysis of Differential Equations (3 credits) Recommended, especially for graduate school bound students.

Option Two:

- MTH 302 - Linear Algebra and Differential Equations (4 credits)
- MTH 300 - Vector Analysis (3 credits) **OR** MTH 401 - Mathematics for the Physical Sciences (4 credits)

Note: Physics majors intending to go to graduate school should take MTH 204 and MTH 304 rather than the MTH 302 option.

### **Science Electives**

Six credits of science electives must be chosen from the following list and completed with a minimum grade of C (2.0) in each:

- CHM 351 - Introduction to Physical Chemistry (3 credits)
- CHM 352 - Physical Chemistry Laboratory (1 credit)
- CHM 356 - Physical Chemistry I (3 credits)
- CHM 358 - Physical Chemistry II (3 credits)
- PHY 105 - Descriptive Astronomy (3 credits)
- Any 300-level physics elective
- Any 400-level physics elective

### **Suggested Order of Coursework for a Major in Physics**

The following example assumes student has a good mathematics background.

- F indicates course should be taken in the fall semester
- W indicates course should be taken in the winter semester

#### **Year One**

- Three general education courses
- CHM 115 - Principles of Chemistry I (4 credits) (F)
- MTH 201 - Calculus I (4 credits) (F)
- MTH 202 - Calculus II (4 credits) (W)
- PHY 230 - Principles of Physics I (5 credits) (W)
- WRT 150 - Strategies in Writing (4 credits)

#### **Year Two**

- Two general education courses

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- MTH 203 - Calculus III (4 credits) (F)
- **BOTH** MTH 204 - Linear Algebra I (3 credits) (F) **AND** MTH 302 - Linear Algebra and Differential Equations (4 credits) (W)
- OR ONLY** MTH 304 - Analysis of Differential Equations (3 credits) (W)
- PHY 231 - Principles of Physics II (5 credits) (F)
- PHY 302 - Introduction to Modern Physics (4 credits) (W)

### **Year Three**

- General education courses (Students should begin completing Issues courses.)
- One science elective course
- Elective course
- MTH 300 - Vector Analysis (3 credits) (F)
- PHY 309 - Experimental Methods in Physics (4 credits) (F)
- PHY 311 - Advanced Laboratory II (2 credits) (W)
- PHY 330 - Intermediate Mechanics (4 credits) (F)
- PHY 340 - Electromagnetic Fields (4 credits) (W)

### **Year Four**

- General education courses (Students should complete their second Issues course.)
- One science elective course
- Elective courses
- PHY 350 - Introduction to Quantum Mechanics (4 credits) (W)
- PHY 360 - Statistical Thermodynamics (4 credits) (F)
- PHY 485 - Senior Physics Project (Capstone) (1 credit) (F)
- PHY 486 - Senior Physics Project (Capstone) (2 credits) (W)

### **Certification for Secondary Teaching**

All students seeking certification to teach at the secondary level with a major in physics must complete the major requirements for a physics degree as noted previously, as well as four additional courses:

- BIO 120 - General Biology I (4 credits)
- PHY 105 - Descriptive Astronomy (3 credits)
- HSC 201 - The Scientific Revolution (3 credits) **OR** HSC 202 - The Technological Revolution (3 credits)
- One ethics course in science, such as BIO 328 - Biomedical Ethics (3 credits) **OR** BIO 338 - Environmental Ethics (3 credits)

A minimum GPA of 2.7 in the major is required to be recommended for teacher certification. Certification for secondary teaching also requires meeting the admission and professional

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

requirements of the College of Education and Community Innovation as outlined in this catalog. Note that the extra coursework necessary for teaching certification normally requires a full fifth year of work.

All students seeking teacher certification are required to clock at least 30 hours of assisting in the department's tutoring program or as a laboratory assistant setting up equipment and demonstrations and helping students in a laboratory setting, which includes required reading and experience in laboratory safety.

## **Integrated Science Major for the B.S. Degree**

The integrated science major is designed for students seeking certification to teach at the elementary school level. It provides the preservice teacher broad exposure in all the sciences and emphasizes the connections among the scientific disciplines, their relationship with technology, and their relevance to society. In order to be certified, students must complete this major and the elementary teaching minor with at least a 2.7 GPA in each. Students are advised to take the MDE subject area test after they have completed the major with a 2.7 GPA.

## **Integrated Science Secondary Endorsement**

Students who have declared or completed a major and minor in a science discipline may complete additional courses for an integrated science secondary endorsement. The Michigan Department of Education will allow teachers with the integrated science secondary endorsement to teach biology, chemistry, earth science, or physics at the secondary level.

## **Physics Minor**

### **Requirements**

A minimum of 24 credit hours in physics and a GPA of 2.0 in physics are required for a minor in physics.

### **Required Courses**

- PHY 230 - Principles of Physics I (5 credits)
- PHY 231 - Principles of Physics II (5 credits)
- PHY 302 - Introduction to Modern Physics (4 credits)

### **Elective Courses**

The remaining 10 hours required for a minor in physics must be selected from the following courses:

- PHY 309 - Experimental Methods in Physics (4 credits)
- PHY 311 - Advanced Laboratory II (2 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- PHY 320 - Optics (3 credits)
- PHY 330 - Intermediate Mechanics (4 credits)
- PHY 340 - Electromagnetic Fields (4 credits)
- PHY 350 - Introduction to Quantum Mechanics (4 credits)
- PHY 360 - Statistical Thermodynamics (4 credits)
- PHY 370 - Solid State Physics (3 credits)

### **Certification to Teach at the Secondary Level with a Minor in Physics**

Students pursuing this certification must have a minimum GPA of 2.7 in the minor. Since students seeking certification for secondary teaching with a major in physics are required to take PHY 105 for certification, students seeking certification for secondary teaching with a minor in physics are also encouraged to take PHY 105. Therefore, PHY 105 may be counted as part of the additional 10 hours in physics courses for those students. This option is not open to students seeking a minor in physics in programs other than secondary education.

Note: Most of the physics courses require prerequisites in mathematics.

Those students seeking certification to teach at the secondary level with a minor in physics must have a minimum GPA of 2.7 in the minor. Students must also meet the same requirement for laboratory and tutoring experience as outlined for certification with a major in physics.

## **Political Science**

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

**Website:** [gvsu.edu/polisci](http://gvsu.edu/polisci)

At GVSU, political science students learn to analyze political phenomena from the perspectives of the four major disciplinary subfields: political theory, American politics, comparative politics, and international relations.

The department offers a wide range of elective courses in each subfield. American politics courses include Congress and the presidency, environmental policy, state politics, American election campaigns, mass media, and constitutional law. The department also offers courses in international relations, including human rights, international political economy, and international law. Course offerings in comparative politics include European politics, Chinese politics, African politics, and politics of developing areas. Political theory courses include courses in classical, modern, contemporary, and U.S. political thought. In almost all cases, classes are small and students receive much individual attention.

### **Internships**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

In addition to classroom work, students participate in a variety of internship opportunities, including working in local law firms, the Michigan office of U.S. representatives and senators, or in a variety of political offices in Lansing, including the state house and state senate, the Governor's office, state political parties, and legislative research offices. Students also serve as interns for local, national, and international nonprofit organizations. Students can earn up to six credits in the intern program. The emphasis of the program is on broadening students' experiences and knowledge about politics through a practical involvement that is firmly founded on and tied to strong academic curricula.

A faculty member coordinates the internship program. Students also have the opportunity to perform an internship and learn in Washington, D.C., through our GV in DC program, a partnership program with The Washington Center.

GVSU political science and international relations majors have access to GVSU's Handshake (formerly Laker Jobs) at [gvsu.joinhandshake.com](http://gvsu.joinhandshake.com).

To get started, click on the internships link at [gvsu.edu/polisci](http://gvsu.edu/polisci).

For information on the GV in DC program, visit [gvsu.edu/gvdc](http://gvsu.edu/gvdc).

## **Honors Organizations**

Phi Sigma Alpha, the National Political Science Honor Society, was established at the University of Texas in 1920. It is the only national honor society for college and university students of government. There are currently 621 chapters of Pi Sigma Alpha around the United States, including the Kappa Phi chapter at Grand Valley State University. Visit them online at [pisigmaalpha.org](http://pisigmaalpha.org).

Initiation into Pi Sigma Alpha is a prestigious award for upper division students who have demonstrated consistent excellence in political science and related majors and minors. Initiation into Pi Sigma Alpha also establishes one's eligibility to participate in Pi Sigma Alpha scholarship and internship grant programs, and to publish research in the Pi Sigma Alpha Undergraduate Journal of Politics. For information about eligibility requirements and campus activities contact Paul J. Cornish, Advisor to the Kappa Phi chapter of Pi Sigma Alpha at (616) 331-3502 or [cornishp@gvsu.edu](mailto:cornishp@gvsu.edu).

## **Bachelor of Arts or Bachelor of Science in Political Science**

### **Requirements**

Students seeking the B.A. or B.S. degree are required to take at least 36 credits in political science, including PLS 102, PLS 103, PLS 211, PLS 231 or PLS 232, PLS 495, and seven additional courses, two of which must be in American politics; one in international relations; one in comparative politics; and one in political thought (200-level or higher). Please see a list of elective courses by category as follows. At least four of these courses must be at the 300-level; independent studies, internships, PLS 300, PLS 350, and PLS 495 do not count toward the 300-

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level requirement. No more than nine credits of internship and independent study may count toward the major, with no more than six credits in either category. Public Administration (PA) 307 may count as an American politics elective.

Students seeking a B.A. degree must demonstrate third-semester proficiency in a foreign language. Students seeking a B.S. degree must complete the following courses: STA 215, PLS 300, and PLS 350. When taken for the B.S. degree, PLS 300 and PLS 350 do not count toward the 36 required credits for the major.

### **Required Courses**

- PLS 102 - American Government and Politics (3 credits)
- PLS 103 - Issues in World Politics (3 credits)
- PLS 211 - International Relations (3 credits)
- PLS 231 - Classical Political Thought (3 credits) **OR** PLS 232 - Modern Political Thought (3 credits)
- PLS 495 - Seminar in the Study of Politics (Capstone) (3 credits)

### **B.S. Degree Requirements** (additional)

- STA 215 - Introductory Applied Statistics (3 credits)
- PLS 300 - Political Analysis (3 credits)
- PLS 350 - Comparative Public Opinion (3 credits)

### **B.A. Degree Requirements** (additional)

- Third-semester proficiency in a foreign language.

### **Elective Courses**

#### **American Politics**

Choose at least two of the following:

- PLS 202 - American Election Campaigns (3 credits)
- PLS 203 - State Politics (3 credits)
- PLS 205 - The Policy Process (3 credits)
- PLS 206 - American Constitutional Foundations (3 credits)
- PLS 301 - Poverty, Inequality, and U.S. Public Policy (3 credits)
- PLS 302 - Women, Politics, and Public Policy (3 credits)
- PLS 303 - Introduction to U.S. Environmental Policy (3 credits)
- PLS 304 - Political Parties and Interest Groups (3 credits)
- PLS 305 - Congress and the Presidency (3 credits)
- PLS 306 - American Constitutional Law I (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- PLS 307 - American Constitutional Law II (3 credits)
- PLS 310 - Politics and Health Policy (3 credits)
- PLS 330 - Religion and Politics in America (3 credits)
- PLS 340 - Mass Media and American Politics (3 credits)
- PLS 341 - Elections and Voting Behavior (3 credits)

### **International Relations**

Choose at least one of the following:

- PLS 212 - Great Decisions (3 credits)
- PLS 215/GSI 215 - Global Migration (3 credits)
- PLS 311 - International Conflict and Conflict Resolution (3 credits)
- PLS 312 - U.S. Foreign Policy (3 credits)
- PLS 313 - International Organization (3 credits)
- PLS 314 - International Law (3 credits)
- PLS 315 - International Political Economy (3 credits)
- PLS 316 - Human Rights in International Politics (3 credits)
- PLS 321 - The European Union (3 credits)

### **Comparative Politics**

Choose at least one of the following:

- PLS 221 - Government and Politics of Western Europe (3 credits)
- PLS 240 - The Holocaust (3 credits)
- PLS 281 - Comparative Political Systems: Canada (3 credits)
- PLS 283 - Chinese Politics and U.S.-China Relations (3 credits)
- PLS 284 - Latin American Politics (3 credits)
- PLS 319 - African Politics (3 credits)
- PLS 320 - Comparative Politics of the Middle East (3 credits)
- PLS 325 - Human Rights and Democracy in Russia and the Post-Communist World (3 credits)
- PLS 327 - Politics of Developing Countries (3 credits)
- PLS 339 - Democracy and the Authoritarian Challenge (3 credits)

### **Political Thought**

Choose at least one of the following: if completing only one course, selected course must be at the 200- or 300-level:

- PLS 105 - Introduction to Human Rights (3 credits)
- PLS 231 - Classical Political Thought (3 credits)
- PLS 232 - Modern Political Thought (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- PLS 333 - Contemporary Political Thought (3 credits)
- PLS 334/WGS 334 - Sex, Power, and Politics (3 credits)
- PLS 335/HRT 335 - Theory of Human Rights (3 credits)
- PLS 337 - U.S. Political Thought (3 credits)
- PLS 338 - Citizenship (3 credits)

### **Special Topics, Independent Study, Internship**

- PLS 380 - Special Topics in Political Science (3 credits)
- PLS 399 - Readings in Political Science (1 to 3 credits)
- PLS 490 - Internship (2 to 6 credits)
- PLS 499 - Independent Research (2 to 6 credits)

### **Suggested Order of Coursework for a Major in Political Science**

The flexibility in course selection makes it important for students to seek the advice of a faculty member in the department when choosing courses to fit their specific needs and interests. No sample curriculum will be appropriate for everyone, although these general guidelines should be helpful to nearly everyone. It is also assumed that some counseling will take place to match the curriculum with career plans. We strongly recommend study abroad and an internship. We also advise students to take elective courses in history, economics, and in other social science disciplines.

#### **Year One**

- WRT 150 and/or MTH 110
- One or two general education courses: Arts and/or Philosophy and Literature
- One or two general education courses in science
- Electives or foreign language. Choose foreign language if completing a B.A. degree. See B.A. section for requirements
- PLS 102 - American Government and Politics (3 credits)
- PLS 103 - Issues in World Politics (3 credits)
- One general education course in Social and Behavioral Science from another discipline
- ECO 210 - Introductory Macroeconomics (3 credits) **OR** ECO 211 - Introductory Microeconomics (3 credits) are recommended, as these courses provide background for PLS 315 - International Political Economy (3 credits)

#### **Year Two**

- PLS 211 - International Relations (3 credits)
- PLS 231 - Classical Political Thought (3 credits) **OR** PLS 232 - Modern Political Thought (3 credits)
- Two additional political science courses at the 200- or 300-level

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- Two general education courses in U.S. Diversity and Mathematical Sciences. STA 215 - Introductory Applied Statistics (3 credits) Recommended for students choosing B.S. or any remaining requirements.
- Electives or foreign language
- Additional writing skills, if needed
- STA 215 - Introductory Applied Statistics (3 credits) If choosing B.S., this counts for general education Mathematical Sciences.
- PLS 300 - Political Analysis (3 credits) Note: Students must take STA 215 before PLS 300.

### **Year Three**

- Three or four political science courses at 200-300 level
- Completion of general education courses
- Electives
- Political science internship
- PLS 350 - Comparative Public Opinion (3 credits) Take this course if choosing B.S. and upon completion of STA 215 and PLS 300.

### **Year Four**

- PLS 495 - Seminar in the Study of Politics (Capstone) (3 credits)
- Political science internship
- Any remaining major or university requirements and electives

## **Legal Education Admission Program (LEAP), Legal Studies**

Students who are accepted into the Grand Valley School of Criminology, Criminal Justice, and Legal Studies and Michigan State College of Law (MSU COL) 3+3 program called LEAP complete a minimum of 91 credits comprising the required undergraduate courses in their first three years of study at Grand Valley. This includes all university-level requirements as well as the requirements for the legal studies major. Upon admission to the law school, legal studies students complete their undergraduate electives with law school courses. Up to 29 credits of MSU COL work in which the student has earned a 2.0 or above will be accepted. The B.S. or B.A. will be awarded upon satisfactory completion of the number of credits and requirements necessary for the undergraduate program.

LEAP is open only to those students who matriculate as first-year students at Grand Valley. Students may apply any time prior to their senior year for consideration under the program. A joint committee that is comprised of faculty from both institutions will admit students to the LEAP program on the basis of undergraduate record, ACT or SAT scores and other information deemed relevant. In order to be eligible for consideration for final admission to MSU COL, students enrolled in the 3+3 program must have earned a cumulative Grand Valley grade point average, not less than the median of the students admitted to MSU COL for the previous year, achieve an LSAT score not less than the median of the students admitted to MSU COL for the

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

previous year (if taken multiple times, the highest of multiple scores will be relied on), and satisfy any other current MSU COL admission requirements.

## **Suggested Order of Coursework**

### **Year One**

- A writing skills course
- One or two humanities/arts general education courses
- One or two science general education courses
- Electives (or foreign language)
- ACC 212 - Principles of Financial Accounting (3 credits)
- LS 101 - Law in our Lives (3 credits)
- LS 226 - Civil Litigation I (3 credits)

### **Year Two**

- Three or four legal studies courses (such as LS 324, LS 428, and LS 320)
- CJ 300 and STA 215 (B.S. degree)
- IS 150
- One or two general education courses
- Electives or foreign language
- Additional writing skills if needed

### **Year Three**

- Two or three legal studies courses at 400-level (such as LS 320 and LS 322)
- Completion of general education courses
- LS 490 - Legal Studies Internship (1 to 6 credits)
- LS 495 - Legal Thought (Capstone) (3 credits)

## **Legal Education Admission Program (LEAP), Political Science**

The Legal Education Admission Program (LEAP) provides an opportunity for Grand Valley State University's political science undergraduate students to earn both a bachelor's degree and a Juris Doctor (J.D.) degree in about six years of full-time study (three years of political science studies plus three years of legal studies). The program was developed by Grand Valley State University's Political Science department and Michigan State University College of Law (MSU Law).

Students accepted into the program may combine their last year of political science undergraduate work at Grand Valley State University with their first year of law school at MSU

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Law, thereby saving a year in both time and money. Interested students complete a minimum of 91 credits comprising the required undergraduate courses in their first three years of study at Grand Valley State University. This includes all university-level requirements as well as the requirements for the political science major. Upon admission to the law school, PLS students complete their undergraduate electives with law school courses. Up to 29 credits of MSU Law work in which the student earned a 2.0 or above will be accepted. The B.S./B.A. will be awarded upon satisfactory completion of the number of credits and requirements necessary for the undergraduate program. It is anticipated that MSU Law will admit up to five Grand Valley State University PLS LEAP students per year.

Interested students may apply to LEAP after they have accumulated 30 credits or more with a GPA of 3.5 or higher. Students planning to apply to MSU Law under LEAP should plan to take the LSAT in the summer before their junior year, or in September of their junior year, and must not apply to MSU Law later than March 1 of their junior year. Applicants must also register with the LSDAS.

### **MSU Law Requirements for LEAP with Political Science**

- Complete at least 91 credits at GVSU
- Complete all GVSU university-level requirements
- Complete all GVSU PLS major and cognate requirements
- GPA of 3.6 or above
- LSAT score of 156 or above
- Any other current MSU Law requirements

### **LEAP Admission Requirements**

- Matriculate as a first-year student at GVSU
- Political science major (There are other LEAP programs for legal studies and business majors.)
- Accumulate at least 30 credits
- GPA of 3.5 or above
- To apply, send an e-mail to Professor Richards ([richardm@gvsu.edu](mailto:richardm@gvsu.edu)) with your name, major(s), current GPA and number of credits, e-mail address, and phone number

### **Suggested Order of Coursework**

#### **Year One**

- A writing skills course
- One or two humanities/Arts general education courses
- One or two science general education courses
- Electives (or foreign language)
- One PLS course at 200-level
- PLS 102 - American Government and Politics (3 credits)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

- PLS 103 - Issues in World Politics (3 credits)

### **Year Two**

- Three or four PLS courses at 200- or 300- level
- One or two general education courses
- Electives (or foreign language)
- Additional writing skills if needed
- PLS 300 - Political Analysis (3 credits)
- STA 215 - Introductory Applied Statistics (3 credits) B.S. majors.

### **Year Three**

- Two or three political science courses at the 200-or 300-level
- Completion of general education courses
- PLS internship
- PLS Capstone
- PLS 315 - International Political Economy (3 credits)
- OR** PLS 341 - Elections and Voting Behavior (3 credits)

## **Political Science and Law**

The Political Science Department and Michigan State University College of Law have partnered to offer a 3+3 program that gives Grand Valley political science students the opportunity to earn a B.A. or a B.S. and a Juris Doctor (J.D.) degree in approximately six years. For more information, refer to the Political Science - Legal Education Admission Program (LEAP) section of this catalog.

## **Political Science Minor**

### **Requirements**

Students minoring in political science are required to complete at least 21 credits in political science, including PLS 102 and one of the following: PLS 103 or PLS 211. Of the remaining 15 credits, there must be one course in each of the following four fields: American politics, comparative politics, international relations, and political thought.

Please see the list of elective courses by category in the political science B.A./B.S. section of the catalog. At least nine credit hours must be at the 300-level; independent studies, internships, PLS 495 and the B.S. degree requirements courses do not count toward the 300-level requirement. No more than six credits of internship or independent study may count toward the minor. PNH 307 may count as an American politics elective.

### **Requirements for Teachable Minor in Political Science**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Students seeking a teachable minor in political science must take the following courses as part of the General Education Program: ECO 210 - Introductory Macroeconomics and GPY 235 - Geography for a Changing World. Students must also complete the political science teachable minor requirements. Requires 24 credits, including:

- PLS 102 - American Government and Politics (3 credits)
- PLS 103 - Issues in World Politics (3 credits)
- PLS 206 - American Constitutional Foundations (3 credits)
- PLS 303 - Introduction to U.S. Environmental Policy (3 credits)
- PLS 211 - International Relations (3 credits)
- PLS 232 - Modern Political Thought (3 credits)
- HST 204 - World History since 1500 (3 credits)
- SST 310 - Teaching Social Studies: Secondary (3 credits)

## Practical Ethics Minors

Choosing one of these minors will add a complementary credential to students in any Grand Valley major program by providing them with a thorough grounding in philosophical thinking about ethics and value. Students can choose courses tailored to their specific area of study. A grounding in philosophical thinking, especially thinking about ethics and value, is of significant personal, practical, and professional value to students pursuing many different major programs.

Students from all majors can elect one and only one of these minors. A minimum of 18 credits are required for any of the minors. Two courses are required courses in each of the minors, PHI 102 and PHI 460. Additionally, the student must select four electives, two of which must be upper division courses (300- or 400-level).

## Ethics, Culture, and Society Minor

### Courses Required

Students must complete the following:

- PHI 102 - Ethics (3 credits)
- PHI 460 - Rights, Duties, and the Meaning of Life: Moral Philosophy (3 credits)

### Elective Courses

Select four courses (at least 12 credits) two of which must be upper division courses (300- or 400-level courses) from the list below. These four elective courses can include up to two courses noted with asterisks:

- BIO 338 - Environmental Ethics (3 credits)
- NRM 300 - Ethical Recreation: Leave No Trace (1 credit)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- \*PHI 101 - Introduction to Philosophy (3 credits)
- \*PHI 103 - Logic (3 credits)
- PHI 210 - Eastern Philosophy (3 credits)
- \*PHI 220 - Aesthetics (3 credits)
- PHI 230 - American Philosophy (3 credits)
- \*PHI 250 - Existentialism (3 credits)
- PHI 300 - Theories of Human Nature (3 credits)
- PHI 320 - Power, Justice, and Freedom: Social and Political Philosophy (3 credits)
- PHI 325 - Ethics in Professional Life (3 credits)
- PHI 341 - Philosophy of Death and Dying (3 credits)
- PHI 370 - Sex Matters: Feminist Philosophy in the Contemporary World (3 credits)
- PHI 440 - Perception, Hallucination, Trust: Perspectives on Knowledge (3 credits)

## **Health Care Ethics Minor**

### **Required Courses**

- PHI 102 - Ethics (3 credits)
- PHI 460 - Rights, Duties, and the Meaning of Life: Moral Philosophy (3 credits)

### **Elective Courses**

Select four courses (at least 12 credits) two of which must be upper division courses (300- or 400-level courses) from the list below. These four elective courses can include up to two courses noted with asterisks:

- AHS 321 - Ethical and Legal Responsibilities in Health Care (3 credits)
- BIO 328 - Biomedical Ethics (3 credits)
- \*PHI 101 - Introduction to Philosophy (3 credits)
- \*PHI 103 - Logic (3 credits)
- PHI 202 - Philosophy and Ethics of Health (3 credits)
- \*PHI 210 - Eastern Philosophy (3 credits)
- \*PHI 220 - Aesthetics (3 credits)
- \*PHI 230 - American Philosophy (3 credits)
- \*PHI 250 - Existentialism (3 credits)
- PHI 300 - Theories of Human Nature (3 credits)
- PHI 320 - Power, Justice, and Freedom: Social and Political Philosophy (3 credits)
- PHI 325 - Ethics in Professional Life (3 credits)
- PHI 341 - Philosophy of Death and Dying (3 credits)
- PHI 370 - Sex Matters: Feminist Philosophy in the Contemporary World (3 credits)
- PHI 420 - Philosophy of Science (3 credits)
- PHI 440 - Perception, Hallucination, Trust: Perspectives on Knowledge (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## STEM Ethics Minor

The following courses are required:

- PHI 102 - Ethics (3 credits)
- PHI 460 - Rights, Duties, and the Meaning of Life: Moral Philosophy (3 credits)

Select four courses (at least 12 credits) two of which must be upper division courses (300- or 400-level courses) from the list below. These four elective courses can include up to two courses noted with asterisks:

- BIO 338 - Environmental Ethics (3 credits)
- DS 360 - Ethics of Digital Culture (3 credits)
- \*PHI 101 - Introduction to Philosophy (3 credits)
- \*PHI 103 - Logic (3 credits)
- \*PHI 210 - Eastern Philosophy (3 credits)
- \*PHI 220 - Aesthetics (3 credits)
- \*PHI 230 - American Philosophy (3 credits)
- \*PHI 250 - Existentialism (3 credits)
- PHI 300 - Theories of Human Nature (3 credits)
- PHI 320 - Power, Justice, and Freedom: Social and Political Philosophy (3 credits)
- PHI 325 - Ethics in Professional Life (3 credits)
- PHI 341 - Philosophy of Death and Dying (3 credits)
- PHI 370 - Sex Matters: Feminist Philosophy in the Contemporary World (3 credits)
- PHI 420 - Philosophy of Science (3 credits)
- PHI 440 - Perception, Hallucination, Trust: Perspectives on Knowledge (3 credits)

## Prelaw

For additional information about opportunities your particular college offers, please refer to that section in this catalog.

Grand Valley State University's prelaw program, in keeping with the recommendations of U.S. law schools, is not a single major that is defined as prelaw. As law school officials point out, students will learn the law in great detail once they attend law school. Grand Valley's approach to prelaw encourages students to pursue majors and elective courses that will complement their law degree while providing the diverse intellectual foundation necessary for success in the field of law. Grand Valley also recommends that students experience courses directly related to law (see list) in order to understand if they are suited for a career in law.

For more information, please contact Professors Mark J. Richards, Ph.D. (political science); Kristine Mullendore, J.D. (criminal justice/legal studies); John Uglietta, J.D., Ph.D. (philosophy); Star Swift, M.L.I.R., J.D. (business); or Richard Harris, M.B.A., J.D., LL.M.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

(accounting and tax), or MSU College of Law Admissions: (800) 844-9352, [admiss@law.msu.edu](mailto:admiss@law.msu.edu), or refer to [gvsu.edu/prelaw](http://gvsu.edu/prelaw).

**Website:** [gvsu.edu/prelaw](http://gvsu.edu/prelaw)

### **Choice of Major**

Students choose political science to gain an understanding of the politics of the institutions that make and implement the law. Students may choose legal studies to focus directly on the processes of law making, implementation, enforcement, and practice. The legal studies program also prepares students to be legal assistants, also known as paralegals, who may not provide legal services directly to the public, except as permitted by law. Students interested in corporate law choose majors such as business, economics, engineering, computer science, and biology, among others. For international law, students may consider majoring in international relations or a foreign language, such as Chinese, French, or Spanish. Students who want to work in corrections management combine our criminal justice major with a law degree. Social science disciplines such as economics, psychology, sociology, and anthropology explain human behavior. History and classics provide lawyers with the context necessary to understand the development of our common law legal tradition. Philosophy cultivates the logical reasoning skills that are integral to a successful legal career. Communications, English, and writing refine oral and written communication skills.

### **LEAP (Legal Education Admission Program)**

Business, political science, and legal studies majors at Grand Valley State University have the opportunity to participate in the Legal Education Admission Program, which enables students to earn a bachelor's degree from Grand Valley State University and a Juris Doctor from Michigan State University College of Law in about six years, saving a year of time and money. For more information, please consult the business, political science, and legal studies sections of the Grand Valley State University Undergraduate and Graduate Catalog.

### **Prelaw Advising**

Grand Valley has formal prelaw advising available to all students by professors Mark J. Richards, Kristine Mullendore, and John Uglietta, who advise students on Grand Valley courses and majors, the law school application process, the LSAT, and legal careers. For a detailed prelaw Frequently Asked Questions (FAQ) and contact information for the advisors, please visit [gvsu.edu/prelaw](http://gvsu.edu/prelaw).

### **Courses Related to Law**

Grand Valley advises prelaw students to take several classes related to law to gain a sense of the legal field and begin preparation for law school. Here are some examples of the many courses related to law at Grand Valley:

- CLA 367 - Thinking Like a (Roman) Lawyer

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

- PHI 330 - Crime, Morality, Punishment: Philosophy of Law
- WGS 310 - LGBTQ Rights and the Law
- WGS 320/CJ 320 - Crimes Against Women
- WGS 370/LS 370 - Women and the Law

### **Criminal Justice and Legal Studies: Entire Curriculum**

Examples include:

- CJ 302 - Criminal Law
- CJ 305 - Constitutional Rights and Civil Liberties
- CJ 325 - Criminal Justice and Human Rights
- CJ 340 - Courts Process
- CJ 408 - White-Collar and Corporate Crime
- LS 101 - Law in our Lives
- LS 324 - Legal Research and Writing
- Graduate Course: CJ 619 - Legal Issues in Criminal Justice

### **Political Science:**

- PLS 206 - American Constitutional Foundations
- PLS 306 - American Constitutional Law I
- PLS 307 - American Constitutional Law II
- PLS 314 - International Law

Many other political science courses cover how laws and policies are made.

### **Seidman College of Business:**

- ACC 317 - Individual Income Taxation
- ACC 318 - Entity Taxation
- BUS 201 - Legal Environment for Business
- MGT 334 - Employment and Labor Law
- MGT 355 - The Diversified Workforce
- MGT 432 - Grievance Administration, Arbitration, and Collective Bargaining

### **Seidman College of Business Graduate Level Courses:**

- ACC 612 - The Accountant's Legal Environment
- ACC 624 - Corporate Tax I
- ACC 625 - Corporate Tax II
- BUS 531 - Legal Environment of Business

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

# Professional Science Masters

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section of this catalog.

**Website:** [gvsu.edu/psm](http://gvsu.edu/psm)

## Degrees Offered

Master of Science in health informatics and bioinformatics; Master of Science in cell and molecular biology: biotechnology emphasis; Master of Science in biostatistics; and Master of Science in data science and analytics.

The professional science master's (PSM) degree is characterized as postgraduate educational preparation that is more practical, applied, and focused on specific workforce needs than is a traditional master's degree. Currently, more than 300 PSM degree programs exist at more than 150 universities in the U.S., Canada, Australia, Republic of Korea, and United Kingdom ([sciencemasters.org](http://sciencemasters.org)).

The PSM degree is an innovative two-year graduate degree that offers advanced technical training while developing workplace skills business, communications, teamwork, ethics that employers are demanding.

A professional science master's degree has specific characteristics:

- Complete within itself, rather than a pathway to a Ph.D.
- Interdisciplinary or cross-disciplinary in nature
- Closely tied to the scientific workforce needs of business/industry
- Includes an intensive internship experience

## Professional Science Master's

### Admission

The following are required for admission to professional science master's (PSM) degree programs:

- Grade point average of 3.0 on a 4.0 scale from all undergraduate coursework or a satisfactory score on the GRE or GMAT
- Resume detailing work experiences and accomplishments
- Personal statement of career goals and background experiences, including an explanation of how this program will help achieve educational and professional objectives
- Written recommendations from at least two individuals who are in positions to attest to the applicant's potential for successful completion of the program

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

- A base of underlying knowledge relevant to graduate study in one of the appropriate disciplines: health informatics and bioinformatics, cell and molecular biology, biostatistics, or data science and analytics. This can be demonstrated by previous academic study or work experience. Consultation with a program faculty advisor is necessary to verify appropriateness of work experience as a substitute for academic preparation. Candidates without sufficient relevant background experience may satisfy any deficiency with appropriate graduate or undergraduate courses, as recommended by a faculty advisor in the program and approved by the Admissions Committee and the program director.

### **Graduate Assistantships**

Graduate assistants work with PSM program faculty and staff. Qualified, full-time candidates are selected on the basis of aptitude, interests, and background.

### **Graduate Programs**

Each of the four M.S. programs are interdisciplinary, share a common core of courses, have a similar curriculum design, and a mandatory business/industry internship component, and can be characterized as a professional science master's degree program a graduate degree closely related to scientific workforce needs of business/industry. Specific details of the programs and specific requirements for each of the PSM degrees can be found in the Grand Valley State University Undergraduate and Graduate Catalog under the individual school/department/program listings.

### **Health Informatics and Bioinformatics, M.S.**

#### **Bioinformatics Focus, Health Informatics Focus**

Health informatics and bioinformatics utilizes computer technology to manage and analyze information in the life and health sciences. This degree is granted by the School of Computing within the Seymour and Esther Padnos College of Engineering and Computing. More specific information about this program can be found in the Computer Information Systems section of the Grand Valley State University Undergraduate and Graduate Catalog.

### **Cell and Molecular Biology, M.S.**

#### **Biotechnology Emphasis**

Biotechnology involves the industrial use of living organisms to produce food, drugs, and other products. This degree is granted by the Cell and Molecular Biology Department within the College of Liberal Arts and Sciences. More specific information about this program can be found in the Cell and Molecular Biology section of the Grand Valley State University Undergraduate and Graduate Catalog.

### **Biostatistics, M.S.**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Biostatistics involves the application of statistical techniques to scientific research in the life and health sciences. This degree is granted by the statistics department within the College of Liberal Arts and Sciences. More specific information about this program can be found in the Statistics section of the Grand Valley State University Undergraduate and Graduate Catalog.

## **Data Science and Analytics, M.S.**

Data science and analytics provides students with the fundamental analytics background necessary to work with big and complex data sets in any discipline. This degree is granted by the School of Computing within the Seymour and Esther Padnos College of Engineering and Computing. More specific information about this program can be found in the computer information systems section of the Grand Valley State University Undergraduate and Graduate Catalog.

## **Requirements**

### **Common Core Courses**

Requires four courses (12 credits), including:

- CMB 610 - Foundations of Biotechnology (3 credits) (Not required for data science and analytics.)
- PSM 650 - Ethics and Professionalism in Applied Science (3 credits)
- CIS 661 - Introduction to Health and Bioinformatics (3 credits) (Not required for data science and analytics.)

**AND** one of the following biostatistics courses (3 credits):

- STA 610 - Applied Statistics for Health Professions (3 credits)
- **OR** STA 622 - Statistical Methods for Biologists (3 credits)

### **Common Seminar Course**

Requires two credits:

- PSM 662 - Seminar in Professional Science Practice (2 credits)

### **Internship**

Requires four credits:

- PSM 691 - Internship (1 to 9 credits)

# **Psychology**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section of this catalog.

**Website:** [gvsu.edu/psychology](http://gvsu.edu/psychology)

Psychology is the science of the mind and behavior. Psychological scientists specialize in many areas, such as clinical psychology, counseling psychology, developmental psychology, physiological psychology, neuropsychology, industrial/organizational psychology, educational psychology, experimental psychology, cognitive psychology, social psychology, behavioral psychology, school psychology, and cross-cultural psychology. Because the interests and training of the faculty members in the department cover all of these areas, we offer a wide range of courses in the undergraduate curriculum.

Students should plan their studies in consultation with an academic advisor early and throughout their college career. Students major in psychology for various reasons, and different sets of courses are likely to be appropriate for students with different goals.

### **Career Opportunities**

Students with undergraduate psychology majors attain an understanding of empirical and theoretical discoveries in the field, and methodological approaches in psychological science. These skills serve them in a variety of employment settings and graduate programs. Students who major in psychology and then seek employment with a bachelor's degree often find jobs in business, industry, and human services settings. The latter include such settings as hospitals, residential facilities, juvenile correctional facilities, clinics, and rehabilitation centers.

Many psychology majors pursue graduate studies in a wide variety of disciplines. Some obtain masters or doctorates in psychology, in specialties that cover the full range of psychological science, including clinical psychology, cognitive psychology, social psychology, human factors engineering, developmental psychology, industrial/organizational psychology, school psychology, psycholinguistics, developmental psychology, and behavioral neuroscience. Others pursue professional training in medicine or law, while still others complete graduate work in other disciplines, including social work, education, public health, business, occupational therapy, physical therapy, library science, human resources management, and nonprofit administration.

The psychology minor can be combined with a teachable major leading to secondary certification and the teaching of psychology at the high school level. Because human interaction is central to many careers, undergraduates often elect to add a psychology minor to their major field of study. Psychology minors gain increased understanding of how people perceive, think, feel, and act based on empirical findings in the field, skills which can support them in future careers.

## **Applied Behavior Analysis Graduate Certificate**

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

**Website:** [gvsu.edu/grad/aba](http://gvsu.edu/grad/aba)

The GVSU psychology department is offering an online graduate level certificate program in applied behavioral analysis (ABA) that will allow students to pursue certification as a Board Certified Behavior Analyst (BCBA). Students complete seven courses (21 credits) that meet the Fifth Edition Task List coursework requirements of the Behavior Analyst Certification Board (BACB). Go to [bacb.com](http://bacb.com) for more information.

Board Certified Behavior Analysts (BCBA) conduct comprehensive behavioral assessments and design and implement behavior analytic interventions. A BCBA will provide consultation across various settings, collaborate with other professionals to make socially significant improvements for individuals and groups, and train and supervise the work of Board Certified Assistant Behavior Analysts and Registered Behavior Technicians.

### **Applied Behavior Analysis at Grand Valley**

Students enrolled in the online program will earn a graduate certificate in applied behavior analysis verified by the BACB to meet coursework requirements to become a BCBA. To become a BCBA, students must 1) possess a graduate degree (master's or doctoral), 2) complete coursework that meets the BACB task list requirements, 3) complete Experience Standards defined by the BACB, and 4) pass the BCBA certification exam.

### **Admission**

Students may enter the ABA graduate certificate program in two ways:

1. Applicants to the ABA graduate certificate program must demonstrate completion of a master's degree with a minimum 3.0 grade point average. To be eligible for consideration, applications must include submission of the following materials:

- All graduate admission materials required by the university
- A professional vita or resume
- Three professional letters of recommendation
- A personal statement outlining interest in the field of applied behavior analysis and the program at Grand Valley State University, relevant experience, and educational and professional goals

2. Students in the GVSU school psychology graduate program are automatically admitted to the ABA graduate certificate program.

Applications are accepted at any time, but preference will be given to applications received by June 1 for fall admission. Applications need to be complete before they will be considered for admission.

### **Requirements for the ABA Graduate Certificate**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Students who are admitted into the certificate program must complete 21 semester credit hours with a B- or better in each course and finish with a minimum 3.0 grade point average. All courses are offered online. The first course in the program sequence starts in the fall, and students may take up to two courses per semester. PSY 522 must be completed during the first semester of the program. The coursework for the program must be completed within four years. The required curriculum consists of the following courses:

- PSY 522 - Applied Behavior Analysis I (ABA): Foundational Concepts and Principles (3 credits)
- PSY 523 - Applied Behavior Analysis II: Application to Behavior Change (3 credits)
- PSY 525 - Behavior Analysis Applied to Autism Spectrum Disorders and Developmental Disorders (3 credits)
- PSY 527 - Ethics and Diversity in Professional Practice (3 credits)
- PSY 550 - Research in Applied Settings (3 credits)
- PSY 624 - Behavioral Assessment and Intervention (3 credits)
- PSY 658 - Advanced Concepts in Applied Behavior Analysis (3 credits)

### **Suggested Order of Coursework**

Fall Semester:

- PSY 522 - Applied Behavior Analysis I (ABA): Foundational Concepts and Principles (3 credits)
- PSY 525 - Behavior Analysis Applied to Autism Spectrum Disorders and Developmental Disorders (3 credits)
- PSY 624 - Behavioral Assessment and Intervention (3 credits)

Winter Semester:

- PSY 527 - Ethics and Diversity in Professional Practice (3 credits)
- PSY 523 - Applied Behavior Analysis II: Application to Behavior Change (3 credits)

Spring/Summer Semester:

- PSY 550 - Research in Applied Settings (3 credits)
- PSY 658 - Advanced Concepts in Applied Behavior Analysis (3 credits)

Optional Course:

- PSY 590 - Applied Behavior Analysis Practicum (1 to 3 credits)

## **Bachelor of Arts or Bachelor of Science in Behavioral Neuroscience**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Behavioral neuroscience is an interdisciplinary area of study where the area of interest is the relationship between physiological and psychological systems. This major is administered by the department of psychology and is for students who are interested in issues in the emerging field of neuroscience and behavior. Study focuses on the neural mechanisms of behavior and cognition, evolutionary development of the nervous system, and mechanisms of nervous system and their application to the treatment of disorders.

The behavioral neuroscience major prepares students for graduate study in neuroscience, neuropsychology, or related fields, and for careers requiring a solid foundation in science. Many students with a behavioral neuroscience degree may also pursue professional degrees in health-related fields such as clinical psychology.

**\*\*Students wishing to pursue graduate or professional studies are strongly advised to speak with their major advisor regarding additional courses in which to enroll.**

**\*\*Premed students are also strongly advised to speak with their major advisor regarding additional courses in which to enroll.**

## **Requirements for a Major in Behavioral Neuroscience**

Students majoring in behavioral neuroscience are required to take 50 to 57 credit hours.

### **Required Courses**

- BIO 120 - General Biology I (4 credits)
- BIO 352 - Animal Behavior (3 credits)
- BIO 355 - Human Genetics (3 credits) **OR** BIO 375 - Genetics (3 credits)
- BIO 376 - Genetics Laboratory (1 credit)
- BMS 250 - Anatomy and Physiology I (4 credits)
- PSY 101 - Introductory Psychology (3 credits)
- PSY 300 - Research Methods in Psychology (3 credits)
- PSY 330 - Foundations of Behavioral Neuroscience (3 credits)
- PSY 350 - Psychology Research and Data Applications (3 credits)
- PSY 435 - Advanced Neuroscience and Behavior (3 credits)
- PSY 492 - Advanced General: The Capstone (3 credits)
- STA 215 - Introductory Applied Statistics (3 credits)

### **Chemistry**

Choose one of the following:

- CHM 109 - Introductory Chemistry (4 credits)
- CHM 115 - Principles of Chemistry I (4 credits) **AND** CHM 116 - Principles of Chemistry II (5 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

\*Premed students are advised to take CHM 115 and CHM 116 instead of CHM 109 toward the fulfillment of the chemistry requirement.

## **Psychology**

Choose one of the following:

- PSY 370 - Cognitive Neuroscience (3 credits)
- PSY 375 - Comparative Psychology (3 credits)
- PSY 431 - Introduction to Neuropsychology (3 credits)
- PSY 432 - Psychopharmacology (3 credits)

## **Additional Course Requirements**

Two additional courses must be taken from the following. Each course must be taken from a different department.

- BIO 121 - General Biology II (4 credits)
- BIO 302 - Comparative Vertebrate Anatomy (4 credits)
- BIO 329 - Evolution of Social Behavior (3 credits)
- BIO 432 - Comparative Animal Physiology (4 credits)
- BMS 251 - Anatomy and Physiology II (4 credits)
- CHM 230 - Introduction to Organic and Biochemistry (4 credits)
- CHM 231 - Introductory Organic Chemistry (4 credits)
- PHY 200 - Physics for the Life Sciences (4 credits)
- \*\*PHY 220 - General Physics I (5 credits)
- PSY 301 - Child Development (3 credits)
- PSY 303 - Psychopathology (3 credits)
- PSY 357 - Psychology of Language (3 credits)
- PSY 361 - Perception (3 credits)
- PSY 364 - Life Span Developmental Psychology (3 credits)
- PSY 365 - Cognition (3 credits)
- PSY 420 - Theories of Personality (3 credits)

\*\*Premed students are advised to take PHY 220 instead of PHY 200

## **B.A. and B.S. Degree Requirements**

Students may earn either a B.A. or B.S. degree.

### **B.A. Degree Requirements**

- Third-semester proficiency in a foreign language

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **B.S. Degree Requirements**

- STA 215 - Introductory Applied Statistics (3 credits)
- PSY 300 - Research Methods in Psychology (3 credits)
- PSY 435 - Advanced Neuroscience and Behavior (3 credits)

## **Suggested Order of Coursework**

This pattern of coursework is suggested for those who wish to pursue a B.S. degree.

### **Year One**

Fall Semester:

- PSY 101 - Introductory Psychology
- BIO 120 - General Biology I
- MTH 110 - Algebra
- General education course

Winter Semester:

- STA 215 - Introductory Applied Statistics (B.S. degree requirement.)
- WRT 150 - Strategies in Writing
- CHM 109 - Introductory Chemistry **OR** CHM 115 - Principles of Chemistry I
- General education course

### **Year Two**

Fall Semester:

- PSY 300 - Research Methods in Psychology
- PSY 330 - Foundations of Behavioral Neuroscience
- BMS 250 - Anatomy and Physiology I
- CHM 116 - Principles of Chemistry II (Only if CHM 115 was completed.)
- General education course

Winter Semester:

- BIO 352 - Animal Behavior
- BIO 355 - Human Genetics (Students should take this course only if they do not plan on taking BIO 375.)
- General education course
- General education course

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Year Three**

Fall Semester:

- PSY 435 - Advanced Neuroscience and Behavior
- BIO 375 - Genetics (Students who have taken BIO 355 should not take this course.)
- BIO 376 - Genetics Laboratory
- Additional major course
- General education course

Winter Semester:

- PSY 370 - Cognitive Neuroscience (3 credits)
- OR** PSY 375 - Comparative Psychology (3 credits)
- OR** PSY 431 - Introduction to Neuropsychology (3 credits)
- OR** PSY 432 - Psychopharmacology (3 credits)
- Additional major course
- Issues course
- Elective

## **Year Four**

Fall Semester:

- PSY 350 - Psychology Research and Data Applications (3 credits)
- Issues course
- Elective
- Elective
- Elective

Winter Semester:

- PSY 492 - Advanced General: The Capstone (3 credits)
- Elective
- Elective
- Elective

# **Bachelor of Arts or Bachelor of Science in Psychology**

## **Requirements for a Major in Psychology**

Requirements include a minimum of 13 courses in psychology totaling 39 hours of credit.

The following courses are required for all psychology majors:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- PSY 101 - Introductory Psychology (3 credits)
- PSY 300 - Research Methods in Psychology (3 credits)
- PSY 350 - Psychology Research and Data Applications (3 credits)
- PSY 400 - Advanced Research in Psychology (3 credits)
- PSY 492 - Advanced General: The Capstone (3 credits)

### **Category Requirements**

In addition, one course must be taken from each of these six categories (18 credits):

#### 1. Biological

- PSY 330 - Foundations of Behavioral Neuroscience (3 credits)
- PSY 375 - Comparative Psychology (3 credits)
- PSY 431 - Introduction to Neuropsychology (3 credits)
- PSY 432 - Psychopharmacology (3 credits)

#### 2. Developmental

- PSY 301 - Child Development (3 credits)
- PSY 305 - Infant and Early Childhood Development (3 credits)
- PSY 331 - Adolescent Development (3 credits)
- PSY 364 - Life Span Developmental Psychology (3 credits)

#### 3. Personality/Clinical

- PSY 303 - Psychopathology (3 credits)
- PSY 324 - Developmental Psychopathology (3 credits)
- PSY 420 - Theories of Personality (3 credits)
- PSY 452 - Counseling: Theories and Applications (3 credits)

#### 4. Social Context

- PSY 355 - Psychology and Culture (3 credits)
- PSY 360 - Social Psychology: Psychology's View (3 credits)
- PSY 381 - Group Dynamics (3 credits)
- PSY 445 - Industrial/Organizational Psychology (3 credits)

#### 5. Cognitive

- PSY 357 - Psychology of Language (3 credits)
- PSY 361 - Perception (3 credits)
- PSY 365 - Cognition (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## 6. General

- PSY 311 - Controversial Issues in Psychology (3 credits)
- PSY 362 - Environmental Psychology (3 credits)
- PSY 366 - Perspectives on Aging (3 credits)
- PSY 370 - Cognitive Neuroscience (3 credits)
- PSY 405 - History and Systems (3 credits)
- PSY 410 - Tests and Measurements (3 credits)

### **Elective Courses**

Students must choose two additional psychology course electives totaling six credits.

### **Course Restrictions in Major**

For students who take PSY 399 and/or PSY 499, no more than six credits in these courses may be counted toward the major. Psychology majors must take at least one-third of the psychology credits constituting their major from the Psychology Department. Students may earn either a B.A. or B.S. degree.

## **B.A. and B.S. Degree Requirements**

### **B.A. Degree Requirements**

The B.A. degree requires third-semester proficiency in a foreign language.

### **B.S. Degree Requirements**

The B.S. degree requires the following:

- PSY 300 - Research Methods in Psychology (3 credits)
- PSY 400 - Advanced Research in Psychology (3 credits)
- STA 215 - Introductory Applied Statistics (3 credits)

## **Psychology Minor**

A minimum 2.0 GPA is required in the psychology minor. A minimum 2.7 GPA is required in the minor for students seeking teaching certification at the secondary level.

### **Requirements for a Minor in Psychology**

Psychology minors are required to take a minimum of six courses in psychology totaling at least 20 semester hours of credit. PSY 101 is required, as is a methods course chosen from PSY 300 **OR** if the student is a social work major: SW 430.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## Category Requirements

Psychology minors must take one course from three of the six following categories totaling nine hours:

### 1. Biological

- PSY 330 - Foundations of Behavioral Neuroscience (3 credits)
- PSY 375 - Comparative Psychology (3 credits)
- PSY 431 - Introduction to Neuropsychology (3 credits)
- PSY 432 - Psychopharmacology (3 credits)

### 2. Developmental

- PSY 301 - Child Development (3 credits)
- PSY 305 - Infant and Early Childhood Development (3 credits)
- PSY 331 - Adolescent Development (3 credits)
- PSY 364 - Life Span Developmental Psychology (3 credits)

### 3. Personality/Clinical

- PSY 303 - Psychopathology (3 credits)
- PSY 324 - Developmental Psychopathology (3 credits)
- PSY 420 - Theories of Personality (3 credits)
- PSY 452 - Counseling: Theories and Applications (3 credits)

### 4. Social Context

- PSY 355 - Psychology and Culture (3 credits)
- PSY 360 - Social Psychology: Psychology's View (3 credits)
- PSY 381 - Group Dynamics (3 credits)
- PSY 445 - Industrial/Organizational Psychology (3 credits)

### 5. Cognitive

- PSY 357 - Psychology of Language (3 credits)
- PSY 361 - Perception (3 credits)
- PSY 365 - Cognition (3 credits)

### 6. General

- PSY 311 - Controversial Issues in Psychology (3 credits)
- PSY 362 - Environmental Psychology (3 credits)
- PSY 366 - Perspectives on Aging (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- PSY 370 - Cognitive Neuroscience (3 credits)
- PSY 405 - History and Systems (3 credits)
- PSY 410 - Tests and Measurements (3 credits)

### **Electives**

Students choose two additional psychology courses, totaling six credit hours, as electives.

### **Course Restrictions in the Minor**

For students who choose to take PSY 399 and/or PSY 499, no more than three credit hours in these courses may be counted toward the minor. Psychology minors must take at least one-third of the credits constituting their minor from the Psychology Department.

## **Public and Nonprofit Administration**

For additional information about opportunities your college offers, please refer to the School of Public, Nonprofit, Health, Hospitality, and Tourism Management section in this catalog.

**Website:** [gvsu.edu/spnhtml](http://gvsu.edu/spnhtml)

The mission of the School of Public, Nonprofit, Health, Hospitality, and Tourism Management (SPNHTM) is to educate students for lives of active citizenship as contributing members of their local, regional, and global communities, and for professional careers in public and nonprofit organizations. We are committed to developing in undergraduate and graduate students the capabilities for ethical judgment, critical thinking, and the core competencies necessary to fulfill multiple roles as effective managers and public servants. We advance this mission with a faculty committed to teaching excellence and actively engaged in research and community service.

### **Internships**

All undergraduates are required to enroll in an internship class in the latter part of their studies. The internship provides an opportunity for the student to sample prospective employment and for the agency to observe potential applicants for employment. A major objective of the program is to establish a mutually beneficial and reinforcing experience for the student to "learn by doing" and for the sponsoring organization to use the apprentice in studying problems and testing new ground.

Interns work under the direct supervision of agency staff on assignments that help them gain meaningful understanding about the nature and functioning of the organization. Throughout the internship, the agency supervisor evaluates the intern's field service, while the academic component (written reports) is evaluated by the academic coordinator.

### **Honor Organization**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Pi Alpha Alpha is the national honor society for the field of public affairs and public administration. The purpose of this society is to encourage and recognize outstanding scholarship and accomplishment in public affairs and administration. The society seeks to promote the advancement of quality in the education and practice of the art and science of public affairs and administration.

### **Graduate School Opportunities**

Various professional master degree programs are available to students interested in public service with government, nonprofit, or health organizations. SPNHTM offers a Master of Public Administration (M.P.A.) and a Master of Health Administration (M.H.A.). For working professionals with at least three years of nonprofit administrative experience, SPNHTM offers a graduate certificate in nonprofit leadership and a Master of Philanthropy and Nonprofit Leadership (M.P.N.L.).

## **Bachelor of Arts or Bachelor of Science in Public and Nonprofit Administration**

The baccalaureate program provides professional orientation and career specialization upon a sound liberal arts foundation. It is an interdisciplinary program designed to provide students with the skills and knowledge necessary for successful careers in public and nonprofit organizations. The curriculum emphasizes general public and nonprofit administration knowledge but also requires students to concentrate in selected areas of emphasis.

Both freshmen and transfer students who are admitted to Grand Valley are eligible for admission to the program. Students interested in public and nonprofit administration should seek the advice of faculty in the program, especially when choosing courses to fit various needs and interests.

### **Requirements**

Prerequisite for public and nonprofit administration major:

- PLS 102 - American Government and Politics (3 credits)

Major consists of 36 credit hours including:

- PNH 490 - Public Administration Internship (3 credits)

Students must complete the following (24 credit hours):

- PNH 270 - Public and Nonprofit Administration (3 credits)
- PNH 307 - Local Politics and Administration (3 credits)
- PNH 360 - Voluntarism and the Nonprofit Sector (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- PNH 375 - Public Budgeting and Finance Administration (3 credits)
- PNH 376 - Public Personnel Policy and Administration (3 credits)
- PNH 420 - Organization Theory and Dynamics (3 credits)
- PNH 495 - Community Analysis (Capstone) (3 credits)

Students must also complete one of the following electives (three credit hours):

- PNH 330 - Health Care Financing (3 credits)
- PNH 335 - Grant Writing (3 credits)
- PNH 372 - International and Comparative Administration (3 credits)
- PNH 395 - Emergency Management (3 credits)

## **B.A. and B.S. Degree Requirements**

### **B.A. Degree Requirements**

Majors seeking a B.A. degree must demonstrate third-semester proficiency in a foreign language.

### **B.S. Degree Requirements**

Majors seeking a B.S. degree must complete the following:

- STA 215 - Introductory Applied Statistics (3 credits)
- PNH 300 - Research Methods (3 credits)
- PNH 449 - Policy Research and Evaluation (3 credits)

## **Specialty Areas**

Students must select one specialty consisting of at least nine credit hours. **Some specialties also require that a specific PA course be taken as an elective.** PNH 372, PNH 380, PNH 490, and PNH 491 may count in any area with an academic advisor's approval.

## **Community Development and Planning**

- GPY 307 - Introduction to Geographic Information Systems (3 credits)
- GPY 209 - Introduction to Urban and Regional Planning (3 credits)
- HST 327 - History of United States Urban Society (3 credits)
- PNH 390 - Leadership Dynamics (3 credits)
- PLS 338 - Citizenship (3 credits)
- SOC 313 - Race and Ethnicity (3 credits)

**AND** the B.S. course requirement:

- PNH 449 - Policy Research and Evaluation (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Public Personnel Management**

- INT 331 - Person and Profession in a Global Environment (3 credits)
- MGT 334 - Employment and Labor Law (3 credits)
- MGT 355 - The Diversified Workforce (3 credits)
- MGT 432 - Grievance Administration, Arbitration, and Collective Bargaining (3 credits)
- PNH 390 - Leadership Dynamics (3 credits)
- PHI 325 - Ethics in Professional Life (3 credits)

## **Local Economic Development**

- BUS 201 - Legal Environment for Business (3 credits)
- CAP 220 - Fundamentals of Public Relations (3 credits)
- ECO 200 - Business Economics (3 credits)
- HTM 101 - Introduction to Hospitality and Tourism (3 credits)
- MGT 339 - Business and Society (3 credits)

## **Public and Nonprofit Budgeting and Finance**

- ACC 212 - Principles of Financial Accounting (3 credits)
- ACC 213 - Principles of Managerial Accounting (3 credits)
- CIS 231 - Problem Solving Using Spreadsheets (3 credits)
- ECO 210 - Introductory Macroeconomics (3 credits)
- ECO 211 - Introductory Microeconomics (3 credits)
- FIN 331 - Risk and Insurance (3 credits)
- PNH 335 - Grant Writing (3 credits)

## **Community Health**

- PH 222 - Public Health Concepts (3 credits)
- COM 209 - Health Communication Systems (3 credits)
- AHS 340 - Health Care Management (3 credits)
- MKT 350 - Marketing Management (3 credits)
- OSH 300 - Introduction to Occupational Safety and Health (3 credits)
- PLS 310 - Politics and Health Policy (3 credits)

**AND** this required elective:

- PNH 330 - Health Care Financing (3 credits)

## **Nonprofit Management**

- INT 341 - Leadership for Social Change (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- MKT 350 - Marketing Management (3 credits)
- PNH 335 - Grant Writing (3 credits)
- PNH 370 - Human Dynamics of Nonprofit Organizations (3 credits)
- PNH 374 - Fundraising and Financial Management for Nonprofit Organizations (3 credits)
- PNH 390 - Leadership Dynamics (3 credits)

## Master of Philanthropy and Nonprofit Leadership

For additional information about opportunities your college offers, please refer to the School of Public, Nonprofit, Health, Hospitality, and Tourism Management (SPNHTM) section in this catalog.

**Website:** [gvsu.edu/grad/mpnl](http://gvsu.edu/grad/mpnl)

Grand Valley State University's Master of Philanthropy and Nonprofit Leadership (M.P.N.L.) is offered through the School of Public, Nonprofit, Health, Hospitality, and Tourism Management and develops both the general knowledge and specific abilities needed for leadership in a fast-changing world.

The M.P.N.L. curriculum is designed to prepare students to act ethically and effectively in leading and managing philanthropic and nonprofit organizations, and to transcend traditional boundaries in the pursuit of prosperous, safe, and healthy communities.

- **Versatile**

Students may choose from emphases in community impact, mission advancement, nonprofit healthcare, or they may create a custom emphasis area with the guidance and approval of their advisor.

- **Convenient**

Courses are offered on the Pew Grand Rapids Campus in downtown Grand Rapids, MI.

- **Flexible**

Available to full- or part-time students. Many classes are offered at times to accommodate working professionals, including evening and weekend courses and workshops, and Internet-enhanced learning.

The M.P.N.L. degree is available to working professionals with at least three years of full-time experience in management, or employment within the nonprofit sector. It consists of 36 credit hours of coursework, and students must meet with an advisor upon entry into the program to develop a program of study.

**Minimum Number of Hours for Graduation: 36**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## Admission

The admissions policies of the school follow the mission by our commitment to attract and educate a diverse student population that is dedicated to public service as a career. We seek students from diverse backgrounds, with various baccalaureate educations and professional experience in diverse public service activities.

A complete application to the M.P.N.L. program requires the following:

- A completed graduate application
- A nonrefundable application fee, unless the applicant has previously applied to Grand Valley State University and has paid this fee
- An official transcript from each undergraduate and graduate institution
- Three letters of reference from informed sources
- An essay on career and educational objectives (250 to 750 words)
- A resume
- Submission of an official TOEFL or IELTS score report is required of applicants whose native language is not English

Applications will not be reviewed until they are complete. The admissions committee may request additional information or a personal interview if it deems them appropriate and necessary.

The admissions committee is looking for the evidence that an applicant will be successful if admitted into the M.P.N.L. program. This evidence can take several forms. Furthermore, the admissions committee considers each applicant as a whole student. No decision is based solely on any single factor. A strong applicant for the M.P.N.L. program will have the following:

- A 3.0 grade point average from an accredited college or university, calculated on the last 60 credits of undergraduate work. (This GPA will include all courses, including those classes that may have been repeated or transferred.) Also, holding a graduate degree, a graduate certificate, or having successfully completed at least 12 semester hours in another graduate program, will be considered as strong evidence of an applicant's academic competency to do graduate level work in the M.P.A. program.
- The equivalent of three years of managerial experience.
- Three years of service with a nonprofit organization.
- Three positive recommendations from well-informed sources such as current and/or former professors or supervisors. These letters will address the applicant's academic skills, analytical and problem solving abilities, professionalism, reliability, and/or work ethic.
- A demonstrated commitment to community and public service. This would normally be in the form of three or more years of professional work experience since receiving a baccalaureate degree.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

An applicant concerned about falling short on the preceding criteria may want to consider these recommendations for securing favorable evidence of their competency to do graduate-level work in the M.P.A. program.

- Submitting a GRE score is recommended for applicants who lack a 3.0 undergraduate GPA. The GRE is also recommended for applicants applying for a graduate assistantship with SPNHA. GRE scores of at least 550 verbal and 620 quantitative will be considered favorably.
- Successfully completing graduate-level coursework as a nondegree-seeking student is recommended for applicants who lack a 3.0 undergraduate GPA. However, 12 credits taken as a nondegree-seeking student is the limit that can be applied to the M.P.N.L. program upon admission. Receiving a B or better as a nondegree-seeking student will be considered favorably.

In some cases, an applicant that is seen as strong except for a specific area of deficiency may be offered admission on a condition that they take a course to rectify that deficiency before proceeding with the M.P.N.L. coursework.

## **Degree Requirements**

The M.P.N.L. degree consists of 36 credit hours for working professionals with at least three years of full-time experience in management or employment within the nonprofit sector.

### **Core Courses**

The program core includes 21 credit hours, as follows:

- PNH 611 - Research Methods (3 credits)
- PNH 612 - Human Resources in Organizations (3 credits)
- PNH 614 - Organization Theory (3 credits)
- PNH 660 - Philanthropy and the Nonprofit Sector: History and Ethics (3 credits)
- PNH 661 - Nonprofit Management: Practices (3 credits)
- PNH 662 - Nonprofit Financial Management (3 credits)
- PNH 667 - Fund Development (3 credits)
- PNH 669 - Leadership Capstone (3 credits)

### **Emphases**

Students select one emphasis area of study of nine credit hours. The choices of emphases are as follows.

### **Community Impact**

- MGT 672 - Creativity and Social Entrepreneurship (3 credits)
- PNH 666 - Foundations and Strategic Grantmaking (3 credits)
- PNH 664 - Program Evaluation (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Mission Advancement**

- PNH 643 - Strategic Management and Planning (3 credits)
- PNH 665 - Nonprofit and Foundation Boards, Trustees and Governance (3 credits)
- PNH 663 - Nonprofit Organizations, Advocacy and Public Policy (3 credits) **OR** PNH 670 - International NGO Management (3 credits)

## **Nonprofit Healthcare**

- PNH 630 - Health Administration and Service (3 credits)
- PNH 639 - Community Benefits Assessment and Management (3 credits)
- PNH 640 - Marketing Health and Human Services (3 credits)

## **Custom Emphases**

To meet specific learning and career goals, a student may create a custom emphasis area with the guidance and approval of their advisor.

## **Elective Courses**

Students choose three one-credit courses from the philanthropy topics, trends, and thought leaders workshop series.

- PNH 554 - Philanthropic Topics, Trends, and Thought Leaders Workshop (.5 to 3 credits)

## **Master of Public Administration**

For additional information about opportunities your college offers, please refer to the School of Public, Nonprofit, Health, Hospitality, and Tourism Management section in this catalog.

**Website:** [gvsu.edu/grad/mpa](http://gvsu.edu/grad/mpa)

Master of Public Administration (M.P.A.) graduates are leaders. They lead their communities and organizations on the basis of advanced administrative skills with a dedication to democratic values and public service. In today's global society, such leadership takes many forms and occurs in a variety of settings. The mission of the master of public administration is to develop both the general knowledge and specific abilities needed for professional careers in public service organizations. The curriculum is designed to prepare students to act ethically and effectively in state, regional, and local governance policy analysis, nonprofit management, criminal justice, and health care administration.

As a professional school in an urban setting, the Master of Public Administration is actively involved with the community in professional service activities and applied research. The program offers flexibility and innovation in curriculum design to meet the diverse educational needs of part-time and full-time students, including evening and weekend courses and

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

workshops, and hybrid and online learning. Because careers in administration are varied and include the public, private, and nonprofit sectors, the curriculum is designed to develop advanced executive abilities through a combination of core competencies and specialized areas of concentration. Satisfactory completion of the program of study leads to the award of the M.P.A. degree.

**Minimum Number of Hours for Graduation:** 39 (42 for pre-career students)

### **Accreditation**

Network of Schools of Public Policy, Affairs and Administration.

### **Admission**

Admission to the Master of Public Administration program requires the following:

- An undergraduate grade point average of at least 3.0 on a 4.0 scale, calculated on the last 60 credit hours of undergraduate coursework.
- Three letters of reference from informed sources.
- A detailed resume.
- An essay on career and educational objectives (250-750 words).
- A demonstrated commitment to community and public service.

Note: For applicants who have neither a 3.0 undergraduate GPA nor five years of professional experience, submitting a GRE score is recommended. The GRE is also recommended for applicants applying for a graduate assistantship with SPNHTM.

### **Transfer Credit**

A maximum of 12 semester hours of transfer credit will be given for appropriate graduate courses completed within the previous five-year period with a grade of B or better at another college or university. These transfer credits may be substituted for required courses or given general credit as determined by the faculty.

### **Requirements**

The M.P.A. degree consists of a minimum of 39 credit hours of coursework. Pre-career students must take three credit hours of internship in addition to the 39 required hours of coursework for a total of 42 credit hours. Students must meet with an advisor upon entry into the program to develop a program of study.

### **Core Courses**

The program core requires the following (18 credits):

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- PNH 520 - Foundations of Public Service (3 credits)
- PNH 611 - Research Methods (3 credits)
- PNH 612 - Human Resources in Organizations (3 credits)
- PNH 614 - Organization Theory (3 credits)
- PNH 615 - Public Financial Administration (3 credits)
- PNH 619 - Public Management Seminar (3 credits)

### **Concentration Areas**

Students must select one concentration (15 credits) from the following five options.

#### Criminal Justice

- CJ 601 - Criminal Justice Leadership (3 credits)
- CJ 619 - Legal Issues in Criminal Justice (3 credits)
- CJ 604 - Criminal Justice Policy and Program Evaluation (3 credits)
- CJ 607 - Criminology (3 credits)

**AND** one of the following courses:

- PNH 620 - Metropolitan Politics and Administration (3 credits)
- PNH 621 - Administrative and Regulatory Law (3 credits)

#### Health Administration

- PNH 630 - Health Administration and Service (3 credits)
- PNH 631 - U.S. Health Policy and Politics (3 credits)

**AND** two of the following courses:

- PNH 632 - Health Services Financial Management (3 credits)
- PNH 633 - Health Economics (3 credits)
- PNH 634 - Health Care Law and Ethics (3 credits)
- PNH 639 - Community Benefits Assessment and Management (3 credits)
- PNH 640 - Marketing Health and Human Services (3 credits)
- PNH 645 - Opportunities in Aging Societies (3 credits)

#### Nonprofit Management and Leadership

- PNH 660 - Philanthropy and the Nonprofit Sector: History and Ethics (3 credits)
- PNH 661 - Nonprofit Management: Practices (3 credits)
- PNH 662 - Nonprofit Financial Management (3 credits)

**AND** two of the following courses:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- PNH 641 - Economic and Community Development (3 credits)
- PNH 663 - Nonprofit Organizations, Advocacy and Public Policy (3 credits)
- PNH 664 - Program Evaluation (3 credits)
- PNH 665 - Nonprofit and Foundation Boards, Trustees and Governance (3 credits)
- PNH 666 - Foundations and Strategic Grantmaking (3 credits)
- PNH 667 - Fund Development (3 credits)
- PNH 670 - International NGO Management (3 credits)

#### Policy Analysis, Advocacy, and Evaluation

- PNH 616 - Public Policy Analysis (3 credits)
- PNH 664 - Program Evaluation (3 credits)

**AND** three of the following courses:

- PNH 621 - Administrative and Regulatory Law (3 credits)
- PNH 631 - U.S. Health Policy and Politics (3 credits)
- PNH 639 - Community Benefits Assessment and Management (3 credits)
- PNH 643 - Strategic Management and Planning (3 credits)
- PNH 663 - Nonprofit Organizations, Advocacy and Public Policy (3 credits)
- PNH 674 - Health Advocacy and Built Environment in Public Administration (3 credits)
- CJ 604 - Criminal Justice Policy and Program Evaluation (3 credits)

#### State, Regional, and Local Governance

- PNH 620 - Metropolitan Politics and Administration (3 credits)
- PNH 641 - Economic and Community Development (3 credits)
- PNH 643 - Strategic Management and Planning (3 credits)

**AND** two of the following courses:

- PNH 621 - Administrative and Regulatory Law (3 credits)
- PNH 642 - Conflict Management (3 credits)
- PNH 644 - GIS in the Public Service (3 credits)
- PNH 664 - Program Evaluation (3 credits)
- PNH 671 - Building Sustainable Communities (3 credits)

#### **Elective Courses**

Requires six credits; the remainder of the M.P.A. program credits come from electives.

The elective component of the M.P.A. degree can be made up of the following:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- Three one-credit workshops **AND** one additional course from one other concentration (or outside the SPNHTM unit with prior approval)
- **OR** two three-credit courses from our curriculum.

The number of elective credits is reduced by three if the student completes a second three-credit internship.

Choose electives from the following list:

- Any PA course in a concentration listed previously
- PNH 535 - Grant Writing (3 credits)
- PNH 550 - Public Administration Workshop (.5 to 3 credits)
- PNH 551 - Public Administration Workshop (1 to 3 credits)
- PNH 635 - Hospital Organization and Management (3 credits)
- PNH 637 - Healthcare Practice Management (3 credits)
- PNH 638 - Continuing Care Organization and Management (3 credits)
- PNH 646 - Managerial Epidemiology for Health Administrators (3 credits)
- PNH 680 - Special Topics in Public and Nonprofit Administration (1 to 3 credits)

### **Internship**

All pre-career students are required to take at least one three-credit internship in addition to 39 hours of coursework. Students may choose to take a second internship for a total of six credits.

- PNH 690 - Public Administration Internship I (3 credits)
- PNH 691 - Public Administration Internship II (3 credits)

### **Capstone**

Students must take a three-credit culminating experience at the end of their studies.

Most students will take PNH 619 as their culminating experience. They must have completed 30 credits of coursework before registering for PNH 619. As an alternative to PNH 619, students may opt for a research project as their culminating experience.

- PNH 619 - Public Management Seminar (3 credits)
- PNH 693 - Research Project (3 or 6 credits)

## **Nonprofit Administration Minor**

What do neighborhood associations, local development corporations, children and youth groups, religious organizations, museums, advocacy and support groups, chambers of commerce, and community clinics all have in common? They are all nonprofit organizations that carry out important public service missions in health, recreation, culture, education, religion, or

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

philanthropy. Thousands of large and small nonprofit organizations in Michigan employ people to work in program and event planning, grant writing, fundraising, public relations, program evaluation, and marketing. The minor in nonprofit administration provides students with knowledge and skills useful in understanding and participating in the work of the nonprofit sector.

## **Requirements for a Minor in Nonprofit Administration**

### **Core Courses**

The minor in nonprofit administration consists of 21 credits, including:

- PNH 270 - Public and Nonprofit Administration (3 credits)
- PNH 335 - Grant Writing (3 credits)
- PNH 360 - Voluntarism and the Nonprofit Sector (3 credits)
- PNH 420 - Organization Theory and Dynamics (3 credits)
- PNH 490 - Public Administration Internship (3 credits)

**AND** two courses from the following:

- MGT 355 - The Diversified Workforce (3 credits)
- MKT 350 - Marketing Management (3 credits)
- PNH 376 - Public Personnel Policy and Administration (3 credits)
- PNH 390 - Leadership Dynamics (3 credits)
- PNH 449 - Policy Research and Evaluation (3 credits)
- PNH 491 - Public Administration Internship II (3 credits)

## **Nonprofit Leadership Graduate Certificate**

The graduate certificate in nonprofit leadership provides a unique opportunity to pursue a theoretically based and practically oriented education in leadership for nonprofit professionals. This program offers nonprofit managers the up-to-date professional skills and perspectives required to lead their organizations in the rapidly changing and complex nonprofit sector of society.

The certificate in nonprofit leadership is designed for the experienced nonprofit manager who has an advanced degree or an undergraduate degree and several years of professional experience. It is intended for those holding or seeking executive positions that wish to further their education without pursuing the full requirements for a graduate degree. However, courses and workshops taken in the certificate program may be applied toward the master of public administration.

### **Admission**

Applicants for the graduate certificate program in nonprofit leadership must:

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

- Apply to the School of Public, Nonprofit, Health, Hospitality, and Tourism Management
- Hold an advanced degree or a bachelor's degree with a minimum GPA of 3.0 in the last two years of undergraduate work
- Have at least three years of professional experience in nonprofit organizations
- Submit official transcripts and an application essay

The certificate requires the completion of 15 credit hours of graduate study.

### **Required Courses**

There are 15 credits required, including:

- PNH 661 - Nonprofit Management: Practices (3 credits)
- PNH 662 - Nonprofit Financial Management (3 credits)
- PNH 663 - Nonprofit Organizations, Advocacy and Public Policy (3 credits)
- PNH 665 - Nonprofit and Foundation Boards, Trustees and Governance (3 credits)

**AND** three credits from the following list:

- PNH 550 - Public Administration Workshop (.5 to 3 credits)
- PNH 551 - Public Administration Workshop (1 to 3 credits)
- PNH 667 - Fund Development (3 credits)

## **Public Administration Minor**

### **Requirements**

To earn a minor in public administration, students are required to complete the following (21 credits):

- PNH 270 - Public and Nonprofit Administration (3 credits)
- PNH 360 - Voluntarism and the Nonprofit Sector (3 credits)
- PNH 375 - Public Budgeting and Finance Administration (3 credits)
- PNH 376 - Public Personnel Policy and Administration (3 credits)
- PNH 420 - Organization Theory and Dynamics (3 credits)
- PNH 495 - Community Analysis (Capstone) (3 credits)
- PNH 307 - Local Politics and Administration (3 credits) **OR** PLS 203 - State Politics (3 credits)

## **Combined B.S./B.A. in Public and Nonprofit Administration and Master of Public Administration Program**

Qualified undergraduate public administration students may be admitted to a combined bachelor's/master's program and obtain both a B.S. or a B.A. and an M.P.A. within an

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accelerated time frame. Students admitted to this program may take graduate courses after completing 90 undergraduate credits, and up to 12 credits of graduate work may be used in partial satisfaction of the requirements for the undergraduate degree.

Undergraduates may apply to the program after:

- A student has reached junior standing or 75 credit hours with at least 30 credit hours completed at GVSU;
- A cumulative GPA of 3.3 or above with the expectation to maintain that throughout the current semester;
- Completion of PNH 270, PNH 300, PNH 307, PNH 360, PNH 375, PNH 449, STA 215, and MTH 215 with B or better; and
- PA 520: Foundations of Public Management taken during an undergraduate student's fifth or sixth semester with a grade of B or better.

<b>Graduate Course Substitution</b>	<b>Undergraduate Course</b>	<b>Credit Hours</b>
PNH 612	PNH 376	3 graduate credit hours
PNH 614	PNH 420	3 graduate credit hours
PNH 535, PNH 620, PNH 630, PNH 641, or PNH 660 (choose one)	Additional Elective	3 graduate credit hours

Note: PNH 535 requires no prerequisite but does require admission into M.P.A. program. PNH 520 must be taken in a student's fifth or sixth semester prior to enrolling in PNH 612, PNH 614, PNH 620, PNH 630, PNH 641, or PNH 660.

PNH 612 and PNH 614 fulfill the B.S./B.A. undergraduate core requirements in personnel management and organization theory, while the other courses fulfill the B.S undergraduate College of Education and Community Innovation elective requirements. No more than four 500- or 600-level courses can be counted toward the minimum 39 hours of the M.P.A. degree as a combined B.S. or B.A./M.P.A. student.

If students earn at least a grade of B in each of these graduate-level classes, they are able to continue in the Master of Public Administration program and must then complete an additional 27 credits (nine classes) to receive the master's degree.

All combined degree students will be required to take one, three-credit hour, graduate-level internship (PNH 690) prior to graduating with a master's degree. This internship requirement is in addition to the undergraduate internship requirement (PNH 490). After completing 120 credits and all requirements for the bachelor's degree, students are awarded a bachelor's degree.

A minimum of 27 graduate credits must be completed after the 120 credits for the bachelor's degree have been completed. The M.P.A. program requires 39 hours, plus one three-credit internship for a total of 42 graduate credit hours for B.S./M.P.A. and B.A./M.P.A. students.

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B.S./M.P.A. and B.A./M.P.A. students should refer to the M.P.A. Program of Study for a list of courses required for the degree.

### **Admission**

Students will normally apply for the combined B.S./M.P.A. program during their third academic year. Acceptance recommendations will be made by the School of Public, Nonprofit, Health, Hospitality, and Tourism Management Admissions Committee after evaluation of the application and the completion of all application requirements. Other application requirements include:

- 3.3 overall undergraduate GPA at the time of application
- Curriculum vitae or resume
- Three letters of recommendation, applicants must include one letter from SPNHTM faculty
- Students must meet with M.P.A. graduate program director prior to applying to the program

### **Requirements during Undergraduate Studies**

An undergraduate student enrolled in the combined degree program is required to successfully complete a minimum of 12 credits each semester until all undergraduate courses required for the degree have been completed (except when completing an internship or other extenuating circumstances).

- Students will maintain a cumulative undergraduate GPA of at least 3.3, earning a C or better in each undergraduate course attempted; and
- Students will earn a B or better in each graduate course attempted.

All university requirements, including general education courses, must be completed before the final year of the combined B.S. or B.A./M.P.A. program.

### **Graduation without Completion of the Combined Program**

If a student decides at some point to pursue only the undergraduate portion of the combined degree, the School of Public, Nonprofit, Health, Hospitality, and Tourism Management will still recognize the graduate courses taken in lieu of undergraduate courses. Graduate credits used for the undergraduate degree cannot be used toward a graduate degree at a later date.

## **Public Health**

Housed in the Department of Public Health within the College of Health Professions.

**Website:** [gvsu.edu/grad/mph](http://gvsu.edu/grad/mph)

### **Degree Offered**

Master of Public Health

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Emphases**

- Epidemiology
- Health Promotion

The Master of Public Health (M.P.H.) program focuses on coursework and community-based, high-impact service learning to provide advanced service and care that includes health promotion, disease management and education, or epidemiology to communities and groups across the life span.

The M.P.H. program emphasizes evidence-based practice, critical thinking, and problem solving through rigorous research inquiry and project-based work. The program is designed to develop knowledge and skills necessary to prevent and manage complex health issues. Graduates of this program are prepared for direct roles in public health and to be leaders in improving population health through a diverse range of roles across multiple industries including local, state, and national sectors, nonprofit organizations, government, and research.

The M.P.H. program consists of 48 credit hours of coursework in a diverse learning environment that includes hybrid options and on-campus, face-to-face coursework that requires active and immersive, community-based learning. Students complete a 200-hour practicum experience which may be completed in a variety of settings including local, state, national, and global settings. In addition, students complete an individualized research project (or thesis option) as a culmination of the program.

Highlights of this program include an efficient completion time of 20 months as a full-time student, a comprehensive program offering two emphasis areas of choice: health promotion or epidemiology, and 100 percent community-based learning in every course throughout the public health curriculum.

## **Mission**

To transform students into public health leaders through application of practice-based skills.

## **Philosophy**

Advancing health by empowering future leaders, enhancing preventive practices, and promoting social justice.

## **Values**

The following values support the master of public health program and align with the university and College of Health Professions strategic goals:

- Community engagement
- Interprofessional practice
- Professional and ethical behavior

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- Cultural humility and inclusiveness
- Respect for diversity
- Excellence in teaching, scholarship, and practice

### **Accreditation**

The M.P.H. program at GVSU is fully accredited by the Council on Education for Public Health (CEPH). CEPH accreditation assures students enrolled in institutions of higher education, which offer public health degree-granting programs, have programs that meet and maintain rigorous standards for teaching, research, and service. CEPH accreditation requires a rigorous self-study process by GVSU to assure that its proposed M.P.H. program will meet, monitor, and evaluate its adherence to providing quality teaching, research, and service for its curriculum and curricular areas of core concentrations. Further, CEPH assures prospective employers of graduates from accredited M.P.H. programs that these graduates have met the required competencies to be deemed as qualified to seek gainful employment in the range of public health occupations\*.

\*Council on Education for the Public Health. (2011). Accreditation Criteria for Public Health Programs (amended June 2011). CEPH: Washington, D.C. Retrieved from: [ceph.org](http://ceph.org).

**Minimum Number of Hours in Program: 48**

### **Admission**

Students will be chosen for acceptance into the M.P.H. program based on the following program requirements:

- A minimum grade point average of 3.0 on a 4.0 scale for all undergraduate coursework is required. A bachelor's degree is required, in a health-related field is preferred.
- Written recommendations from at least two individuals who are in positions to attest to the applicant's successful completion of the program. An academic reference as well as a health care professional reference is preferred.
- Resume
- Personal Essay. A written statement that addresses the following questions: What would make you an excellent candidate for the Grand Valley State University M.P.H. program? What are your expectations for a future career in public health?

Considerations

- The Application Review Committee reserves the right to require additional information it deems appropriate, including GRE test scores.

The following university requirements must also be met:

- A baccalaureate degree from an accredited institution of higher education.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

- GVSU Graduate Application.
- Thirty-dollar application fee. Note: Students who have previously paid an undergraduate or graduate application fee to GVSU do not need to pay this fee again.
- Official copies of transcripts from all institutions of higher education previously attended, sent directly from those institutions to the GVSU Admissions Office. Note: We do not require official transcripts from Grand Valley.
- Test scores from the TOEFL (Test of English as a Foreign Language), or IELTS (International English Language Assessment Battery) for applicants whose native language is not English. Only original score reports will be accepted.

## **Retention and Termination**

### **Grounds for Probation**

- A final course grade below a 2.7 (B-) in a 500-, 600-, or 700-level course.
- A final grade below a 2.0 (C) in a 500- or 600-level course.
- A cumulative graduate level GPA less than 3.0 (B) after completion of twelve hours of graduate level coursework (i.e., at the end of semester one).
- Evidence of unethical or illegal behavior while matriculating as a student in the M.P.H. program.

### **Practicum Experience**

Students will not be allowed to participate in practicum experiences if there is a reason to believe that they are unprepared for this type of experience. Sufficient reasons include:

- Probationary status.
- Questions about the student's ability to safely work in the health care field.
- Evidence of unethical or illegal behavior.
- Medical or psychological conditions that could endanger the safety of the student or the patients entrusted to them, or that prevent the student from fully participating in the practicum experience.
- Problems identified with professional abilities may result in a student being regarded by faculty as unprepared for practicum. With the assistance of faculty, the student must resolve the problem area prior to the practicum assignment.
- If a student does not satisfactorily complete the core coursework, he/she may not progress to the thesis/project or practicum courses.

### **Dismissal from the Program**

Any one of the following items may constitute grounds for dismissal from the program:

- Failure to complete required remedial work at the required level.
- Failure to complete items required in a remediation contract.

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- Final grades that result in probation during two consecutive semesters.
- Failure to demonstrate "continued competency" of past course content.
- Evidence of unethical or illegal behavior while matriculating as a student in the M.P.H. program.
- Cumulative graduate GPA of less than 3.0.

### **Program Location**

Practicum experiences can be within Michigan, other select states, or globally during the final year of the M.P.H. curriculum.

## **Master of Public Health**

### **M.P.H. Curriculum**

- PH 500 - Introduction to Public Health (3 credits)
- PH 505 - Social and Behavioral Public Health (3 credits)
- PH 510 - Public Health Epidemiology (3 credits)
- PH 520 - Environmental and Occupational Health (3 credits)
- PH 525 - Quantitative Research Methods in Public Health (3 credits)
- PH 530 - Qualitative Research Methods in Public Health (3 credits)
- STA 610 - Applied Statistics for Health Professions (3 credits)

### **Emphasis Area**

M.P.H. students will choose one of two available emphasis options to complement the core curriculum courses. Please note some electives may not be offered within a student's planned time to degree.

### **Epidemiology (Credits 21)**

Core courses (15 credits):

- PH 600 - Advanced Quantitative Research Methods in Public Health (3 credits)
- PH 602 - Chronic Disease Epidemiology (3 credits)
- PH 608 - Infectious Disease Epidemiology (3 credits)
- PH 610 - Cancer Epidemiology (3 credits)
- PH 612 - Public Health Genetics (3 credits)

Elective courses (6 credits):

- PH 603 - Epidemiology of Aging (3 credits)
- PH 604 - Women's and Children's Epidemiology (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- PH 605 - Pharmacoepidemiology (3 credits)
- PH 606 - Environmental and Occupational Epidemiology (3 credits)
- PH 613 - Psychiatric Epidemiology (3 credits)
- PH 633 - Public Health and Environmental Impact Assessment (3 credits)
- PH 643 - Environmental Risk and Society (3 credits)
- PH 660 - Public Health in a Global Setting (3 credits)

### **Health Promotion (21 credits)**

Core courses (15 credits):

- PH 620 - Health Education (3 credits)
- PH 622 - Health Behavior and Promotion (3 credits)
- PH 628 - Health Program Evaluation (3 credits)
- PH 630 - Health and Disease Disparities in Diverse Communities (3 credits)
- PH 632 - Public Health Social Campaigning and Distribution (3 credits)

Elective courses (9 credits):

- COM 624 - Public Health Communication (3 credits)
- PH 621 - Introduction to Urban Health Studies (3 credits)
- PH 623 - Food, Health, and Justice (3 credits)
- PH 625 - Urban Health Field Studies (3 credits)
- PH 626 - Health Advocacy and Literacy (3 credits)
- PH 627 - Public Health Interest Groups (3 credits)
- PH 629 - Advocacy Strategies in Public Health (3 credits)
- PH 631 - Critical Issues in Public Health Advocacy and Policy (3 credits)
- PH 633 - Public Health and Environmental Impact Assessment (3 credits)
- PH 645 - Global Environmental and Occupational Health (3 credits)
- PH 660 - Public Health in a Global Setting (3 credits)

### **Explanation of the Emphasis Options**

#### Epidemiology

Epidemiology emphasis prepares students to describe quantitative trends in health and disease for populations, with application in the biological, environmental, behavioral, and social sciences. Epidemiology specialty allows professionals to collaborate with multidisciplinary teams of health professionals, such as physicians, laboratory scientists, exercise physiologists, nutritionists, statisticians, veterinarians, and behavioral scientists.

#### Health Promotion

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Health promotion emphasis prepares students to be public health leaders who can design, implement, advocate for, and evaluate efforts to promote healthy behaviors and social conditions for specific populations. Health promotion allows students to use social science theories and individual, community, and policy-based intervention strategies.

#### **Additional Courses Required by all M.P.H. Candidates:**

- PH 688 - Public Health Practicum (3 credits) **OR** PH 689 - Public Health Practicum in a Global Setting (3 credits)
- PH 693 - Public Health Master's Project (1 to 3 credits) **OR** PH 695 - Public Health Master's Thesis (3 credits)
- PH 696 - Continuation of Master's Project or Thesis Research (1 credit) If needed for extended time.

## **Combined Bachelor of Science in Allied Health Science General Emphasis and Master of Public Health**

Qualified undergraduates may be admitted to a combined bachelor's/master's program and obtain both a B.S. in allied health sciences (AHS) and a Master of Public Health (M.P.H.) within an accelerated time frame. Students admitted to the combined degree program will count up to 12 credits of graduate work in partial satisfaction of the requirements for the undergraduate degree. In alignment with university policy, a maximum of 12 credit hours of graduate work may count toward both the graduate and undergraduate degrees. After completing 120 credits (to include the 12 credits of M.P.H. graduate courses) and all requirements for the AHS degree, students are awarded a bachelor's degree and are eligible to continue with the M.P.H.

The M.P.H. degree constitutes a minimum of 48 credits; the AHS/M.P.H. combined degree has minimum of 30 credits remaining for the master's degree after completion of the bachelor's degree 120 credits. Note: The undergraduate degree only allows 12 credits to dual-count toward the combined degree, leaving 36 graduate credit hours remaining, six of which are completed in the student's (undergraduate) fourth year. Additionally, those six credits, cannot be used to fulfill undergraduate requirements. All M.P.H. requirements must be met, including the research project and practicum experience. Upon completion of the M.P.H. program, graduates will be qualified to sit for voluntary professional certification by taking the National Board of Public Health Examiners Certified in Public Health (CPH) exam and/or the Certified Health Education Specialist (CHES) exam for additional credentialing.

#### **Application Requirements to the Combined Degree**

Students may apply to the Master of Public Health program as early as the start of junior year. Requirements for the application include:

- Junior standing (after the completion of 55+ credit hours prior to application)
- Minimum overall GPA of a 3.0
- Two completed and received letters of recommendation

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- Resume
- A written two-part essay as required by the M.P.H. program

### **Graduation Requirements for Combined Degree**

Students who are accepted to the combined degree program will take courses in the AHS general emphasis and use the M.P.H. courses as a substitution for the required minor. The students must complete the following M.P.H. courses in their senior year:

- PH 500 - Introduction to Public Health (3 credits)
- PH 505 - Social and Behavioral Public Health (3 credits)
- PH 510 - Public Health Epidemiology (3 credits)
- PH 520 - Environmental and Occupational Health (3 credits)
- PH 622 - Health Behavior and Promotion (3 credits)
- STA 610 - Applied Statistics for Health Professions (3 credits)

This program requires 12 total semesters of coursework to complete. Please note this plan of study requires completion of two full spring/summer semesters.

Students will graduate with their B.S. degree in allied health sciences at the conclusion of year four, as long as they meet all university and degree requirements for a B.S. degree.

### **Plan of Study - Combined Degree with Master of Public Health: Health Promotion Emphasis**

#### **Allied Health Sciences Core Classes:**

- AHS 100 - Medical Terminology (3 credits)
- AHS 110 - Introduction to Health Care (3 credits)
- AHS 301 - Introduction to Health Care Research (3 credits)
- AHS 321 - Ethical and Legal Responsibilities in Health Care (3 credits)
- AHS 340 - Health Care Management (3 credits)
- BIO 120 - General Biology I (4 credits)
- STA 215 - Introductory Applied Statistics (3 credits) (B.S. degree requirement)

#### **Emphasis Courses (General Allied Health Sciences):**

- AHS 495 - Issues in Health Professions (3 credits)
- BIO 355 - Human Genetics (3 credits)
- BMS 212 - Introductory Microbiology (3 credits)
- BMS 213 - Laboratory in Microbiology (1 credit)
- CHM 109 - Introductory Chemistry (4 credits)
- CHM 232 - Biological Chemistry (4 credits)
- PHY 200 - Physics for the Life Sciences (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Anatomy and Physiology Sequences:**

### Sequence A

- BMS 208 - Human Anatomy (3 credits)
- BMS 290 - Human Physiology (3 credits)
- BMS 391 - Laboratory in Human Physiology (2 credits)

### Sequence B

- BMS 250 - Anatomy and Physiology I (4 credits)
- BMS 251 - Anatomy and Physiology II (4 credits)

## **Combined Degree with Master of Public Health (Health Promotion Emphasis):**

- PH 500 - Introduction to Public Health (3 credits)
- PH 505 - Social and Behavioral Public Health (3 credits)
- PH 510 - Public Health Epidemiology (3 credits)
- PH 520 - Environmental and Occupational Health (3 credits)
- PH 622 - Health Behavior and Promotion (3 credits)
- STA 610 - Applied Statistics for Health Professions (3 credits)

## **Master of Public Health Program Courses (Health Promotion Emphasis)**

- PH 525 - Quantitative Research Methods in Public Health (3 credits)
- PH 530 - Qualitative Research Methods in Public Health (3 credits)
- PH 620 - Health Education (3 credits)
- PH 623 - Food, Health, and Justice (3 credits)
- PH 626 - Health Advocacy and Literacy (3 credits)
- PH 628 - Health Program Evaluation (3 credits)
- PH 630 - Health and Disease Disparities in Diverse Communities (3 credits)
- PH 632 - Public Health Social Campaigning and Distribution (3 credits)
- PH 688 - Public Health Practicum (3 credits)
- PH 693 - Public Health Master's Project (1 to 3 credits) (take twice for a total of 3 credits)

## **Suggested Order of Coursework for the Combined Degree with Master of Public Health: Health Promotion Emphasis**

### **Year One**

#### Fall Semester:

- AHS 110 - Introduction to Health Care (3 credits)
- CHM 109 - Introductory Chemistry (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- MTH 110 - Algebra (4 credits) **OR** a four-credit elective
- General education Arts (3 credits)
- Elective (1 to 2 credits)

Winter Semester:

- BIO 120 - General Biology I (4 credits)
- CHM 231 - Introductory Organic Chemistry (4 credits)
- WRT 150 - Strategies in Writing (4 credits)
- General education Philosophy and Literature (3 credits)

## Year Two

Fall Semester:

- AHS 100 - Medical Terminology (3 credits)
- BMS 208 - Human Anatomy (3 credits) **OR** BMS 250 - Anatomy and Physiology I (4 credits)
- General education Social and Behavioral Sciences (3 credits)
- General education Historical Perspectives (3 credits)
- Elective (3 credits)

Winter Semester:

- BIO 355 - Human Genetics (3 credits)
- BMS 290 - Human Physiology (3 credits) **OR** BMS 251 - Anatomy and Physiology II (4 credits)
- General education Social and Behavioral Sciences (3 credits)
- Elective (5 credits)

## Year Three

Fall Semester:

- AHS 321 - Ethical and Legal Responsibilities in Health Care (3 credits)
- BMS 391 - Laboratory in Human Physiology (2 credits) **OR** Elective (2 credits) \*If using this sequence BMS 290 is taken in winter, year two
- CHM 232 - Biological Chemistry (4 credits)
- General education Global Perspectives (3 credits)
- Elective (2 credits)

Winter Semester:

- AHS 301 - Introduction to Health Care Research (3 credits)
- BMS 212 - Introductory Microbiology (3 credits)
- BMS 213 - Laboratory in Microbiology (1 credit)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- PHY 200 - Physics for the Life Sciences (4 credits)
- STA 215 - Introductory Applied Statistics (3 credits)
- General education U.S. Diversity (3 credits)

Spring/Summer Semester:

- Elective (3 credits)
- General education Issues (3 credits)

## **Year Four**

Fall Semester:

- AHS 340 - Health Care Management (3 credits)
- PH 500 - Introduction to Public Health (3 credits)
- PH 510 - Public Health Epidemiology (3 credits)
- STA 610 - Applied Statistics for Health Professions (3 credits)
- Elective (3 credits)

Winter Semester:

- AHS 490 - Health Care Internship (3, 6, or 12 credits)
- AHS 495 - Issues in Health Professions (3 credits)
- PH 505 - Social and Behavioral Public Health (3 credits)
- PH 520 - Environmental and Occupational Health (3 credits)
- PH 622 - Health Behavior and Promotion (3 credits)

Spring/Summer Semester:

- PH 525 - Quantitative Research Methods in Public Health (3 credits)
- PH 530 - Qualitative Research Methods in Public Health (3 credits)
- PH 620 - Health Education (3 credits)

## **Year Five**

Fall Semester:

- PH 623 - Food, Health, and Justice (3 credits)
- PH 628 - Health Program Evaluation (3 credits)
- PH 688 - Public Health Practicum (3 credits)
- PH 693 - Public Health Master's Project (1 to 3 credits)

Winter Semester:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- PH 626 - Health Advocacy and Literacy (3 credits)
- PH 630 - Health and Disease Disparities in Diverse Communities (3 credits)
- PH 632 - Public Health Social Campaigning and Distribution (3 credits)
- PH 693 - Public Health Master's Project (1 to 3 credits)

### **Plan of Study for Combined Degree with Master of Public Health: Epidemiology Emphasis**

#### **Allied Health Sciences Core Classes:**

- AHS 100 - Medical Terminology (3 credits)
- AHS 110 - Introduction to Health Care (3 credits)
- AHS 301 - Introduction to Health Care Research (3 credits)
- AHS 321 - Ethical and Legal Responsibilities in Health Care (3 credits)
- AHS 340 - Health Care Management (3 credits)
- BIO 120 - General Biology I (4 credits)
- STA 215 - Introductory Applied Statistics (3 credits) (B.S. degree requirement)

#### **Emphasis Courses (General Allied Health Sciences):**

- AHS 495 - Issues in Health Professions (3 credits)
- BIO 355 - Human Genetics (3 credits)
- BMS 212 - Introductory Microbiology (3 credits)
- BMS 213 - Laboratory in Microbiology (1 credit)
- CHM 109 - Introductory Chemistry (4 credits)
- CHM 232 - Biological Chemistry (4 credits)
- PHY 200 - Physics for the Life Sciences (4 credits)

#### **Anatomy and Physiology Sequences:**

##### Sequence A

- BMS 208 - Human Anatomy (3 credits)
- BMS 290 - Human Physiology (3 credits)
- BMS 391 - Laboratory in Human Physiology (2 credits)

##### Sequence B

- BMS 250 - Anatomy and Physiology I (4 credits)
- BMS 251 - Anatomy and Physiology II (4 credits)

#### **Combined Degree with Master of Public Health (Epidemiology Emphasis):**

- PH 500 - Introduction to Public Health (3 credits)
- PH 505 - Social and Behavioral Public Health (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- PH 510 - Public Health Epidemiology (3 credits)
- PH 520 - Environmental and Occupational Health (3 credits)
- PH 602 - Chronic Disease Epidemiology (3 credits) (can only be counted as part of the M.P.H. degree)
- STA 610 - Applied Statistics for Health Professions (3 credits) (can only be counted as part of the M.P.H. degree)

### **Master of Public Health Program Courses (Epidemiology Emphasis)**

- PH 525 - Quantitative Research Methods in Public Health (3 credits)
- PH 530 - Qualitative Research Methods in Public Health (3 credits)
- PH 600 - Advanced Quantitative Research Methods in Public Health (3 credits)
- PH 604 - Women's and Children's Epidemiology (3 credits)
- PH 606 - Environmental and Occupational Epidemiology (3 credits)
- PH 608 - Infectious Disease Epidemiology (3 credits)
- PH 610 - Cancer Epidemiology (3 credits)
- PH 612 - Public Health Genetics (3 credits)
- PH 688 - Public Health Practicum (3 credits)
- PH 693 - Public Health Master's Project (1 to 3 credits) (take twice for a total of 3 credits)

### **Suggested Order of Coursework for the Combined Degree with Master of Public Health: Epidemiology Emphasis**

#### **Year One**

Fall Semester:

- AHS 110 - Introduction to Health Care (3 credits)
- CHM 109 - Introductory Chemistry (4 credits)
- MTH 110 - Algebra (4 credits) **OR** a four-credit elective
- General education Arts (3 credits)
- Elective (1 to 2 credits)

Winter Semester:

- BIO 120 - General Biology I (4 credits)
- CHM 231 - Introductory Organic Chemistry (4 credits)
- WRT 150 - Strategies in Writing (4 credits)
- General education Philosophy and Literature (3 credits)

#### **Year Two**

Fall Semester:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- AHS 100 - Medical Terminology (3 credits)
- BMS 208 - Human Anatomy (3 credits) **OR** BMS 250 - Anatomy and Physiology I (4 credits)
- General education Social and Behavioral Sciences (3 credits)
- General education Historical Perspectives (3 credits)
- Elective (3 credits)

Winter Semester:

- BIO 355 - Human Genetics (3 credits)
- BMS 290 - Human Physiology (3 credits) **OR** BMS 251 - Anatomy and Physiology II (4 credits)
- General education Social and Behavioral Sciences (3 credits)
- Elective (5 credits)

### **Year Three**

Fall Semester:

- AHS 321 - Ethical and Legal Responsibilities in Health Care (3 credits)
- BMS 391 - Laboratory in Human Physiology (2 credits) **OR** Elective (2 credits) \*If using this sequence anatomy and physiology sequence A
- CHM 232 - Biological Chemistry (4 credits)
- STA 215 - Introductory Applied Statistics (3 credits)
- General education Global Perspectives (3 credits)
- Elective (2 credits)

Winter Semester:

- AHS 301 - Introduction to Health Care Research (3 credits)
- BMS 212 - Introductory Microbiology (3 credits)
- BMS 213 - Laboratory in Microbiology (1 credit)
- PHY 200 - Physics for the Life Sciences (4 credits)
- General education U.S. Diversity (3 credits)

Spring/Summer Semester:

- Elective (3 credits)
- General education Issues (3 credits)

### **Year Four**

Fall Semester:

- AHS 340 - Health Care Management (3 credits)
- PH 500 - Introduction to Public Health (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- PH 510 - Public Health Epidemiology (3 credits)
- STA 610 - Applied Statistics for Health Professions (3 credits)
- Elective (3 credits)

Winter Semester:

- AHS 490 - Health Care Internship (3, 6, or 12 credits)
- AHS 495 - Issues in Health Professions (3 credits)
- PH 505 - Social and Behavioral Public Health (3 credits)
- PH 520 - Environmental and Occupational Health (3 credits)
- PH 602 - Chronic Disease Epidemiology (3 credits)

Spring/Summer Semester:

- PH 525 - Quantitative Research Methods in Public Health (3 credits)
- PH 530 - Qualitative Research Methods in Public Health (3 credits)
- PH 608 - Infectious Disease Epidemiology (3 credits)

## **Year Five**

Fall Semester:

- PH 600 - Advanced Quantitative Research Methods in Public Health (3 credits)
- PH 612 - Public Health Genetics (3 credits)
- PH 688 - Public Health Practicum (3 credits)
- PH 693 - Public Health Master's Project (1 to 3 credits)

Winter Semester:

- PH 604 - Women's and Children's Epidemiology (3 credits)
- PH 606 - Environmental and Occupational Epidemiology (3 credits)
- PH 610 - Cancer Epidemiology (3 credits)
- PH 693 - Public Health Master's Project (1 to 3 credits)

# **Radiation Therapy**

Radiation therapy is a radiologic and imaging sciences specialty that is one of the disciplines of radiation oncology. Radiation therapy is considered an entry-level profession in that students may enter GVSU without previous college experience and may aspire to complete the entire B.S. degree program in four years.

Radiation therapists practice in a collaborative effort between medical and radiation oncology physicians, medical physicists, dosimetrists, oncology nurses, dietitians, and social workers.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Radiation therapists are responsible for accurately recording, interpreting, and administering the treatment prescribed by radiation oncologists. These responsibilities require highly specialized clinical skills as well as complex critical thinking in order to effectively contribute to the team approach to patient treatment.

Students receive didactic, laboratory, and clinical experiences in both existing and emerging radiation therapy practices in the university's energized laboratories and through a clinical education system that requires students to attend full days of clinical practice under the direct supervision of registered radiation therapists at clinical education sites located as far as about three hours from GVSU (although most clinical assignments are within one hour from campus). Students must have transportation available to these sites.

Clinical experiences are available in both existing and emerging radiation therapy practices and procedures. These experiences may include treatment planning, computed tomography simulation, conventional simulation, quality assurance, brachytherapy, external beam therapy, stereotactic radiosurgery, intraoperative procedures, intensity modulated radiation therapy, image guided radiation therapy, and total body irradiation. Students will rotate through a minimum of three clinical facilities to ensure exposure to emerging technologies.

Students should be aware that prior to the beginning of their clinical courses, they must complete comprehensive health compliance obligations including but not limited to a criminal background check, finger printing, and drug screening. It is the responsibility of the student to comply. If there is illegal activity in the background check/finger printing or if there is evidence of one or more prohibited substances in the drug test, the clinical sites have the right to refuse a student's placement, which may negatively impact a student's ability to progress in the radiation therapy program. In addition, individuals who have been charged with or convicted of a crime may not be eligible for national certification by the American Registry of Radiologic Technologists (ARRT). Students to whom this may apply are strongly advised to work with the ARRT for preapplication review of eligibility for certification from their website at [arrt.org](http://arrt.org) (Ethics, Preapplication Process). The ARRT may be contacted by phone at (651) 687-0048 for more information.

Students who receive a B.S. degree in radiation therapy from GVSU are eligible for the ARRT examination in radiation therapy. Granting of the baccalaureate degree is not contingent on passing the ARRT examination.

The radiation therapy program is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT). The program adheres to JRCERT standards. Students have the right to notify the JRCERT if they believe the university is not adhering to these standards. The JRCERT is at 20 N. Wacker Dr., Suite 2850, Chicago, IL 60606-3182; phone (312) 704-5300.

## **Bachelor of Science in Radiation Therapy**

### **Admission**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Grand Valley State University is an affirmative action/equal opportunity institution. It encourages diversity and provides equal opportunity in education, employment, all of its programs, and the use of its facilities. Applicants are considered without regard to age, color, disability, familial status, height, marital status, national origin, political affiliation, race, religion, sex/gender, sexual orientation, veteran status, or weight. Motivational factors, life experiences, patient care experience, maturity, and personal characteristics as assessed in personal interviews and recommendations are important factors in the selection process.

An applicant's academic record is important as an indicator of ability to succeed in an intensive and rigorous medical curriculum. A degree in radiation therapy involves a competitive admission process and completion of a secondary application. There are no waiting lists for these programs. Applications are due February 1. Admissions occur once per year beginning in the fall semester (August).

The application requirements are listed as follows (or can be found online at [gvsu.edu/rad](http://gvsu.edu/rad)):

- GVSU undergraduate application (students must apply and be admitted to GVSU)
- RT application
- Resume to include a specific section listing health care experience
- One- to two-page statement of professional goals
- Two recommendations on specific forms
- Official copies of all non GVSU transcripts

Specific selection criteria are as follows:

- Academic grade point average from prerequisite courses (40 percent)
- Academic grade point average from last two calendar years in college or university (10 percent)
- Interview /writing assessment completed on-site at the College of Health Professions (30 percent)
- Health care experience: minimum of 16 hours volunteer or paid, recommended 2 to 3 hours job shadow (5 percent)
- Recommendations (5 percent)
- Additional leadership considerations (10 percent)

### **Prerequisite Courses**

Requires 47 credits, including:

- AHS 100 - Medical Terminology (3 credits)
- BMS 250 - Anatomy and Physiology I (4 credits) Prerequisite: \*BIO 120 - General Biology I (4 credits)
- BMS 251 - Anatomy and Physiology II (4 credits)
- MTH 122 - College Algebra (3 credits) Prerequisite: \*\*MTH 110 - Algebra (4 credits)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

- \*PHY 220 - General Physics I (5 credits) Prerequisite: MTH 123 - Trigonometry (3 credits)
- PHY 221 - General Physics II (5 credits)
- \*PSY 101 - Introductory Psychology (3 credits)
- PSY 300 - Research Methods in Psychology (3 credits) **OR** AHS 301 - Introduction to Health Care Research (3 credits) **OR** BMS 301 - Introduction to Research in the Biomedical Sciences (3 credits)
- \*SOC 105 - Social Problems (3 credits)
- \*STA 215 - Introductory Applied Statistics (3 credits)

\*Also fulfills general education requirements.

\*\*MTH 110 may not be required, dependent upon placement at time of admission.

## Requirements for a Major in Radiation Therapy

### Foundations and Cultures Courses

Remaining courses not covered in major coursework or prerequisites include (22 to 24 credits):

- General education Art (3 credits)
- General education History (3 credits)
- General education Philosophy (3 credits)
- General education Global Perspectives (3 credits)
- Issues (6 credits) Two courses must be taken when student has 55+ credits.
- **BOTH** WRT 120 - Strategies in Writing - Stretch I (3 credits) **AND** WRT 130 - Strategies in Writing - Stretch II (3 credits)
- **OR ONLY** WRT 150 - Strategies in Writing (4 credits)

### Radiation Therapy Courses

Requires 66 credits, including:

- AHS 340 - Health Care Management (3 credits) Fulfills one of two Issues courses.
- RIT 302 - Radiation Protection Physics (2 credits)
- RIT 310 - Radiation Therapy Patient Care (3 credits)
- RIT 322 - Radiation Biology (2 credits)
- RIT 330 - Radiation Therapy Principles and Practices I (4 credits)
- RIT 331 - Radiation Therapy Principles and Practices I Laboratory (1 credit)
- RIT 332 - Radiation Therapy Principles and Practices II (3 credits)
- RIT 333 - Radiation Therapy Principles and Practices II Laboratory (1 credit)
- RIT 361 - Radiation Therapy Clinical Education I (2 credits)
- RIT 362 - Radiation Therapy Clinical Education II (4 credits)
- RIT 401 - Radiologic Information Technology (3 credits)
- RIT 420 - Radiation Therapy Physics I (2 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- RIT 422 - Radiation Therapy Physics II (2 credits)
- RIT 424 - Image Guided Principles of Radiation Therapy (4 credits)
- RIT 430 - Radiation Therapy Principles and Practices III (3 credits)
- RIT 431 - Radiation Therapy Principles and Practices III Lab (1 credit)
- RIT 432 - Radiation Therapy Principles and Practices IV (3 credits)
- RIT 433 - Radiation Therapy Principles and Practices Lab IV (1 credit)
- RIT 441 - Gross Human Sectional Anatomy (4 credits)
- RIT 458 - Neoplasms (3 credits)
- RIT 460 - Radiation Therapy Clinical Education III (3 credits)
- RIT 461 - Radiation Therapy Clinical Education IV (3 credits)
- RIT 470 - Radiation Therapy Treatment Planning (2 credits)
- RIT 471 - Radiation Therapy Treatment Planning Lab (1 credit)
- RIT 472 - Introduction to Medical Dosimetry (2 credits)
- RIT 473 - Introduction to Medical Dosimetry Lab (1 credit)
- RIT 495 - Advanced Clinical Problems in Radiation Therapy (3 credits)

## **Suggested Order of Coursework**

### **Year One**

Fall Semester (15 credits):

- BIO 120 - General Biology I (4 credits)
- MTH 110 - Algebra (4 credits)
- PSY 101 - Introductory Psychology (3 credits)
- WRT 150 - Strategies in Writing (4 credits)

Winter Semester (16 credits):

- General education Arts (3 credits)
- AHS 100 - Medical Terminology (3 credits)
- BMS 250 - Anatomy and Physiology I (4 credits)
- MTH 122 - College Algebra (3 credits)
- SOC 105 - Social Problems (3 credits)

Spring/Summer Semester (3 credits):

- MTH 123 - Trigonometry (3 credits)

### **Year Two**

Fall Semester (15 credits):

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- General education History (3 credits)
- BMS 251 - Anatomy and Physiology II (4 credits)
- PHY 220 - General Physics I (5 credits)
- STA 215 - Introductory Applied Statistics (3 credits)

Winter Semester (14 credits):

- General education Philosophy (3 credits)
- General education Global Perspectives (3 credits)
- PHY 221 - General Physics II (5 credits)

**AND** one of the following:

- AHS 301 - Introduction to Health Care Research (3 credits)
- BMS 301 - Introduction to Research in the Biomedical Sciences (3 credits)
- PSY 300 - Research Methods in Psychology (3 credits)

### **Year Three**

Fall Semester (16 credits):

Enrollment in radiation therapy program.

- RIT 302 - Radiation Protection Physics (2 credits)
- RIT 310 - Radiation Therapy Patient Care (3 credits)
- RIT 330 - Radiation Therapy Principles and Practices I (4 credits)
- RIT 331 - Radiation Therapy Principles and Practices I Laboratory (1 credit)
- RIT 401 - Radiologic Information Technology (3 credits)
- RIT 458 - Neoplasms (3 credits)

Winter Semester (16 credits):

- RIT 332 - Radiation Therapy Principles and Practices II (3 credits)
- RIT 333 - Radiation Therapy Principles and Practices II Laboratory (1 credit)
- RIT 361 - Radiation Therapy Clinical Education I (2 credits)
- RIT 420 - Radiation Therapy Physics I (2 credits)
- RIT 424 - Image Guided Principles of Radiation Therapy (4 credits)
- RIT 441 - Gross Human Sectional Anatomy (4 credits)

Spring/Summer Semester (4 credits):

- RIT 362 - Radiation Therapy Clinical Education II (4 credits)

### **Year Four**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Fall Semester (15 credits):

- General education Issues elective (3 credits)
- RIT 422 - Radiation Therapy Physics II (2 credits)
- RIT 430 - Radiation Therapy Principles and Practices III (3 credits)
- RIT 431 - Radiation Therapy Principles and Practices III Lab (1 credit)
- RIT 460 - Radiation Therapy Clinical Education III (3 credits)
- RIT 470 - Radiation Therapy Treatment Planning (2 credits)
- RIT 471 - Radiation Therapy Treatment Planning Lab (1 credit)

Winter Semester (18 credits):

- AHS 340 - Health Care Management (3 credits)
- RIT 322 - Radiation Biology (2 credits)
- RIT 432 - Radiation Therapy Principles and Practices IV (3 credits)
- RIT 433 - Radiation Therapy Principles and Practices Lab IV (1 credit)
- RIT 461 - Radiation Therapy Clinical Education IV (3 credits)
- RIT 472 - Introduction to Medical Dosimetry (2 credits)
- RIT 473 - Introduction to Medical Dosimetry Lab (1 credit)
- RIT 495 - Advanced Clinical Problems in Radiation Therapy (3 credits)

## Master of Science in Recreational Therapy

The Master of Science in recreational therapy (RT) M.S. in RT degree is a graduate program, leading to an advanced practice degree. This master's degree program focuses on advanced practice issues and competencies to enhance the recreational therapist's skills and competencies to meet increasingly complex consumers in a variety of healthcare and community settings. The program is one year. The M.S. in RT is offered as a hybrid program, with the majority of coursework online and one to three in-seat classes per semester.

### Admission into the M.S. in RT

- **The one year Master's Degree Track** is for those who have a Bachelor of Science in therapeutic recreation and are already a Certified Therapeutic Recreation Specialist (CTRS) or CTRS eligible, who desire to pursue an M.S. in RT. It requires a total of 33 credits. Students are expected to complete the NCTRC exam after their undergraduate coursework, and prior to beginning their graduate coursework.

Admission into the Master of Science in recreational therapy is competitive. Maximum class size for hybrid classes is 20. Application materials are due by February 1 with courses beginning in August. Applications are reviewed by the recreational therapy faculty and ranked on a total score basis. The top 20 candidates are offered seats in the program. Each alternative candidate is offered admission based on total score if any of the original candidates declines admission.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Application Process into the One Year Master of Science in Recreational Therapy**

To be admitted to the one year MSRT track, applicants must:

- Hold a bachelor's degree in therapeutic recreation/recreation therapy/recreation with an emphasis in therapeutic recreation from an accredited university completed prior to the start of the MSRT program;
- Provide proof of certification as a Certified Therapeutic Recreation Specialist (CTRS) or prove to be CTRS eligible;
- Demonstrate coursework in research methods and introduction to statistics;
- Have an undergraduate GPA of 3.0 or higher for the last 60 credits in their undergraduate degree;
- Submit a resume demonstrating related work and/or volunteer experiences and accomplishments related to recreational therapy interventions, populations, programs, and/or processes;
- Write a personal statement describing:
  - Your goals for your graduate studies and your professional career. If appropriate, describe your relevant professional experience.
  - Why are you pursuing a graduate degree? In what ways would your degree contribute to your future and/or career?
  - Identification of your specialty/practice area of interest.
- Provide two graduate program recommendation forms, one from an instructor/professor and one from a professional; and
- Participate in an interview if requested.

## **Master of Science in Recreational Therapy**

Completion of 33 credits for the one year M.S. in RT program. General graduate academic policies can be found in the Grand Valley State University Undergraduate and Graduate Catalog.

Students must attain a minimum of 80 percent competency in each course to remain in the program. This requirement is reflected in course syllabi across the M.S. in RT program.

### **B.S./M.S. Combined Courses**

- RTX 300 - Foundations of Recreational Therapy (3 credits)
- RTX 302 - Leisure, Health, and Wellness (3 credits)
- RTX 304 - Diagnostic Groups in Recreational Therapy (3 credits)
- RTX 306 - Comprehensive Recreational Therapy Programming (3 credits)
- RTX 308 - Leadership for Recreational Therapy (3 credits)
- RTX 310 - Interventions in Recreational Therapy (3 credits)
- RTX 389 - Recreational Therapy Placement Preparation (1 credit)
- RTX 390 - Fieldwork in Recreational Therapy (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

- RTX 407 - Assessment and Documentation in Recreational Therapy (3 credits)
- RTX 404/RTX 504 - Trends and Issues in Recreational Therapy (3 credits)
- RTX 405/RTX 505 - Management in Recreational Therapy (3 credits)
- RTX 410/RTX 510 - Research and Evaluation in Recreational Therapy (3 credits)

Two undergraduate electives from the following options:

- RTX 313 - Recreational Therapy for Physical Disability (3 credits)
- RTX 315 - Recreational Therapy for Mental Health (3 credits)
- RTX 316 - Therapeutic Recreation with the Elderly (3 credits)
- RTX 317 - Recreational Therapy for Pediatrics (3 credits)
- RTX 490 - Internship in Recreational Therapy (6 or 12 credits)
- RTX 606 - Program Development and Consulting in Recreational Therapy (3 credits)
- RTX 607 - Advanced Practice in Recreational Therapy Assessment and Evaluation (3 credits)
- RTX 673 - Integrated Evidence-Based Research in Recreational Therapy 1 (3 credits)
- RTX 675 - Integrated Evidence-based Research in Recreational Therapy 2 (3 credits)
- RTX 693 - Integrated Evidence-Based Research Project in Recreational Therapy 3 credit
- STA 610 - Applied Statistics for Health Professions (3 credits)

Two graduate electives from the following:

- PNH 535 - Grant Writing (3 credits)
- RTX 613 - Advanced Recreational Therapy Practice in Physical Rehabilitation (3 credits)
- RTX 615 - Advanced Recreational Therapy Practice in Behavioral Health (3 credits)
- RTX 616 - Advanced Recreational Therapy Practice with Older Adults (3 credits)

### **One Year Master of Science in Recreational Therapy Courses**

- RTX 606 - Program Development and Consulting in Recreational Therapy (3 credits)
- RTX 607 - Advanced Practice in Recreational Therapy Assessment and Evaluation (3 credits)
- RTX 673 - Integrated Evidence-Based Research in Recreational Therapy 1 (3 credits)
- RTX 675 - Integrated Evidence-based Research in Recreational Therapy 2 (3 credits)
- RTX 693 - Integrated Evidence-Based Research Project in Recreational Therapy (3 credits)
- STA 610 - Applied Statistics for Health Professions (3 credits)

Two graduate electives from the following 4 options:

- PNH 535 - Grant Writing (3 credits)
- RTX 613 - Advanced Recreational Therapy Practice in Physical Rehabilitation (3 credits)
- RTX 615 - Advanced Recreational Therapy Practice in Behavioral Health (3 credits)
- RTX 616 - Advanced Recreational Therapy Practice with Older Adults (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Three additional electives must be selected from the Graduate Catalog for a total of nine credits - electives selections must be 500-level or higher RTX courses or 500- to 600-level courses from other programs approved by advisor.

## **Sample Curriculum**

### **B.S./M.S. Combined Track**

#### **Fall One (10 credits)**

- RTX 300 - Foundations of Recreational Therapy (3 credits)
- RTX 302 - Leisure, Health, and Wellness (3 credits)
- RTX 304 - Diagnostic Groups in Recreational Therapy (3 credits)
- RTX 389 - Recreational Therapy Placement Preparation (1 credit)

#### **Winter One (12 credits)**

- RTX 306 - Comprehensive Recreational Therapy Programming (3 credits)
- RTX 308 - Leadership for Recreational Therapy (3 credits)
- RTX 310 - Interventions in Recreational Therapy (3 credits)
- RTX elective (RTX 313, RTX 316, RTX 317)

#### **Spring/Summer One (3 credits)**

- RTX 390 - Fieldwork in Recreational Therapy (3 credits)

#### **Fall Two (9 credits)**

- RTX 315 - Recreational Therapy for Mental Health (3 credits)
- RTX 407 - Assessment and Documentation in Recreational Therapy (3 credits)
- RTX 504 - Trends and Issues in Recreational Therapy (3 credits)

#### **Winter Two (9 credits)**

- RTX 505 - Management in Recreational Therapy (3 credits)
- RTX 510 - Research and Evaluation in Recreational Therapy (3 credits)
- RTX elective (RTX 313, RTX 316, RTX 317)

#### **Spring/Summer Two (6 credits)**

- RTX 490 - Internship in Recreational Therapy (6 or 12 credits)

Students are expected to apply to and take the national credentialing exam for Certified Therapeutic Recreation Specialists (CTRS) by the National Council for Therapeutic Recreation

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Certification (NCTRC) after completion of their bachelor's coursework. Students must pass the exam prior to beginning graduate coursework.

### **Fall Three (9 credits)**

- RTX 607 - Advanced Practice in Recreational Therapy Assessment and Evaluation (3 credits)
- RTX 673 - Integrated Evidence-Based Research in Recreational Therapy 1 (3 credits)
- STA 610 - Applied Statistics for Health Professions (3 credits)

### **Winter Three (9 credits)**

- RTX 606 - Program Development and Consulting in Recreational Therapy (3 credits)
- RTX 675 - Integrated Evidence-based Research in Recreational Therapy 2 (3 credits)
- RTX elective (RTX 613, RTX 615, RTX 616, PNH 535)

### **Spring/Summer Three (6 credits)**

- RTX 693 - Integrated Evidence-Based Research Project in Recreational Therapy (3 credits)
- RTX elective (RTX 613, RTX 615, RTX 616, PNH 535)

Students in the M.S. in RT one year track are expected to have obtained their national credential as a Certified Therapeutic Recreation Specialist prior to beginning the program.

### **Fall (9 credits)**

- RTX 607 - Advanced Practice in Recreational Therapy Assessment and Evaluation (3 credits)
- RTX 673 - Integrated Evidence-Based Research in Recreational Therapy 1 (3 credits)
- STA 610 - Applied Statistics for Health Professions (3 credits)

### **Winter (12 credits)**

- RTX 606
- RTX 675
- Non RT Elective
- Non RT Elective

### **Spring/Summer (12 credits)**

- Two RTX electives (RTX 613, RTX 615, RTX 616, PNH 535)
- Non RT Elective
- RTX 693 - Integrated Evidence-Based Research Project in Recreational Therapy (3 credits)

# **Recreational Therapy**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

For additional information about opportunities your college offers, please refer to the College of Health Professions section in this catalog.

**Website:** [gvsu.edu/tr](http://gvsu.edu/tr)

## **Degree Offered**

Bachelor of Science in recreational therapy

Recreational therapy is an allied health profession involved in the care of patients/clients with a variety of diagnoses and functional limitations across the lifespan. Recreational therapy uses a continuum of services which include recreational therapy (treatment), education, and adapted recreation. These services are provided by using a variety of recreation and leisure activities in order to improve functional abilities and maximize opportunities for persons with special needs to access and become engaged in their communities, thus impacting their overall quality of life.

## **Recreational Therapy at Grand Valley**

The recreational therapy major leads to a Bachelor of Science degree. The program offers a highly articulated and sequenced curriculum. All students must seek advising from a program faculty member before embarking on the program. The baccalaureate curriculum provides educational opportunities that prepare students for entry-level positions in therapeutic recreation. Graduates are prepared to meet patient/client health needs in a dynamic and culturally diverse world by completing a comprehensive curriculum that includes theoretical and practical experience and application. Students need to be able to use clinical reasoning skills such as problem solving, formulating concepts, making judgments, analyzing behaviors and tasks, and determining appropriate intervention. The following abilities are important for students to possess for the therapeutic recreation profession: commitment to learning, interpersonal skills, communication skills, effective use of time and resources, use of constructive feedback, professionalism, responsibility, critical thinking, and stress management skills.

## **Admission**

Students who have been accepted by Grand Valley State University through the Admissions Office will follow the outlined procedures: All undergraduate students interested in recreational therapy (RT) can declare therapeutic recreation as their designated major at Grand Valley. During their first and second years, students will make progress toward completing the general education and prerequisite coursework that are required of RT majors and that are pertinent to admission into the recreational therapy program. Students apply to the RT program during the winter semester of their second year through a 'secondary admission' process, at which time, if offered a seat in the program, the student's status will be updated from RT declared to RT admitted.

Transfer students will follow the same process and must meet the same application criteria. For a list of courses that will transfer to GVSU, transfer students from Michigan community colleges

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

can refer to: [gvsu.edu/admissions](http://gvsu.edu/admissions). Students should consult with the College of Health Professions Student Services Office to ensure selection of transferable coursework.

Transfer students who have completed specific recreation/therapeutic recreation prefixed courses at other universities should provide a copy of the course syllabus for any recreation/therapeutic recreation classes they want to transfer to Grand Valley. The RT program will review the course syllabus and determine course transferability on a case by case basis.

## **Application Information**

The recreational therapy (RT) program at Grand Valley State University (GVSU) is a secondary admission program which means that any person interested in taking courses within the RT program must first be admitted to GVSU and upon meeting admission prerequisites (see as follows), are required to submit a secondary application.

The admission process for therapeutic recreation consists of three phases. These phases are outlined as follows.

## **Secondary Application Instructions**

### **Phase One - Prerequisites**

The following prerequisites must be met or in progress at the time of application:

- Overall GPA of 2.7 or higher
- CHM 109 - Introductory Chemistry
- PSY 101 - Introductory Psychology
- BIO 120 - General Biology I

### **Phase Two - Application and Supplemental Materials**

The completed application and supplemental materials should be mailed or hand delivered to the College of Health Professions Student Services Office no later than **February 15** of the intended year of fall semester entry. The materials are described further in the **Application Packet** and include the following:

- RT application
- Essay explaining why the applicant has selected recreational therapy, including leadership and disability experience
- Statement of professional goals (one to two pages)
- Verification of completion of 50 hours (minimum) of volunteer or paid work in a therapeutic setting
- Note: 20 of those hours must be under the supervision of a Certified Therapeutic Recreation Specialist (CTRS)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

- Two recommendation forms completed by a therapeutic recreation specialist/recreation therapist, or related health care practitioner with whom the applicant has completed volunteer and/or paid hours

### **Phase Three - Applicant Notification**

Upon completion of Phases I and II, applicants will be notified of provisional admission into the program and will be asked to set up an advising appointment with a member of the therapeutic recreation faculty to register for the first semester of RT coursework (RTX 300, RTX 302, RTX 304, and RTX 389). Upon successful completion of these four courses (80 percent competency/B- in each course), students will be granted full admission into the therapeutic recreation program.

Contact Valinda Stokes by phone: (616) 331-5900 or email: [stokesv@gvsu.edu](mailto:stokesv@gvsu.edu) with questions.

### **Submit application and supplemental materials by February 15 to:**

GVSU College of Health Professions  
**Attn: Valinda Stokes**  
Cook-DeVos Center for Health Sciences  
301 Michigan St. NE, Suite 113  
Grand Rapids, MI 49503

## **Bachelor of Science in Recreational Therapy**

### **Degree Requirements**

The curriculum for the bachelor's degree in recreational therapy is designed to provide the essential competencies and skills related to professional practice in therapeutic settings. Students desiring a major in recreational therapy must complete the following:

#### **University Degree Requirement**

As identified in the General Academic Policies section of the Grand Valley State University Undergraduate and Graduate Catalog.

#### **Core Courses**

- RTX 300 - Foundations of Recreational Therapy (3 credits)
- RTX 302 - Leisure, Health, and Wellness (3 credits)
- RTX 304 - Diagnostic Groups in Recreational Therapy (3 credits)
- RTX 306 - Comprehensive Recreational Therapy Programming (3 credits)
- RTX 308 - Leadership for Recreational Therapy (3 credits)
- RTX 310 - Interventions in Recreational Therapy (3 credits)
- RTX 389 - Recreational Therapy Placement Preparation (1 credit)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

- RTX 390 - Fieldwork in Recreational Therapy (3 credits)
- RTX 404 - Trends and Issues in Recreational Therapy (3 credits)
- RTX 405 - Management in Recreational Therapy (3 credits)
- RTX 407 - Assessment and Documentation in Recreational Therapy (3 credits)
- RTX 410 - Research and Evaluation in Recreational Therapy (3 credits)
- RTX 490 - Internship in Recreational Therapy (6 or 12 credits)

### **Elective Courses**

Choose two courses from the following:

- RTX 313 - Recreational Therapy for Physical Disability (3 credits)
- RTX 315 - Recreational Therapy for Mental Health (3 credits)
- RTX 316 - Therapeutic Recreation with the Elderly (3 credits)
- RTX 317 - Recreational Therapy for Pediatrics (3 credits)

### **Cognate Courses**

- AHS 100 - Medical Terminology (3 credits)
- AHS 110 - Introduction to Health Care (3 credits)
- BMS 250 - Anatomy and Physiology I (4 credits) Prerequisite: BIO 120
- BMS 251 - Anatomy and Physiology II (4 credits)
- CHM 109 - Introductory Chemistry (4 credits)
- MOV 300 - Kinesiology (3 credits)
- MOV 304 - Introduction to Exercise Physiology (3 credits)
- PSY 101 - Introductory Psychology (3 credits)
- PSY 303 - Psychopathology (3 credits)
- PSY 325 - Educational Psychology (3 credits) **OR** PSY 365 - Cognition (3 credits)
- PSY 364 - Life Span Developmental Psychology (3 credits)
- STA 215 - Introductory Applied Statistics (3 credits)

### **Academic Standards**

To embark on the fieldwork and internship placements, students must show academic competence. The criterion for competence is 80 percent (B-) in each RTX designated course. Additionally, students should be aware that prior to the beginning of the fieldwork and internship placements, they must complete comprehensive health compliance obligations including but not limited to a criminal background check, fingerprinting, and drug screening. It is the responsibility of the student to comply. If there is illegal activity in the background check/fingerprinting, or if there is evidence of one or more prohibited substance in the drug test, the clinical sites have the right to refuse a student's placement, which may negatively impact a student's ability to progress in the recreational therapy program. In addition, individuals who have been charged with, or convicted of a crime, may not be eligible for national certification by the National Council on Therapeutic Recreation Certification (NCTRC). Students to whom this

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

may apply are strongly advised to work with NCTRC for preapplication review of eligibility for certification. Contact information for NCTRC: [nctrc.org](http://nctrc.org); email: [nctrc@nctrc.org](mailto:nctrc@nctrc.org); telephone: (845) 639-1439; fax: (845) 639-1471.

## **Certifications**

- First aid/CPR certification and other health compliance certifications must be current before registering for RTX 390 - Fieldwork **OR** RTX 490 - Internship.
- Water safety instructor (W.S.I.) certification is often an internship requirement in a clinical rehabilitation setting. Students interested in physical rehabilitation or aquatics should consider pursuing this certification.

## **Credential**

National Council for Therapeutic Recreation Certification (NCTRC) Credential: It is the students' responsibility to be sure that they comply with NCTRC standards during their course of study. The certification process can only be pursued by the graduate. Universities and colleges are not permitted to enter into this process. Grand Valley's recreational therapy faculty can only advise the student on which courses to take to meet the qualifications required to sit for the credentialing exam. Upon application, the NCTRC board has the sole responsibility of reviewing the academic program and ascertaining whether a graduate is permitted to sit for the National Certification Examination. All decisions regarding certification are determined by the NCTRC Board.

## **Suggested Order of Coursework**

### **Year One**

Fall Semester (14 credits):

- General education course (3 credits)
- AHS 110 - Introduction to Health Care (3 credits)
- CHM 109 - Introductory Chemistry (4 credits)
- MTH 110 - Algebra (4 credits)

Winter Semester (14 credits):

- General education course (3 credits)
- BIO 120 - General Biology I (4 credits) Prerequisite for BMS 250.
- PSY 101 - Introductory Psychology (3 credits)
- WRT 150 - Strategies in Writing (4 credits)

### **Year Two**

Fall Semester (16 credits):

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

- General education course (3 credits)
- General education course (3 credits)
- AHS 100 - Medical Terminology (3 credits)
- BMS 250 - Anatomy and Physiology I (4 credits)
- PSY 364 - Life Span Developmental Psychology (3 credits)

Winter Semester (16 credits):

- General education course (3 credits)
- General education course (3 credits)
- BMS 251 - Anatomy and Physiology II (4 credits)
- PSY 303 - Psychopathology (3 credits)
- STA 215 - Introductory Applied Statistics (3 credits)

### **Year Three**

Fall Semester (16 credits):

- General education course (3 credits)
- RTX 300 - Foundations of Recreational Therapy (3 credits)
- RTX 302 - Leisure, Health, and Wellness (3 credits)
- RTX 304 - Diagnostic Groups in Recreational Therapy (3 credits)
- RTX 389 - Recreational Therapy Placement Preparation (1 credit)
- PSY 325 - Educational Psychology (3 credits)

Winter Semester (12 to 15 credits):

- General education course (3 credits)
- Issues course (3 credits)
- RTX 306 - Comprehensive Recreational Therapy Programming (3 credits)
- RTX 308 - Leadership for Recreational Therapy (3 credits)
- RTX 310 - Interventions in Recreational Therapy (3 credits)
- \*RTX elective (3 credits)
- RTX 313 - Recreational Therapy for Physical Disability (3 credits)
- RTX 316 - Therapeutic Recreation with the Elderly (3 credits)
- RTX 317 - Recreational Therapy for Pediatrics (3 credits)

Summer Semester (3 credits):

- RTX 390 - Fieldwork in Recreational Therapy (3 credits)

### **Year Four**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Fall Semester (12 to 15 credits):

- General education Issues (3 credits)
- MOV 300 - Kinesiology (3 credits)
- \*RTX elective (3 credits)
- RTX 315 - Recreational Therapy for Mental Health (3 credits)
- RTX 404 - Trends and Issues in Recreational Therapy (3 credits)
- RTX 407 - Assessment and Documentation in Recreational Therapy (3 credits)

Winter Semester (12 to 15 credits):

- MOV 304 - Introduction to Exercise Physiology (3 credits)
- \*RTX Elective (3 credits)
- RTX 313 - Recreational Therapy for Physical Disability (3 credits)
- RTX 317 - Recreational Therapy for Pediatrics (3 credits)
- RTX 317 - Recreational Therapy for Pediatrics (3 credits)
- RTX 405 - Management in Recreational Therapy (3 credits)
- RTX 410 - Research and Evaluation in Recreational Therapy (3 credits)

Summer Semester:

- RTX 490 - Internship in Recreational Therapy (6 or 12 credits)

\*Must complete a minimum of two elective courses to fulfill program requirements.

## Religious Studies

For additional information about opportunities your college offers, please refer to the Brooks College of Interdisciplinary Studies section in this catalog.

**Website:** [gvsu.edu/rel](http://gvsu.edu/rel)

The diverse and often contested religious/cultural perspectives in our contemporary world demonstrate the need for leaders who are educated in religious history and tradition and who have the capability of critically examining their own cultural assumptions while engaging in dialogue with global and local populations. An academic, critical understanding of the world's religions provides a foundation for understanding diverse ideas and cultures. This is particularly important in our post-9/11 culture, where religion is playing such a significant role in political movements and cross-cultural dialogue.

The religious studies minor provides core courses along with flexibility. Students have the option of focusing on particular religious traditions through electives in a range of global traditions and disciplinary perspectives. Students are encouraged to work closely with their advisor to determine the electives portion of the minor. Close collaboration with faculty in the program

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

through advising, student-centered coursework and independent study opportunities is an important part of the religious studies minor.

Religious studies strongly encourages students to take advantage of a wide range of study abroad programs offered by the university. Appropriate courses taken abroad can be credited toward the requirements for the minor. Contact the Padnos International Center or religious studies for more information.

## **Religious Studies Minor**

The REL program is part of the Integrative, Religious, and Intercultural Studies Department (IRIS), located in the Brooks College of Interdisciplinary Studies. With a curriculum grounded in the liberal arts, the religious studies curriculum offers a broad spectrum of courses that foster an understanding of religious issues, encourage critical thinking and exploration of religion, and address religion in relation to broad historical, political, cultural, and philosophical themes.

Religion is arguably one of the most significant forces in human life. Whether you are pursuing a career in a professional field like business, nursing, allied health sciences, education, or engineering, or if you are thinking about pursuing graduate study in the humanities or social sciences, religious studies provides transferrable skills and deepens understanding of the human experience, culture, and traditions both past and present. Students who are already majoring in another field may choose to complement their studies and bolster their dossiers by pursuing a minor in religious studies.

**Website:** [gvsu.edu/rel](http://gvsu.edu/rel)

### **Requirements for a Minor (19 credit hours)**

#### **Core Courses (10 credits)**

Students must complete the following courses (nine credits):

- REL 100 - Religions of the World (3 credits)
- REL 200 - Understanding Religions in Human Experience (3 credits)
- REL 300 - Religions in the World Today: Theories, Methods, and Issues (3 credits)
- REL 482 - Integrative Statement (1 credit)

#### **Elective Course Options (9 credits)**

- AHS 352 - Introduction to Holistic Health Care (3 credits)
- ANT 315 - Comparative Religions (3 credits)
- ANT 421 - Anthropology of Social Movements (3 credits)
- CJ 405 - Terrorism (3 credits)
- CLA 315 - Ancient Religion (3 credits)
- ENG 386 - Literary Responses to Death and Dying (3 credits)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

- HRT 335 - Theory of Human Rights (3 credits)
- HST 311 - History of Religion in the United States (3 credits)
- HST 337 - The Age of Islamic Empire (3 credits)
- HST 342 - History of Buddhism and East Asian Religions (3 credits)
- HST 376 - History of Witch Hunts (3 credits)
- HTM 368 - Geotourism (3 credits)
- INT 314 - Life Journeys (3 credits)
- INT 330 - The Idea of Nature (3 credits)
- INT 400 - Global Visionary Leadership (3 credits)/INT 401 - American Visionary Leadership (3 credits)
- IDS 350 - Civil Discourse (3 credits)
- MES 350 - Islam: Scripture and Ritual (3 credits)
- PNH 360 - Voluntarism and the Nonprofit Sector (3 credits)
- PHI 312 - Divine Revelation meets Greek Rationality: Medieval Philosophy (3 credits)
- PHI 341 - Philosophy of Death and Dying (3 credits)
- PHI 343 - God, Faith, and Reason: Philosophy of Religion (3 credits)
- PHI 400 - Wisdom of the East: Advanced Topics in Asian Philosophy (3 credits)
- PLS 330 - Religion and Politics in America (3 credits)
- REL 305 - Christianity: Scriptures and Tradition (3 credits)
- REL 306 - Hinduism and South Asian Religions (3 credits)
- REL 310 - Jewish Scriptures and Traditions (3 credits)
- REL 335 - Sacred Words, Global Understanding (3 credits)
- REL 340 - Religion and Popular Culture in the United States (3 credits)
- REL 380 - Special Topics in Religious Studies (1 to 9 credits)
- REL 399 - Independent Readings in Religious Studies (1 to 4 credits)
- REL 499 - Independent Research in Religious Studies (1 to 4 credits)

Students can also use courses from the Meijer Honors Colleges "Alliance and Conflict" sequence (which includes HNR 151, HNR 152, HNR 153, and HNR 154) or one of the following upper-division honors courses to meet the elective requirement within the REL minor. Those upper-division courses include:

- HNR 350 - Textual Tease (3 credits)
- HNR 350 - Prophetic Critique in the Modern World (3 credits)
- HNR 350 - The Terror of Monotheism (3 credits)

## Respiratory Care

**Website:** [gvsu.edu/ahs](http://gvsu.edu/ahs)

The Bachelor of Science in respiratory care (RC) B.S. in RC degree advancement program resides within the Allied Health Sciences (AHS) Department. The program prepares respiratory

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

therapists with the knowledge, skills, and attributes to serve as educators, researchers, managers, and leaders within the profession and the health care industry. Students choose to complete the 45 required credits within one full year (three semesters) or choose to complete the program on a part-time basis. The format for the major courses is online and hybrid.

The program is designed for respiratory therapists who have graduated from a Commission on Accreditation for Respiratory Care (CoARC) associate degree or associate of applied science degree entry-level program and achieved at least the Certified Respiratory Therapist (CRT) credential. A minimum of 120 credits are required for a bachelor's degree. Students can transfer up to 80 credits from the respiratory care associate/associate of applied science degree program.

Current GVSU students interested in pursuing a bachelor's degree in respiratory care are encouraged to contact a College of Health Professions Student Services academic advisor: [gvsu.edu/chpss](http://gvsu.edu/chpss). The advisor can assist with setting up an academic plan to meet the qualifications to apply to the program.

Students admitted into the program as a CRT must achieve the advanced Registered Respiratory Therapist (RRT) credential as a graduation requirement. Therefore, prior to taking the capstone course - RSC 495 and in order to graduate with the B.S. in RC degree, students must successfully complete the RRT credential from the National Board for Respiratory Care (NBRC).

### **Admission to the Bachelor of Science in Respiratory Care Program**

The final program admission decision is made by the B.S. in RC program faculty. Applicants are reviewed for admission based on their cumulative GPA, all college transferable coursework, and their personal statement. Satisfactorily completing the minimum requirements does not guarantee admission into the program, as seats are limited. Students may reapply if not admitted.

- Associate degree in respiratory care from a CoARC accredited institution with a minimum GPA of 2.5
- Registered Respiratory Therapist (RRT) or Certified Respiratory Therapist (CRT) who is RRT eligible
- Application for admission to GVSU
- Submission of official transcripts from colleges/universities attended
- Completed BSRC program application
- Personal statement of career goals and how this program will help achieve educational and professional objectives

## **Bachelor of Science in Respiratory Care - Degree Advancement Program**

### **Respiratory Care Core (15 credits)**

- STA 215 - Introductory Applied Statistics (3 credits)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

- AHS 301 - Introduction to Health Care Research (3 credits)
- AHS 321 - Ethical and Legal Responsibilities in Health Care (3 credits) (SWS)
- AHS 340 - Health Care Management (3 credits)
- General Education - Issues

**Remaining General Education Courses** (credits vary)

**Note:** Many of these courses may have been fulfilled through the associate degree and/or with the Michigan Transfer Agreement (MTA).

- Art (3 credits)
- Historical Perspectives (3 credits)
- Global Perspectives (3 credits)
- Life Science (3 to 4 credits)
- Philosophy and Literature (3 credits)
- Physical Science (3 to 4 credits)
- Two courses in Social and Behavioral Sciences (6 credits)
- U.S. Diversity (3 credits)
- WRT 150 - Strategies in Writing (4 credits)

**Respiratory Care Major Courses (30 credits)**

- RSC 315 - Quality Assessment and Health Outcomes (3 credits)
- RSC 316 - Health Care Informatics for the Respiratory Therapist (3 credits)
- RSC 318 - Gerontology for the Respiratory Therapist (3 credits)
- RSC 328 - Patient Assessment and Care Plans I (3 credits)
- RSC 401 - Evidence-Based Practice in Respiratory Care (3 credits)
- RSC 428 - Patient Assessment and Care Plans II (3 credits)
- RSC 438 - Respiratory Disease Management (3 credits)
- RSC 458 - Cardiopulmonary Diagnostics and Monitoring (3 credits)
- RSC 485 - Professionalism in Respiratory Care (3 credits)
- RSC 495 - Respiratory Care Capstone (3 credits)

**Summary of Coursework**

<b>Coursework</b>	<b>Credit Count</b>
Associate or Associate of Applied Science in Respiratory Care	Up to 80 credits can transfer to GVSU
GVSU respiratory care core courses	15 credits
GVSU respiratory care major courses	30 credits
Remaining general education courses	Credits will vary depending on the associate program

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Total

Minimum of 120 credits

### **Suggested Order of Coursework for a Respiratory Care Major**

This is a one-year degree advancement program covering three semesters beginning in the winter semester. Students may complete the program on a full-time or part-time basis.

#### **Year One:**

##### **Winter Semester (18 credits)**

- RSC 315 - Quality Assessment and Health Outcomes (3 credits)
- RSC 318 - Gerontology for the Respiratory Therapist (3 credits)
- RSC 328 - Patient Assessment and Care Plans I (3 credits)
- STA 215 - Introductory Applied Statistics (3 credits)
- AHS 340 - Health Care Management (3 credits)
- General Education - Issues (3 credits)

##### **Summer Semester (12 credits)**

- RSC 316 - Health Care Informatics for the Respiratory Therapist (3 credits)
- RSC 428 - Patient Assessment and Care Plans II (3 credits)
- RSC 438 - Respiratory Disease Management (3 credits)
- AHS 301 - Introduction to Health Care Research (3 credits)

##### **Fall Semester (15 credits)**

- AHS 321 - Ethical and Legal Responsibilities in Health Care (3 credits)
- RSC 401 - Evidence-Based Practice in Respiratory Care (3 credits)
- RSC 458 - Cardiopulmonary Diagnostics and Monitoring (3 credits)
- RSC 485 - Professionalism in Respiratory Care (3 credits)
- RSC 495 - Respiratory Care Capstone (3 credits)

## **School Psychology**

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

**Website:** [gvsu.edu/psychology](http://gvsu.edu/psychology)

#### **Degree Offered**

Specialist in school psychology

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

School psychologists are licensed professionals who provide academic, behavioral, and mental health services within the school environment. Collaborating with teachers, school administrators, and other school professionals, they conduct evaluations and design intervention plans for students who are struggling with a range of academic and behavior problems. Recent legislative and financial shifts in education are driving schools to make significant systemic changes. Because of their training, school psychologists play crucial roles in transforming schools and evaluating outcomes for students, schools, and communities.

## **School Psychology at Grand Valley**

The three year, full-time school psychology program at Grand Valley is designed to create leaders and innovators in the field of education. Students will receive extensive training through coursework, practicum, and research experiences in the assessment, prevention, and intervention of academic, social, and mental health problems in a wide range of students. We aim to create school psychologists who are data-based problem solvers that make an impact on schools at the local, state, and national level.

Upon completion, students will earn a specialist degree in school psychology. Students are eligible for licensure at the state and national level. A marked distinction of our program is that upon graduation, following passing an examination and completing required supervision hours, students are also eligible to become Board Certified Behavior Analysts (BCBA).

### **Admission**

All admissions materials must be received by January 15. To be eligible for consideration, applicants must have

- Completed a bachelor's degree in psychology, special education, or a related field with a minimum 3.0 grade point average. Students with a bachelor's degree in an unrelated field are eligible for admission; however they may have to enroll in prerequisite courses (beyond those listed as follows) prior to beginning the program. The number and topic of courses will vary depending on the individual's degree and background experiences.
- Successfully completed undergraduate prerequisite courses (research methods, statistics, and child development).
- Achieved satisfactory GRE scores (verbal, quantitative, and writing).
- Submitted a personal statement.
- Provided a professional curriculum vitae or resume.
- Submitted three letters of recommendation.

## **Master of Science and Specialist in School Psychology**

### **Requirements for M.S. and Psy.S. in School Psychology**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Students admitted into the graduate program in school psychology must complete 68 semester credit hours over the course of three years, including a full-time, yearlong internship. Students meet the requirements for the M.S. degree upon satisfactory completion of two years of coursework (six semesters) and are awarded the Psy.S. degree upon completion of the full year internship. The program accepts one cohort (beginning in the fall semester) each year. Students must enroll full time in the program. The required curriculum is as follows.

## **Year One**

Fall Semester:

- PSY 500 - Introduction to School Psychology (3 credits)
- PSY 510 - Tests and Measurements (3 credits)
- PSY 522 - Applied Behavior Analysis I (ABA): Foundational Concepts and Principles (3 credits)
- PSY 622 - Educational Assessment (3 credits)
- PSY 642 - Assessment Practicum (1 credit)

Winter Semester:

- PSY 523 - Applied Behavior Analysis II: Application to Behavior Change (3 credits)
- PSY 524 - Developmental Psychopathology (3 credits)
- PSY 623 - Intellectual Assessment (3 credits)
- PSY 642 - Assessment Practicum (1 credit)
- PSY 654 - School-based Intervention and Consultation (3 credits)

Spring/Summer Semester:

- PSY 550 - Research in Applied Settings (3 credits)
- EDS 637 - Explicit Language Instruction (3 credits)

## **Year Two**

Fall Semester:

- EDS 638 - Instructional Practices: Learning Disabilities II (3 credits)
- PSY 525 - Behavior Analysis Applied to Autism Spectrum Disorders and Developmental Disorders (3 credits)
- PSY 624 - Behavioral Assessment and Intervention (3 credits)
- PSY 675 - School Psychology Practicum (3 credits)

Winter Semester:

- EDL 653 - Special Education Law (3 credits)
- PSY 527 - Ethics and Diversity in Professional Practice (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- PSY 655 - School-based Consultation and Intervention II (3 credits)
- PSY 675 - School Psychology Practicum (3 credits)

Spring/Summer Semester:

- PSY 658 - Advanced Concepts in Applied Behavior Analysis (3 credits)
- Elective (3 credits)

### **Year Three**

Fall Semester:

- \*PSY 685 - School Psychology Internship (1 to 5 credits)

Winter Semester:

- PSY 685 - School Psychology Internship (1 to 5 credits)

\*Note: Students must complete six credits total of PSY 685 in their third year.

## **Social Innovation**

### **Admission**

The professional Master of Arts in social innovation requires 36 credit hours of coursework. There are no prerequisites, and students with any bachelor's degree may be accepted. Courses are offered in hybrid format, meeting both face-to-face and online. In-person courses meet at the Robert C. Pew Campus in downtown Grand Rapids. The program features courses in social innovation, public administration, social work, education, and management.

Housed in the Integrative, Religious, and Intercultural Studies Department (IRIS) within Brooks College of Interdisciplinary Studies, the social innovation program is designed to prepare individuals to foster and lead innovation throughout their organizations, businesses, and communities in ways that impact daily operations and strategic goals. Students are trained how to critically examine and address complex social problems such as childhood hunger, illiteracy, domestic violence, air pollution, food deserts, contaminated drinking water, poverty, homelessness, and racism, among others. The program combines internships, global learning experiences, and collaborative projects for a unique degree experience. Current students can access the student handbook and other program information through the SI Program website.

**Website:** [gvsu.edu/socialinnovation](http://gvsu.edu/socialinnovation)

Applications are accepted on a rolling basis. Additional requirements include:

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

- A minimum grade point average of 3.0 on a 4.0 scale for the last 60 hours of undergraduate coursework.
- Submitting a GRE score is not required. However, applicants who have neither a 3.0 GPA for the last 60 hours of undergraduate coursework or five years of professional experience may consider submitting a GRE score to strengthen their application.
- Personal statement of career goals and background experiences, including an explanation of how this program will help achieve educational and professional objectives.
- Written recommendations from at least two individuals who are in positions to attest to the applicant's successful completion of the program.
- An official transcript from each undergraduate and graduate institution.
- TOEFL test scores (Test of English as a Foreign Language), or IELTS (International English Language Testing System), or MELAB (Michigan English Language Assessment Battery) for applicants whose native language is not English. The following minimum scores are expected: TOEFL is 80, IELTS is 6.5, and MELAB is 77.

Applications will not be reviewed until they are complete. Admissions may request additional information or request a personal interview. The Admission Committee is looking for evidence that a candidate will be successful if admitted into the program and considers each applicant as a whole student.

### **Accreditation**

The professional Master of Arts in social innovation is accredited through the Higher Learning Commission.

## **Professional Master of Arts in Social Innovation**

### **Requirements**

The SI Program requires 36 total hours of coursework. This includes:

#### **Core Courses (18 credits)**

All social innovation students are required to complete the following courses:

- PNH 660 - Philanthropy and the Nonprofit Sector: History and Ethics (3 credits)
- SI 600 - Cultures of Social Innovation (3 credits)
- SI 610 - Research Methods for Social Inquiry (3 credits)
- SI 620 - Case Studies in Social Innovation (3 credits)
- SI 630 - Engaging Diversity through Social Innovation (3 credits)
- SI 650 - Place and Environmental Justice (3 credits)

#### **Application Courses (9 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Students choose three courses from the following list of electives for a total of nine credits:

- EDF 633 - Race, Class, and Language (3 credits)
- EDF 635 - Survey of Urban Education (3 credits)
- EDF 675 - Cultural and Educational Foundations of Ecological Issues (3 credits)
- EDF 676 - Introduction to Place-Based Education (3 credits)
- EDL 700 - Educational Leadership and Change (3 credits)
- EDL 705 - Organizational Behavior, Ethics and Decision-Making (3 credits)
- EDL 715 - Data-Based Decision-Making and Technology (3 credits)
- MGT 672 - Creativity and Social Entrepreneurship (3 credits)
- PNH 661 - Nonprofit Management: Practices (3 credits)
- PNH 662 - Nonprofit Financial Management (3 credits)
- PNH 663 - Nonprofit Organizations, Advocacy and Public Policy (3 credits)
- PNH 667 - Fund Development (3 credits)
- SW 600 - Cultural Competency for Social Work (3 credits)
- SW 631 - Social Work: U.S. Community-Based Service Learning (3 credits)
- SW 660 - Grant Writing and Resource Development (3 credits)
- SW 676 - Community and Social Planning (3 credits)

### **Synthesis Courses (9 credits)**

Requires nine credits, including:

- SI 661 - Social Innovation Internship (1 to 6 credits)
- SI 690 - Social Innovation Research Design (3 credits)
- SI 693 - Master's Project in Social Innovation (1 to 3 credits)

## **Social Work**

For additional information about opportunities your college offers, please refer to the School of Public, Nonprofit, Health, Hospitality, and Tourism Management section of this catalog.

**Website:** [gvsu.edu/ssw](http://gvsu.edu/ssw)

The Grand Valley State University School of Social Work exists to train competent social workers at the B.S.W. and M.S.W. levels. To that end, we partner actively, consistently, and intentionally with constituents to provide rigorous, ethical coursework and field experiences consistent with the 2015 Council on Social Work Education standards. These standards require that social work students at the foundation and advanced levels competently demonstrate the nine CSWE core competencies and their associated dimensions and observable behaviors. The B.S.W. and M.S.W. curricula combine with our ongoing, dynamic assessment process to assure that our graduates are competent, by CSWE standards, and in the contexts in which they practice. Our model is one of comprehensiveness, as we employ the Generalist and Advanced Generalist

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

models. These assure that social workers trained at GVSU are prepared to practice across contexts, within multiple systems simultaneously, and maintain a developmental, inclusive, and ecological stance. Our faculty and staff are committed to a learning environment that continuously challenges each of us to uphold the ethics of our profession, promotes diversity of all forms, incites a spirit of inquiry, and an environment of student mentoring and support. To that end, we share accountability for exchange of information and our behaviors as professionals and students; the pages that follow is our guide in this pursuit. Our policies are designed to be in service to our profession and our constituents in an effort to assure a competently trained workforce. The Master of Social Work and the Bachelor of Social Work programs are accredited by the Council on Social Work Education.

The School of Social Work B.S.W. and M.S.W. programs do not award academic credit for students' life experiences or previous work experiences.

Students enrolled in the School of Social Work curriculum must be cognizant of the fact that past or future criminal conduct may limit or prevent placement in a field practice agency. Because field practice is a B.S.W. and an M.S.W. curriculum imperative, the social work degree is awarded only after successful completion of all requirements. Furthermore, past or present criminal conduct may render an individual ineligible to secure a state license and the privilege to practice social work.

### **Honors Organization**

Phi Alpha Honor Society is a national social work academic honor society that is dedicated to high standards of scholarship and distinctive achievements within social work. Find more information on the National website at [phialpha.org](http://phialpha.org).

The purposes of Phi Alpha Honor Society are to provide a closer bond among students of social work and promote humanitarian goals and ideals. **Phi Alpha Chi Epsilon**, the Grand Valley State University (GVSU) chapter, offers membership to B.S.W. and M.S.W. students to be inducted based on your academic achievement and credit hours spent within the social work program.

## **Bachelor of Social Work**

Grand Valley State University's Bachelor of Social Work (B.S.W.) is offered through the School of Social Work (SSW) and prepares students for professional practice by laying the foundation for them to assume roles in society's institutions, organizations, and communities.

The program emphasizes human behavior, the interface between people and their social environment and institutions, and client strengths. Generalist social workers are concerned with societal conditions in their efforts to improve the quality of life and social and economic justice.

The mission of the B.S.W. program is to prepare generalist social workers who enhance and promote well-being and advocate for social, economic, and environmental justice of the citizens, organizations, and communities of West Michigan, the state, the nation, and the world, and to

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

further the goals of the university and of the social work profession in this region and beyond. West Michigan's unique setting consists of diverse cultural communities as well as urban and rural settings, creating significant potential for skilled social work professionals to make a profound impact on our community.

The B.S.W. program's goals are derived directly from its mission statement and are designed to meet the social service needs of its program locations and beyond. Program goals are as follows:

- To provide a generalist social work curriculum in a quality learning environment that prepares B.S.W. graduates for entry-level social work practice that promotes social, and economic justice and endeavors to address poverty and other social problems within organizational, individual, and community contexts within, but not limited to, West Michigan and the State of Michigan.
- To prepare generalist social workers who exhibit a professional commitment to enhancing social justice, promoting human rights, ensuring the dignity and worth of all individuals, practicing social work with integrity, upholding the NASW Code of Ethics, incorporating diversity into their practice, and advancing the profession's reputation and knowledge base.
- To prepare students for continued professional development opportunities throughout their careers, including graduate education.
- To contribute to the development of social work scholarship and human rights advocacy by supporting the engagement of students, faculty, and staff in local, regional, statewide, national, and international organizations focused on improving the quality of life for all persons.

The B.S.W. program starts in the fall semester and the SSW admits students one time per year.

### **Accreditation**

The Bachelor of Social Work program is accredited by the Council on Social Work Education (CSWE). Accreditor's Website: [cswe.org](http://cswe.org).

### **Organizations**

#### **Bachelor of Social Work Student Organization (BSWSO)**

This organization is committed to providing both volunteer opportunities and social activities for all social work students.

The organizations goals include the following:

- Enrichment of professional identity
- Advocacy for B.S.W. students
- Becoming a viable source for GVSU
- Increase positive recognition of GVSU in the surrounding area
- Enhancement of organizational skills through participation in group process

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

- Encouragement of awareness of the various social issues that impact our profession and communities

### **National Honor Society for Social Work Students**

- Phi Alpha Honor Society is a national social work academic honor society that is dedicated to high standards of scholarship and distinctive achievements within social work. The purposes of Phi Alpha Honor Society are to provide a closer bond among students of social work and promote humanitarian goals and ideals.
- Phi Alpha Chi Epsilon, the Grand Valley State University chapter, offers membership to B.S.W. and M.S.W. students to be inducted based on your academic achievement and credit hours spent within the social work program. Find more information on the National website at [phialpha.org](http://phialpha.org).

### **Admission**

The B.S.W. degree requires successful completion of 120 semester hours of college credits. The program is built on a liberal arts foundation plus 34 hours of cognate and international courses. These required courses augment, complement, and supplement the 45 credit hours of professional social work courses, which include emphases on social work values and ethics, social and economic justice, diversity, and populations at risk in the human behavior and social environment, social welfare policy and services, generalist social work practice, social work research, and field education practice sequences.

The Bachelor of Social Work degree program is a secondary admission program, which only admits students one time per year. An eligible applicant must meet the following requirements:

- Have a minimum cumulative grade point average of 2.5 or above.
- Have all admission prerequisite coursework successfully completed or in progress at the time of application.
- Earn a C or better in all admission prerequisite coursework (excluding general education requirements and MTH 110).
- Adhere to the School of Social Work (SSW) course repeat policy which states that a student may not repeat a required course more than once.

The B.S.W. program starts in the Fall semester and the SSW admits students one time per year.

At the time of graduation, all students must have earned a minimum cumulative GPA of 2.5 and a 3.0 GPA in their social work major courses.

### **Prerequisite Courses**

All admission prerequisite courses must be completed with a C or better, and the cumulative grade point average for these course must a 2.5 or above. These courses may be repeated no more than once.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

- Social Problems/Social Inequality elective (3 credits)
- \*BIO 104 - Biology for the 21st Century (4 credits)
- PLS 102 - American Government and Politics (3 credits)
- PSY 101 - Introductory Psychology (3 credits)
- PSY 303 - Psychopathology (3 credits) **OR** PSY 324 - Developmental Psychopathology (3 credits)
- SOC 101 - Introduction to Sociology (3 credits)
- SW 150 - Introduction to Social Work and Social Welfare (3 credits)

\* BIO 104 is the recommended Life Science choice for social work majors. Students must also demonstrate a MTH 110 proficiency and have completed their general education Foundations (excluding Mathematical Sciences); these requirements do not require C or better.

## **Required Courses**

### **For the Major**

The student must earn an overall G.P.A. of 3.0 in social work courses and not have repeated a course more than once. Also included are six credits from the list of social work electives, as well as three credits from the list of international program courses.

- SW 150 - Introduction to Social Work and Social Welfare (3 credits)
- SW 300 - Social Work and Difference, Diversity, and Privilege (3 credits)
- SW 316 - Interviewing in Social Work (3 credits)
- SW 317 - Generalist Practice I (3 credits)
- SW 318 - Generalist Practice II (3 credits)
- SW 319 - Social Welfare Policy and Services (3 credits)
- SW 340 - Human Behavior and the Social Environment I (3 credits)
- SW 341 - Human Behavior and the Social Environment II (3 credits)
- SW 348 - Professional Development in Social Work (3 credits)
- SW 430 - Social Work Research (4 credits)
- SW 490 - Social Work Field Education I (3 credits)
- SW 491 - Social Work Field Education II (3 credits)
- SW 492 - Social Work Field Seminar I (1 credit)
- SW 493 - Social Work Field Seminar II (1 credit)
- SW 495 - Social Work Capstone (3 credits)

### **Prior to Second Year of Social Work Program**

The following required courses must be completed by the student before starting field education:

- Culture and environment elective (3 credits)
- STA 215 - Introductory Applied Statistics (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Prior to Graduation**

The following courses must be completed prior to graduating with their B.S.W.:

- Interprofessional practice elective (3 credits)
- Social work electives (6 credits)
- International relations elective (3 credits)

## **Course Lists**

### Social Problems/Social Inequality

Requires three credits:

- PH 222 - Public Health Concepts (3 credits)
- CJ 101 - Justice and Society (3 credits)
- ECO 210 - Introductory Macroeconomics (3 credits)
- ECO 211 - Introductory Microeconomics (3 credits)
- SOC 105 - Social Problems (3 credits)
- SOC 252 - Sociology of Drug Use and Abuse (3 credits)
- SOC 286 - Sociology of Health Care (3 credits)
- SOC 315 - Social Class Inequality (3 credits)
- SOC 381 - Class, Race, Gender, and Sexuality (3 credits)
- CJ 320/WGS 320 - Crimes Against Women (3 credits)

### Culture and Environment Course

Requires three credits. Must be completed prior to entering field education.

- ANT 204 - Peoples and Cultures of the World (3 credits)
- ANT 340 - Culture and Environment (3 credits)
- INT 350 - The Immigrant Experience in the U.S. (3 credits)
- PHI 370 - Sex Matters: Feminist Philosophy in the Contemporary World (3 credits)
- PLS 301 - Poverty, Inequality, and U.S. Public Policy (3 credits)
- PSY 355 - Psychology and Culture (3 credits)
- PSY 360 - Social Psychology: Psychology's View (3 credits)
- PSY 362 - Environmental Psychology (3 credits)
- SOC 287 - Sociology of Religion (3 credits)
- SOC 345 - Cultural Sociology (3 credits)
- SOC 351 - Urban Sociology (3 credits)
- SOC 360 - Social Psychology: Sociology's View (3 credits)
- \* SW 351 - Cross-Cultural Service Learning (3 credits)
- \* SW 354 - Global: Cross-Cultural Community Based Learning (3 to 4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

\*Courses cannot be used to satisfy both the culture and environment and social work elective requirements.

### Interprofessional Practice

Requires three credits. Must be completed prior to entering field education.

- CJ 420 - Juvenile Correctional Counseling (3 credits)
- COM 302 - Small Group Communication (3 credits)
- IDS 350 - Civil Discourse (3 credits)
- INT 341 - Leadership for Social Change (3 credits)
- PNH 270 - Public and Nonprofit Administration (3 credits)
- PNH 335 - Grant Writing (3 credits)
- PNH 360 - Voluntarism and the Nonprofit Sector (3 credits)
- PHI 325 - Ethics in Professional Life (3 credits)
- PSY 310 - Behavior Modification (3 credits)
- PSY 452 - Counseling: Theories and Applications (3 credits)

### Social Work Electives

Requires six credits from the following:

- SW 320 - Child Welfare Policy and Practice (3 credits)
- SW 322 - Responding to Chronic Illness (3 credits)
- SW 333 - Community Work with the Lesbian, Gay, Bisexual and Transgender Community (3 credits)
- SW 344 - Responding to Loss, Death, and Grief (3 credits)
- SW 351 - Cross-Cultural Service Learning (3 credits)
- SW 354 - Global: Cross-Cultural Community Based Learning (3 to 4 credits)
- SW 380 - Special Topics in Social Work (1 to 4 credits)
- SW 439 - The Family and Social Work Practice (3 credits)
- SW 499 - Independent Study in Social Work (1 to 4 credits)

### International Relations Program

Requires three credits. Students are not restricted to this list and can ask the B.S.W. director to consider additional courses.

- AAA 200 - Understanding Africa (3 credits)
- ANT 345 - Perspectives on Globalization (3 credits)
- GPY 235 - Geography for a Changing World (3 credits)
- HST 211 - History of Islamic Civilization (3 credits)
- HST 212 - India: History and Civilization (3 credits)
- HST 310 - Cultural and Social Topics in Nonwestern History (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- HST 319/INT 319 - Human Traffic and Trafficking (3 credits)
- HST 331 - Modern Latin America (3 credits)
- HST 337 - The Age of Islamic Empire (3 credits)
- HST 338 - Modern Middle East (3 credits)
- HST 386 - 20th Century Europe (3 credits)
- LAS 374 - Revolution in the Americas (3 credits)
- MES 201 - Introduction to the Middle East (3 credits)
- PLS 211 - International Relations (3 credits)
- PLS 313 - International Organization (3 credits)
- PLS 327 - Politics of Developing Countries (3 credits)
- WGS 350/SOC 350 - Family and Gender in the Developing World (3 credits)
- SW 354 - Global: Cross-Cultural Community Based Learning (3 to 4 credits)

### Elective Courses

Following are recommended electives. Students are not restricted to this list and can ask the B.S.W. director to consider additional courses.

- ANT 204 - Peoples and Cultures of the World (3 credits)
- PNH 270 - Public and Nonprofit Administration (3 credits)
- PNH 449 - Policy Research and Evaluation (3 credits)
- PHI 102 - Ethics (3 credits)
- PHI 325 - Ethics in Professional Life (3 credits)
- PSY 310 - Behavior Modification (3 credits)
- PSY 316 - The Psychology of Human Intimacy and Sexuality (3 credits)
- SOC 379 - Sociology of Love (3 credits)
- WGS 200 - Introduction to Gender Studies (3 credits)
- WGS 360 - Foundations of Feminism (3 credits)
- WGS 380 - Special Topics in Women Gender, and Sexuality Studies (1 to 4 credits)

### Transfer Students

A student planning to transfer to GVSU from another college or university should work closely with their local academic advisor. As a transfer student, be sure to carefully review your GVSU transcript evaluation upon admission to the university. To be considered for the Social Work program, a student must be admitted to GVSU and have declared social work as a major prior to application. Transfer students are able to declare Social Work as their major at transfer orientation.

An eligible applicant must meet the following requirements:

- Have a minimum cumulative grade point average of 2.5 (including transfer credits).
- Have all admission prerequisite coursework successfully completed or in-progress at the time of application.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- Earn a C or better in all admission prerequisite coursework (excluding general education requirements and MTH 110).
- Adhere to the SSW course repeat policy which states that a student may not repeat a required course more than once.
- Successfully complete SW 300 within their first year of the B.S.W. program, as most transfer institutions do not offer an equivalent.
- Demonstrate MTH 110 proficiency via MTH Placement test, ACT or SAT scores, or through successful completion of a MTH 110 equivalent.

The B.S.W. program starts in the fall semester, and the SSW admits students one time per year.

Given extenuating circumstances, the director of the Bachelor of Social Work program reserves the right to work with students on a case by case basis when making admission decisions.

Once admitted into the School of Social Work, all transfer students must satisfy all university and major requirements prior to graduation.

## **Suggested Order of Coursework for Social Work Major**

Following is a sample curriculum guide. It may not be applicable for every student and is not a replacement for meetings with an academic advisor.

### **Year One**

Fall Semester (15 credits):

- WRT 150 - Strategies in Writing (4 credits)
- SW 150 - Introduction to Social Work and Social Welfare (3 credits) Social and Behavioral Science and SW core course.
- MTH 110 - Algebra (4 credits) Prerequisite for general education Mathematical Sciences.
- BIO 104 - Biology for the 21st Century (4 credits) General education Life Science with a lab and SW prerequisite.

Winter Semester (15 credits):

- SOC 101 - Introduction to Sociology (3 credits) Social and Behavioral Science and social work prerequisite.
- PSY 101 - Introductory Psychology (3 credits) Social and Behavioral Science and social work prerequisite.
- General education Art **OR** Philosophy and Literature **OR** History (3 credits)
- General education Art **OR** Philosophy and Literature **OR** History (3 credits)
- General education Physical Science non-lab (3 credits)

### **Year Two**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Fall Semester (15 credits):

- Social Problems/Social Inequality elective (3 credits)
- International relations program course (3 credits)
- General education course Art **OR** Philosophy and Literature **OR** History (3 credits)
- General education U.S. Diversity (3 credits)
- PLS 102 - American Government and Politics (3 credits)

Winter Semester (15 credits):

- General education Global Perspectives (3 credits)
- General elective (3 credits)
- PSY 303 - Psychopathology (3 credits)
- STA 215 - Introductory Applied Statistics (3 credits)
- SW 300 - Social Work and Difference, Diversity, and Privilege (3 credits)

### **Year Three**

Fall Semester (15 credits):

- Culture and environment elective (3 credits)
- SW 317 - Generalist Practice I (3 credits) SW core course.
- SW 319 - Social Welfare Policy and Services (3 credits) SW core course.
- SW 340 - Human Behavior and the Social Environment I (3 credits) SW core course.
- SW 348 - Professional Development in Social Work (3 credits) SW core course.

Winter Semester (15 credits):

- General education Issues (3 credits)
- General elective (3 credits)
- SW 316 - Interviewing in Social Work (3 credits) SW core course.
- SW 318 - Generalist Practice II (3 credits) SW core course.
- SW 341 - Human Behavior and the Social Environment II (3 credits) SW core course.

### **Year Four**

Fall Semester (15 credits):

- Social work elective (3 credits)
- Interprofessional practice elective (3 credits)
- General elective (1 credit)
- SW 430 - Social Work Research (4 credits) SW core course.
- SW 490 - Social Work Field Education I (3 credits) SW core course.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- SW 492 - Social Work Field Seminar I (1 credit) SW core course.

Winter Semester (15 credits):

- Social work elective (3 credits)
- General education Issues (3 credits)
- General elective (2 credits)
- SW 491 - Social Work Field Education II (3 credits) SW core course.
- SW 493 - Social Work Field Seminar II (1 credit) SW core course.
- SW 495 - Social Work Capstone (3 credits) SW core course.

## Master of Social Work

**Website:** [gvsu.edu/grad/msw](http://gvsu.edu/grad/msw)

Grand Valley State University's Master of Social Work (M.S.W.) is offered through the School of Social Work and prepares students for advanced professional practice by laying the foundation for students to assume leadership roles in society's institutions, organizations, and communities.

The program emphasizes human behavior, interface between people and their social environment and institutions, and client strengths. Advanced generalist social workers are also concerned with societal conditions in their efforts to improve the quality of life and social and economic justice.

The mission of the M.S.W. program is to prepare advanced generalist social workers who enhance and sustain the welfare and well-being of the individuals, families, groups, organizations, and communities of West Michigan, the state, the nation, and the world; and who further the goals of the university and of the social work profession in this region and beyond. This is accomplished through professional leadership, advancement of the social work field's knowledge through research and evaluation, and a focus on diversity, social justice, and human rights.

The program's goals are derived directly from its mission statement and are designed to meet the social service needs of its program locations and beyond:

- To provide a foundational M.S.W. curriculum and an advanced generalist social work curriculum that prepares M.S.W. graduates for autonomous social work practice that promotes social, economic, and environmental justice and endeavors to address poverty and other social problems within individual, organizational, and community contexts within, but not limited to, West and Northern Michigan and the State of Michigan.
- To award the graduate degree to individuals who are skilled practitioners who adhere to the NASW Code of Ethics, incorporating diversity into their practice and are capable of assuming leadership and scholarly professional roles in the community, region, state, national, and global communities.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

- To contribute to the ongoing development of professional social work knowledge and practice through research and scholarly inquiry that employ state-of-the-art technology.
- To prepare students for continued professional development opportunities throughout their careers, including doctoral education.

## **Advanced Generalist**

The advanced generalist model is built on a liberal education foundation that promotes critical thinking and the conscientious application of advanced practice social work knowledge, skills, values, ethics, and cognitive and affective processes. The features of this model are designed to

- enhance the depth and breadth of practice in a multi-method, multi-level, and theoretically grounded perspective;
- refine and shape advanced practitioners through acquisition of professional competencies to assess, intervene, and evaluate within all systems and within all practice environment;
- affirm that human problems derive from a complex interplay of psychological, social, cultural, economic, political, biological, and physical forces;
- prepare students to effectively intervene with individuals, families, groups, organizations, and communities;
- expand, extend, and enhance the foundation of generalist social work core competencies with advanced knowledge and practice behaviors; and
- promote the development of advanced knowledge, skills, values, and affective and cognitive processes in leadership, collaboration, administration, advocacy, assessment, problem solving, intervention, cultural competency, communication, collaboration, community building, program evaluation, organizational management, policy analysis, and scientific inquiry.

The integration of professional practice skills within the advanced generalist curriculum model culminates in the mastery of social work's core competencies, so that M.S.W. graduates are proficient in a wide range of settings, with a broad diversity of populations at all levels of professional practice in any geographic location.

## **Accreditation**

The Master of Social Work program is accredited by the Council on Social Work Education (CSWE). Accreditor's website: [cswe.org](http://cswe.org).

## **Regular Standing M.S.W. Degree**

The School of Social Work offers a 60 credit hour Master of Social Work (M.S.W.) degree program on both a full-time (two years) and part-time basis (three or four years).

## **Advanced Standing M.S.W. Degree**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

The School of Social Work recognizes strong academic and professional performance by students who have graduated from a CSWE-accredited undergraduate social work program within five years prior to enrollment in the M.S.W. program and have met specified admissions criteria. Advanced standing students are exempt from the 22 hours of foundation courses and may accelerate their graduate study by completing the remaining 38 credit hours of MSW course requirements. The Advanced Standing M.S.W. program can be completed full-time (three semesters) or part-time (five semesters).

## **M.S.W. and M.P.A. Degree Programs**

The School of Social Work and the School of Public, Nonprofit, and Health Administration offer prospective students the option to pursue both graduate degrees offered by these units (M.S.W. and M.P.A.). This entails taking coursework in both disciplines in order to be well prepared to seek middle- and upper-level management positions in either public or private human service organizations. Those earning the two degrees will attain the knowledge, skills, values, and cognitive and affective processes of the social work profession with the advanced administrative and technical expertise developed through the study of public administration to become leaders in their organizations and communities.

For additional information about admission and curriculum regarding this combination of degrees, please visit our website online at [gvsu.edu/ssw/msw-mpa-program-111.htm](http://gvsu.edu/ssw/msw-mpa-program-111.htm).

Accreditation: The Master of Social Work program is accredited by the Council on Social Work Education (CSWE).

Accreditor's website: [cswe.org](http://cswe.org)

## **Organizations**

### Master of Social Work Student Organization

This organization is committed to providing both volunteer opportunities as well as social activities for all social work students. The organization's goals include:

- Enrichment of professional identity
- Advocacy for M.S.W. students
- Becoming a viable source for GVSU
- Increase positive recognition of GVSU in the surrounding area
- Enhancement of organizational skills through participation in group process
- Encouragement of awareness of the various social issues that impact our profession and communities.

### National Honor Society for Social Work Students

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

- Phi Alpha Honor Society is a national social work academic honor society that is dedicated to high standards of scholarship and distinctive achievements within social work.
- The purposes of Phi Alpha Honor Society are to provide a closer bond among students of social work and promote humanitarian goals and ideals. Find more information on the National website at [phialpha.org](http://phialpha.org). Phi Alpha Chi Epsilon, the Grand Valley State University chapter, offers membership to B.S.W. and M.S.W. students to be inducted based on your academic achievement and credit hours spent within the social work program.

## **Requirements**

The M.S.W. degree consists of a minimum of 60 credit hours.

### **Primary Foundation (all required)**

- SW 600 - Cultural Competency for Social Work (3 credits)
- \* SW 601 - Foundations of Social Work Practice (3 credits)

\*See your advisor: Not required for students with CSWE accredited B.S.W. undergraduate degrees or child welfare grantees. If waived, students take an SW elective in place of SW 601.

- SW 603 - Integrated Methods (3 credits)
- SW 610 - Social Welfare Policy and Services I (3 credits)
- SW 620 - Human Behavior and the Social Environment (3 credits)
- \*\* SW 690 - Social Research I (3 credits)

\*\*Test-out exam available.

### **Advanced Generalist Concentration (all required)**

- SW 622 - Clinical Diagnosis and Treatment Planning (3 credits)
- SW 662 - Substance Abuse and Social Work Practice (3 credits)
- SW 670 - Social Work Practice with Individuals (3 credits)
- SW 691 - Social Research II (3 credits)
- SW 640 - Seminar in Advanced Generalist Practice (Capstone) (3 credits)

### **Advanced Policy**

Choose one of three:

- SW 613 - Human Rights and Social Work (3 credits)
- SW 630 - Social Work: Global Service-Learning (3 credits)
- SW 631 - Social Work: U.S. Community-Based Service Learning (3 credits)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

SW 630 or SW 631 may be selected as a substitute to SW 613 when the human rights/ advanced policy assignment and required readings are completed as part of the service learning coursework.

**Field Education Practice (all required)**

- SW 650 - Field Education I (3 credits)
- SW 651 - Field Education Seminar I (1 credit)
- SW 652 - Field Education II (3 credits)
- SW 653 - Field Education Seminar II (1 credit)
- SW 654 - Field Education III (3 credits)
- SW 655 - Field Education Seminar III (1 credit)

**Advanced Micro-core**

Choose one:

- SW 672 - Social Work Practice with Groups (3 credits)
- SW 674 - Social Work Practice: Families and Children (3 credits)

**Advanced Macro-core**

Choose two of six:

- SW 660 - Grant Writing and Resource Development (3 credits)
- SW 661 - Social Work in the School/ Educational Setting (3 credits)
- SW 677 - Principles of Supervision (3 credits)
- SW 676 - Community and Social Planning (3 credits)
- SW 678 - Human Services Administration (3 credits)
- SW 679 - Program Monitoring and Evaluation (3 credits)

**Electives**

Choose one course of at least three credits.

Any course from previous list not taken to satisfy requirements or from the following:

- SW 663 - Child and Adolescent Development/Practice (3 credits)
- SW 665 - Opportunities in Aging Societies (3 credits)
- SW 668 - Child and Adolescent Trauma (3 credits)
- SW 669 - Responses to Loss and Death (3 credits)
- SW 671 - Social Work Practice in Health Care (3 credits)
- SW 673 - Social Work Practice with Children and Adolescents (3 credits)
- SW 675 - Child Welfare and Family Services (3 credits)
- SW 680 - Special Topics in Social Work (1 to 4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- SW 695 - Master's Thesis (1 to 6 credits)

## **M.S.W. and M.P.A. Degree Programs**

The Schools of Social Work and Public, Nonprofit, and Health Administration offer prospective students the option to pursue both graduate degrees offered by these units (M.S.W and M.P.A). This entails taking coursework in both disciplines in order to be well prepared to seek middle and upper-level management positions in either public or private human service organizations. Those earning the two degrees will attain the knowledge, skills, and values of the social work profession with the advanced administrative and technical expertise developed through the study of public administration to become leaders in their organizations and communities. Currently, Grand Valley State University policies enable a student to pursue the M.S.W degree as the first master's degree and the M.P.A degree as a second master's degree by completing 21 credits in the M.P.A program.

Applicants must submit the following items to the Grand Valley State University Admissions Office in Allendale, Michigan:

- Completed graduate application for admission to both the M.S.W program and M.P.A program
- \$30 nonrefundable application fee
- Official copies of transcripts from all institutions of higher education attended, other than Grand Valley
- Three recommendation forms from individuals able to attest to the candidate's qualifications for graduate work and professional practice
- Current resume detailing work and volunteer experience
- Graduate admissions statement responding to the five questions detailed in the M.S.W. admissions packet
- Coursework Requirement Form

No further action on candidacy will be taken until all requested materials have been received by the Admissions Office. Applications may be obtained through the university or either school. Completed application files will be reviewed by members of the M.S.W program and the M.P.A program. Students must meet the basic requirements for graduate study as defined by each school. Either program may also request additional information from an applicant before granting full admissions status and a personal interview may be required.

### **M.S.W. and M.P.A. Requirements**

For students who are not seeking or do not qualify for Advanced Standing, 78 credit hours of study are required. For Advanced Standing students, 59 credits are required. Students must be willing to take a minimum of two courses per semester, including spring/summer, and are expected to complete coursework within four calendar years. A three-semester field education practice is required (two semesters for advanced standing); students will spend a major portion of the time applying the knowledge learned in the classroom regarding macro practice. Students

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

must complete a minimum of 21 credits of public administration courses along with the courses necessary to earn the M.S.W. degree.

#### **Foundation Core**

- SW 600 - Cultural Competency for Social Work (3 credits)
- \*SW 601 - Foundations of Social Work Practice (3 credits)

\*See your advisor: Not required for students with CSWE accredited B.S.W. undergraduate degrees or child welfare grantees. If waived, students take a SW elective in place of SW 601.

- SW 603 - Integrated Methods (3 credits)
- SW 610 - Social Welfare Policy and Services I (3 credits)
- SW 620 - Human Behavior and the Social Environment (3 credits)
- \*\* SW 690 - Social Research I (3 credits)

\*\* Test-out exam available.

(SW 600, SW 601, SW 603, SW 610, and SW 620 are waived for students with Advanced Standing status.)

#### **Advanced Generalist Concentration**

All required with two noted PA/SW options.

- SW 622 - Clinical Diagnosis and Treatment Planning (3 credits)
- SW 640 - Seminar in Advanced Generalist Practice (Capstone) (3 credits) **OR** PNH 619 - Public Management Seminar (3 credits)
- SW 662 - Substance Abuse and Social Work Practice (3 credits)
- SW 670 - Social Work Practice with Individuals (3 credits)
- SW 691 - Social Research II (3 credits) **OR** PNH 611 - Research Methods (3 credits)

#### **Public Administration Core**

All required:

- PNH 520 - Foundations of Public Service (3 credits)
- PNH 612 - Human Resources in Organizations (3 credits)
- PNH 614 - Organization Theory (3 credits)
- PNH 660 - Philanthropy and the Nonprofit Sector: History and Ethics (3 credits)
- PNH 662 - Nonprofit Financial Management (3 credits)
- PNH 663 - Nonprofit Organizations, Advocacy and Public Policy (3 credits)

#### **Field Education Practice**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

All required:

- \*SW 650 - Field Education I (3 credits)
- \*SW 651 - Field Education Seminar I (1 credit)
- SW 652 - Field Education II (3 credits)
- SW 653 - Field Education Seminar II (1 credit)
- SW 654 - Field Education III (3 credits)
- SW 655 - Field Education Seminar III (1 credit)

\*SW 650 and SW 651 are waived for students with Advanced standing status.

#### **Advanced Macro**

All required with two noted PA/SW options.

- SW 660 - Grant Writing and Resource Development (3 credits) **OR** PNH 535 - Grant Writing (3 credits)
- SW 678 - Human Services Administration (3 credits) **OR** PNH 661 - Nonprofit Management: Practices (3 credits)
- SW 679 - Program Monitoring and Evaluation (3 credits)

#### **Social Work Electives**

Choose One:

- SW 630 - Social Work: Global Service-Learning (3 credits)
- SW 631 - Social Work: U.S. Community-Based Service Learning (3 credits)
- SW 672 - Social Work Practice with Groups (3 credits)
- SW 674 - Social Work Practice: Families and Children (3 credits)

#### **Public Administration Electives**

Choose One:

- PNH 642 - Conflict Management (3 credits)
- PNH 643 - Strategic Management and Planning (3 credits)
- PNH 644 - GIS in the Public Service (3 credits)
- PNH 665 - Nonprofit and Foundation Boards, Trustees and Governance (3 credits)

## **School Social Work Certification**

The School of Social Work at Grand Valley is authorized by the State Board of Education in Michigan to provide training and make recommendations concerning practitioner certification

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

for school social work as provided in the Administrative Rules for School Social Work (Rule 340.1013) of the Michigan Department of Education.

## Requirements for the Certification

Students must consult with the school social work advisor. In addition to taking required foundation courses, the student seeking certification must complete the following courses with a grade of B or better in each course:

- SW 661 - Social Work in the School/ Educational Setting (3 credits)
- SW 663 - Child and Adolescent Development/Practice (3 credits)
- SW 664 - Social Work Practice in Schools (3 credits)

SW 661 qualifies as one of the two advanced macro-core courses and SW 663 satisfies the elective requirement for the M.S.W. program. These courses fulfill two of the three required courses for the school certification curriculum. The final course for school certification, SW 664, is required **in addition** to the 60 credit hours required for the M.S.W. degree (38 credits for advanced standing students).

## Sociology

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

**Website:** [gvsu.edu/soc-dept](http://gvsu.edu/soc-dept)

The Sociology Department is a community of critical scholars who analyze the intersection of race, class, gender, and sexuality as the context of social interaction and the construction of difference in society. Faculty utilize qualitative and quantitative methods to develop insight into a wide range of substantive areas and to understand vital issues of the day.

The department seeks to engage students in critical examination of their own social world and those beyond their personal experience, and examine how society reproduces itself in the individual and how individuals think and behave within institutional contexts.

Departmental teaching and scholarship strive toward three main outcomes:

- Affirmation of pluralistic and democratic visions of society.
- Development of critical thinking and analytical skills in students, which are essential in governmental, corporate, and academic settings.
- Empowerment of community development and participation in civic society.

## Minor in Aging and Adult Life

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

The sociology department participates in a multidisciplinary minor in aging and adult life. See section on Aging and Adult Life for further information.

### **Honors Organization**

The Grand Valley State University Theta chapter of Alpha Kappa Delta, the International Sociology Honor Society, promotes excellence in scholarship in the study of sociology, research of social problems, and such other social and intellectual activities as will lead to an improvement in the human condition.

Membership in Alpha Kappa Delta is awarded each year to sociology majors who are juniors or seniors, have an overall GPA of 3.0 or above, and have maintained a 3.0 GPA in a minimum of 12 hours of sociology coursework at Grand Valley.

## **Bachelor of Arts or Bachelor of Science in Sociology**

### **Requirements for a Major in Sociology**

Students majoring in sociology are required to complete at least 45 credit hours for either a Bachelor of Science (B.S.) or Bachelor of Arts (B.A.) degree.

- For the B.S. degree, the 45 credit hours will include 33 hours of core credit and 12 credit hours of electives chosen from courses in the sociology department.
- The B.A. degree requires 27 hours in the core, and six hours of electives chosen from courses in the sociology department and third-semester proficiency in a language (12 hours).

### **Requirements for B.S. Degree**

#### **Core Courses**

Requires 33 core credits, including:

- SOC 101 - Introduction to Sociology (3 credits) **OR** SOC 105 - Social Problems (3 credits)
- SOC 204 - Introduction to Social Theory (3 credits)
- SOC 304 - Quantitative Methods in Sociology (3 credits)
- SOC 305 - Qualitative Methods in Sociology (3 credits)
- SOC 313 - Race and Ethnicity (3 credits)
- SOC 315 - Social Class Inequality (3 credits)
- SOC 317 - Sociology of Gender (3 credits)
- SOC 319 - Classic Social Theory (3 credits) **OR** SOC 321 - Contemporary Sociological Theory (3 credits)
- SOC 495 - Senior Seminar in Sociology (Capstone) (3 credits)
- STA 215 - Introductory Applied Statistics (3 credits)
- STA 216 - Intermediate Applied Statistics (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Elective Courses**

Requires 12 credits; any four additional courses in sociology.

Whichever of the following that was not taken for the core can also count as electives:

- SOC 101 **OR** SOC 105
- SOC 319 **OR** SOC 321

## **Requirements for B.A. Degree**

### **Core Courses**

Requires 39 credits, including:

- SOC 101 - Introduction to Sociology (3 credits) **OR** SOC 105 - Social Problems (3 credits)
- SOC 204 - Introduction to Social Theory (3 credits)
- SOC 305 - Qualitative Methods in Sociology (3 credits)
- SOC 313 - Race and Ethnicity (3 credits)
- SOC 315 - Social Class Inequality (3 credits)
- SOC 317 - Sociology of Gender (3 credits)
- SOC 319 - Classic Social Theory (3 credits) **OR** SOC 321 - Contemporary Sociological Theory (3 credits)
- SOC 495 - Senior Seminar in Sociology (Capstone) (3 credits)
- STA 215 - Introductory Applied Statistics (3 credits)
- Third-semester proficiency foreign language

### **Elective Courses**

Requires six credits: any two additional courses in sociology.

Whichever of the following that was not taken for the core can also count as electives:

- SOC 101 **OR** SOC 105
- SOC 319 **OR** SOC 321

## **Suggested Order of Coursework for a Major in Sociology**

### **B.S. Degree**

#### **Year One**

- MTH 110 - Algebra (4 credits)
- SOC 101 - Introduction to Sociology (3 credits) **OR** SOC 105 - Social Problems (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

- WRT 150 - Strategies in Writing (4 credits)

### **Year Two**

- SOC 304 - Quantitative Methods in Sociology (3 credits)
- SOC 305 - Qualitative Methods in Sociology (3 credits)
- STA 215 - Introductory Applied Statistics (3 credits)
- STA 216 - Intermediate Applied Statistics (3 credits)

### **Year Three**

- SOC 313 - Race and Ethnicity (3 credits)
- SOC 315 - Social Class Inequality (3 credits)
- SOC 317 - Sociology of Gender (3 credits)
- SOC 319 - Classic Social Theory (3 credits) **OR** SOC 321 - Contemporary Sociological Theory (3 credits)

### **Year Four**

- Sociology elective
- Sociology elective
- Sociology elective
- Sociology elective
- SOC 495 - Senior Seminar in Sociology (Capstone) (3 credits)

## **B.A. Degree**

### **Year One**

- MTH 110 - Algebra (4 credits)
- SOC 101 - Introduction to Sociology (3 credits) **OR** SOC 105 - Social Problems (3 credits)
- SOC 204 - Introduction to Social Theory (3 credits)
- WRT 150 - Strategies in Writing (4 credits)
- Language 101
- Language 102

### **Year Two**

- SOC 304 - Quantitative Methods in Sociology (3 credits)
- STA 215 - Introductory Applied Statistics (3 credits)
- Language 201

### **Year Three**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- SOC 313 - Race and Ethnicity (3 credits)
- SOC 315 - Social Class Inequality (3 credits)
- SOC 317 - Sociology of Gender (3 credits)
- SOC 319 - Classic Social Theory (3 credits) **OR** SOC 321 - Contemporary Sociological Theory (3 credits)

### **Year Four**

- Sociology elective
- Sociology elective
- Sociology elective
- SOC 495 - Senior Seminar in Sociology (Capstone) (3 credits)

## **Sociology Minor**

Students minoring in sociology are required to complete 21 credit hours in the department.

### **Requirements for the Minor**

The 21 credit hours required for a minor in sociology are composed of the following courses:

- SOC 101 - Introduction to Sociology (3 credits)
- SOC 204 - Introduction to Social Theory (3 credits)
- 15 elective credits (five courses) in sociology

## **Speech-Language Pathology**

**Website:** [gvsu.edu/csd](http://gvsu.edu/csd)

Speech-language pathologists (also referred to as speech therapists) are educated to assess speech and language development and to treat speech, language, and swallowing disorders. Speech-language pathologists often work as part of an interprofessional team, which may include teachers, physicians, audiologists, psychologists, social workers, rehabilitation counselors, and others.

### **Speech-Language Pathology at Grand Valley**

Speech-language pathology is an intensive program leading to a Master of Science degree. Students interested in studying speech-language pathology at the graduate level must complete a series of prerequisite courses at the undergraduate level. The profession of speech-language pathology is a licensed field of practice that typically requires completion of a graduate degree from an accredited institution. It is not possible to become licensed as a speech-language pathologist without the graduate degree. Professional certification is also available to

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

practitioners that demonstrate to the public that the speech-language pathologist has completed rigorous academic and clinical preparation and is considered competent to practice the profession. The master degree program at GVSU prepares students to qualify for licensure and validates that students have completed all academic preparation to qualify for national certification.

## **Admission**

All admissions materials, with the exception of the personal interview, must be received prior to the **application deadline of January 15**. Applications will be reviewed in accordance with slots that may be available. Using the submitted material, the program's admissions committee will rank eligible candidates for a limited number of admissions. To be eligible for consideration, applicants must have:

- Completion of a bachelor's degree with a minimum 3.0 cumulative undergraduate GPA.
- Successful completion of all undergraduate prerequisite coursework with a 3.2 GPA.
- General GRE scores (verbal, quantitative, and writing).
- Personal written statement.
- Professional vita or resume.
- Personal interview, if invited.
- Applicants must meet the eligibility requirements and be able to perform all essential functions specified by the program. A copy of the eligibility requirements and essential functions document will be provided to all prospective applicants.
- All non-native English speakers must demonstrate sufficient mastery of English proficiency to be able to succeed as a graduate student and to practice the profession of speech-language pathology. Minimum score on the TOEFL of 610 (253 on computer-based). Scores must be received by the institution prior to the admission deadline.

Students applying for admission to the M.S. program in speech-language pathology should be aware that some clinical placement sites in which students are required to complete clinical practica in order to graduate will require the student to produce a current criminal records check. It is the student's responsibility to arrange for the check, to keep it current in order to comply with the requirements of the various clinical sites, and to advise the university and program if the status of the student's criminal record changes at any time during the student's program of study.

## **Master of Science in Speech-Language Pathology**

### **Requirements**

Students admitted into the M.S. in speech-language pathology degree program must complete 60 semester credit hours of didactic and practical coursework.

### **Suggested Order of Coursework**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

The suggested order of coursework for an M.S. in Speech-Language Pathology includes two options: track one and track two, detailed as follows.

### **Track One**

Track one is designed to serve students who have completed a bachelor's degree in speech-language pathology, or who have completed all prerequisite coursework for the master's degree. Prerequisite coursework includes anatomy and physiology of the speech and mechanism, language development, phonetics, hearing science, speech science, basic audiology, neurological foundations of communication, two courses in communication disorders areas, statistics, biological science, physical science, and social science. Students will earn clinical hours required for certification by the American Speech-Language-Hearing Association (ASHA) each semester. Students typically earn 15 to 30 hours during semester one, 60 to 90 hours in each of semesters two and three, and 200 to 220 hours in semester four.

### **Semester One**

- SLP 560 - School Age and Adolescent Language Disorders (3 credits)
- SLP 561 - Advanced Study of Phonological Disorders (3 credits)
- SLP 572 - Dysphagia (3 credits)
- SLP 581 - Cognitive Communication Disorders (3 credits)
- SLP 670 - Professional Seminar in Speech-Language Pathology (1 credit)
- SLP 681 - Clinical Practicum in Speech-Language Pathology I (3 credits)

### **Semester Two**

- SLP 562 - Aphasia and Related Disorders (3 credits)
- SLP 570 - Infant, Toddler, Preschool Language Disorders (3 credits)
- SLP 571 - Voice Disorders and Laryngectomy (3 credits)
- SLP 583 - Autism Spectrum Disorder in Speech-Language Pathology (2 credits)
- SLP 670 - Professional Seminar in Speech-Language Pathology (1 credit)
- SLP 682 - Clinical Practicum in Speech-Language Pathology II (4 credits)

### **Semester Three**

- SLP 510 - Applied Research in Speech-Language Pathology (1 credit)
- SLP 573 - Fluency Disorders (2 credits)
- SLP 582 - Motor Speech and Craniofacial Disorders (3 credits)
- SLP 584 - Augmentative and Alternative Communication (2 credits)
- SLP 670 - Professional Seminar in Speech-Language Pathology (1 credit)
- SLP 683 - Clinical Practicum in Speech-Language Pathology III (4 credits)
- STA 610 - Applied Statistics for Health Professions (3 credits)

### **Semester Four**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- SLP 684 - Clinical Internship in Speech-Language Pathology (12 credits)

## **Track Two**

Track two is designed to serve students who have earned a bachelor's degree, but have not taken the required prerequisite coursework for application for admission into the master's degree program in speech-language pathology. Prerequisite coursework includes anatomy and physiology of the speech and hearing mechanism, language development, phonetics, hearing science, speech science, basic audiology, neurological foundations of communication, two courses in communication disorders areas, statistics, biological science, physical science, and social science. Students will earn clinical hours required for certification by the American Speech-Language-Hearing Association (ASHA) each semester. Students typically earn 15 to 30 hours during semester three, 60 to 90 hours in each of semesters four and five, and 200 to 220 hours in semester six.

## **Semester One**

- CSD 200 - Introduction to Hearing Science (3 credits)
- CSD 220 - Communication Development (3 credits)
- CSD 302 - Anatomy and Physiology of the Speech and Hearing Mechanism (3 credits)
- CSD 304 - Phonetics (3 credits)
- CSD 306 - Speech Science (3 credits)

## **Semester Two**

- CSD 401 - Neurological Foundations of Communication Disorders (3 credits)
- CSD 404 - Audiologic Rehabilitation (3 credits)
- SLP 405 - Clinical Methods (3 credits)

**AND** one of the following:

- SLP 407 - Pediatric Language and Articulation Disorders (2 credits)
- SLP 420 - Adult Language and Cognitive Communication Disorders (2 credits)
- SLP 421 - Motor Speech and Fluency Disorders (2 credits)
- SLP 422 - Dysphagia and Voice Disorders (2 credits)

## **Semester Three**

- SLP 560 - School Age and Adolescent Language Disorders (3 credits)
- SLP 561 - Advanced Study of Phonological Disorders (3 credits)
- SLP 572 - Dysphagia (3 credits)
- SLP 581 - Cognitive Communication Disorders (3 credits)
- SLP 670 - Professional Seminar in Speech-Language Pathology (1 credit)
- SLP 681 - Clinical Practicum in Speech-Language Pathology I (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## Semester Four

- SLP 562 - Aphasia and Related Disorders (3 credits)
- SLP 570 - Infant, Toddler, Preschool Language Disorders (3 credits)
- SLP 571 - Voice Disorders and Laryngectomy (3 credits)
- SLP 583 - Autism Spectrum Disorder in Speech-Language Pathology (2 credits)
- SLP 670 - Professional Seminar in Speech-Language Pathology (1 credit)
- SLP 682 - Clinical Practicum in Speech-Language Pathology II (4 credits)

## Semester Five

- SLP 510 - Applied Research in Speech-Language Pathology (1 credit)
- SLP 573 - Fluency Disorders (2 credits)
- SLP 582 - Motor Speech and Craniofacial Disorders (3 credits)
- SLP 584 - Augmentative and Alternative Communication (2 credits)
- SLP 670 - Professional Seminar in Speech-Language Pathology (1 credit)
- SLP 683 - Clinical Practicum in Speech-Language Pathology III (4 credits)
- STA 610 - Applied Statistics for Health Professions (3 credits)

## Semester Six

- SLP 684 - Clinical Internship in Speech-Language Pathology (12 credits)

# Sport Management

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

**Website:** [gvsu.edu/sportmanagement](http://gvsu.edu/sportmanagement)

The Department of Movement Science offers students the opportunity to obtain a B.S. in sport management. The sport management major offers students a unique program that will enable them to study managerial concepts while learning how to become transformational leaders. Students will learn to critically analyze the business and culture of sport to engage in innovative and socially responsible decision-making. The sport management major incorporates coursework that provides knowledge to carry out the necessary behind-the-scenes functions within a sport department or organization. Students gaining a B.S. in sport management are prepared to perform various management functions in many types and levels of sports, including: amateur sport, college-level athletics, professional sports, municipal recreation, private organizations, and social organizations.

In addition to the general university degree requirements as identified in the general academic policies section of the Grand Valley State University Undergraduate and Graduate Catalog, students will complete 60 to 66 credits of major requirements, including 18 credits of

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

coursework in Seidman College of Business. Students are also required to complete three 300- to 400-level electives in an area of academic and career interest. Students may also apply credits toward a declared minor to meet the elective requirement.

## **Bachelor of Science in Sport Management**

### **Requirements**

Students in the sport management program at Grand Valley must follow all general education requirements as defined in the Grand Valley State University Undergraduate and Graduate Catalog.

Note: ECO 211 - Introductory Microeconomics (3 credits) and PSY 101 - Introductory Psychology (3 credits) are suggested to fulfill Social and Behavioral Sciences Foundations requirements; BMS 202 - Anatomy and Physiology (4 credits) is required in the major and fulfills a Life Sciences with lab requirement; ECO 330 - Sports Economics (3 credits) fulfills an Issues requirement.

### **B.S. Major Requirements**

Requires 60 to 66 credits, including:

- ACC 212 - Principles of Financial Accounting (3 credits)
- BMS 202 - Anatomy and Physiology (4 credits)
- BUS 201 - Legal Environment for Business (3 credits)
- COM 201 - Speech (3 credits)
- ECO 330 - Sports Economics (3 credits)
- MGT 331 - Managing People and Organizations (3 credits)
- MKT 350 - Marketing Management (3 credits)
- MKT 352 - Marketing Research (3 credits)
- MOV 101 - Foundations of Human Movement Science (3 credits)
- MOV 102 - First Aid, CPR and AED (2 credits)
- MOV 201 - Psychosocial Aspects of Physical Education and Sport (3 credits)
- SPM 202 - Social Cultural Dimensions of Sport (3 credits)
- SPM 225 - Introduction to Sport Management (3 credits)
- SPM 356 - Current Topics in Sport Management (3 credits)
- SPM 376 - Sport Facility and Event Management (3 credits)
- SPM 390 - Practicum in Sport Management (3 credits)
- SPM 490 - Internship in Sport Management (6 to 12 credits)
- SPM 495 - Administration in Sport Management (3 credits)
- STA 215 - Introductory Applied Statistics (3 credits)

### **Program Elective Courses**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Requires nine credits. Choose three of the following sport management program elective courses:

- CAP 305 - Sports Promotion (3 credits)
- HST 322 - American Identity and Sports (3 credits)
- HTM 343 - Human Resource Management (4 credits)
- PNH 335 - Grant Writing (3 credits)
- PNH 360 - Voluntarism and the Nonprofit Sector (3 credits)
- PNH 375 - Public Budgeting and Finance Administration (3 credits)
- PNH 376 - Public Personnel Policy and Administration (3 credits)
- PED 345 - Disability, Sport and Physical Activity (3 credits)
- SPM 355 - Contemporary Concepts of Coaching (3 credits)
- STA 345 - Statistics in Sports (3 credits)
- WRT 381 - Writing and Sports (3 credits)

Note: Additional courses may be substituted to satisfy program electives with faculty advisor approval, including 300- or 400-level courses taken towards completion of an approved minor. Program elective credit is not also granted for any class used to satisfy a sport management major requirement.

## **Suggested Order of Coursework**

### **Prerequisite Notes**

- WRT 150 or both WRT 120 and WRT 130 must be completed before SPM 225 and any SWS course
- MTH 110 must be completed before STA 215
- MKT 350 and STA 215 must be completed before MKT 352
- SPM 202 and SPM 225 must be completed before SPM 356
- MOV 102 and SPM 356 must be completed before SPM 390
- SPM 390 must be completed before SPM 490
- SPM 490 and SPM 495 are to be taken concurrently during the final semester

### **Year One**

- MOV 101 - Foundations of Human Movement Science (3 credits)
- MOV 201 - Psychosocial Aspects of Physical Education and Sport (3 credits)
- MTH 110 - Algebra (4 credits)
- PSY 101 - Introductory Psychology (3 credits) Suggested to fulfill Social and Behavioral Sciences Foundations course.
- SPM 225 - Introduction to Sport Management (3 credits)
- WRT 150 - Strategies in Writing (4 credits)
- General education Historical Perspectives

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- General education Philosophy and Literature
- General education Arts
- Elective

### **Year Two**

- ACC 202 - Accounting for Non-Business Majors 2 (1.5 credits) or ACC 212 - Principles of Financial Accounting (3 credits)
- BUS 201 - Legal Environment for Business (3 credits)
- COM 201 - Speech (3 credits)
- ECO 211 - Introductory Microeconomics (3 credits) Suggested to fulfill Social and Behavioral Sciences Foundations course.
- SPM 202 - Social Cultural Dimensions of Sport (3 credits)
- STA 215 - Introductory Applied Statistics (3 credits)
- SPM 356 - Current Topics in Sport Management (3 credits)
- General education Physical Sciences
- Elective

### **Year Three**

- BMS 202 - Anatomy and Physiology (4 credits) Fulfills Foundations Life Sciences with lab.
- ECO 330 - Sports Economics (3 credits)
- MGT 300 - Fundamentals of Management for Non-Business Majors (3 credits) **OR** MGT 331 - Managing People and Organizations (3 credits)
- MKT 350 - Marketing Management (3 credits)
- MKT 352 - Marketing Research (3 credits)
- MOV 102 - First Aid, CPR and AED (2 credits)
- SPM 376 - Sport Facility and Event Management (3 credits)
- SPM 390 - Practicum in Sport Management (3 credits)
- General education U.S. Diversity
- Program elective
- Program elective

### **Year Four**

Fall Semester:

- General education Global Perspectives
- General education Issues
- Supplemental Writing Skills (SWS)
- Program elective
- Elective

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Winter Semester:

- SPM 490 - Internship in Sport Management (6 to 12 credits)
- SPM 495 - Administration in Sport Management (3 credits)

## Statistics

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

**Website:** [gvsu.edu/stat](http://gvsu.edu/stat)

### Degrees Offered

Master of Science in biostatistics; Bachelor of Science or Bachelor of Arts in statistics; minors in applied statistics, mathematical statistics, and data science. The programs in statistics are offered by the Department of Statistics within the College of Liberal Arts and Sciences. All interested students are strongly encouraged to contact the Department of Statistics.

Statistics is the science of collecting, organizing, and interpreting data. Statistics is a scientific discipline through which researchers learn to make informed decisions in the face of uncertainty. Students learn to define problems, to think critically, to analyze, and to synthesize. Statistics students gain an appreciation for the integrity of data, the uncertainty of measurements, and the strengths and limitations of science. This background prepares them to explore widely throughout their professional lives, and to be creative and productive citizens regardless of the nature of their careers.

### Mission

The Department of Statistics informs and actively engages students and colleagues in the ethical practice of modern statistical science and further contributes to our society through active scholarship and effective service.

### Vision

The Department of Statistics is committed to advancing the science of statistics by maintaining an inclusive learning community that is characterized by:

- Faculty members who are dedicated to expanding the discipline of statistics, improving the pedagogy of statistics, and broadening the application of statistics.
- Students who are actively engaged in enhancing their understanding of statistics and its application.

All members of our community are encouraged to utilize their statistical skills to be ethical and productive professionals, lifelong learners, and responsible citizens.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## Honors Organization

Mu Sigma Rho

# Applied Statistics Minor

## Requirements for a Minor in Applied Statistics

The applied statistics minor is offered within the Department of Statistics and consists of seven courses (at least 21 credits).

One or two of the seven courses may be from a list of GVSU courses (called Application Cognate courses) that are accepted by the statistics department as applying statistical methodology.

### Core Courses

Requires six credits, including:

- STA 215 - Introductory Applied Statistics (3 credits) **OR** STA 312 - Probability and Statistics (3 credits)
- STA 216 - Intermediate Applied Statistics (3 credits)

### Elective Courses

At least three courses (15 credits) must be completed from the following:

- STA 301 - Questionnaire Design and Execution (3 credits)
- STA 310 - Introduction to Biostatistics (3 credits)
- STA 311 - Introduction to Survey Sampling (3 credits)
- STA 314 - Statistical Quality Methods (3 credits)
- STA 315 - Design of Experiments (3 credits)
- STA 317 - Nonparametric Statistical Analysis (3 credits)
- STA 318 - Statistical Computing (3 credits)
- STA 321 - Applied Regression Analysis (3 credits)
- STA 418 - Statistical Computing and Graphics with R (3 credits)
- STA 419 - Statistics Project (3 credits)
- STA 426 - Multivariate Data Analysis (3 credits)

The remaining two courses may be from the previous list or may be from the applications cognates course list, available from the statistics department.

Students are strongly advised to meet with a member of the statistics faculty as soon as they decide to minor in applied statistics to develop specific plans for the courses outside of statistics.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

# Bachelor of Arts or Bachelor of Science in Statistics

## Requirements for a Major in Statistics

### Without Actuarial Sciences Emphasis

Students must complete the following requirements as outlined.

### Degree Requirements

Students must complete the general university degree requirements as identified in the General Academic Regulations section of the Grand Valley State University Undergraduate and Graduate Catalog.

### Statistics Requirements

Requires 29 credits as outlined.

### Core Courses

Requires 23 credits, including the following:

- STA 215 - Introductory Applied Statistics (3 credits) **OR** STA 312 - Probability and Statistics (3 credits)
  - STA 216 - Intermediate Applied Statistics (3 credits)
  - STA 412 - Mathematical Statistics I (4 credits)
  - STA 415 - Mathematical Statistics II (Capstone) (4 credits)
  - STA 419 - Statistics Project (3 credits)
- AND** two of the following courses:
- STA 311 - Introduction to Survey Sampling (3 credits)
  - STA 315 - Design of Experiments (3 credits)
  - STA 321 - Applied Regression Analysis (3 credits)

### Elective Courses

Requires six credits, including any two courses from the following:

- STA 301 - Questionnaire Design and Execution (3 credits)
- STA 310 - Introduction to Biostatistics (3 credits)
- STA 314 - Statistical Quality Methods (3 credits)
- STA 317 - Nonparametric Statistical Analysis (3 credits)
- STA 318 - Statistical Computing (3 credits)
- STA 418 - Statistical Computing and Graphics with R (3 credits)
- STA 421 - Bayesian Data Analysis (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- STA 426 - Multivariate Data Analysis (3 credits)
- The third course of STA 311, STA 315, and STA 321 that was not used to fulfill the core as listed previously.

### **B.S. and B.A. Degree Requirements**

Requires 14 credits as outlined.

### **B.S. Degree Requirements**

Completion of MTH 201, MTH 202, **AND** MTH 204, and one of CIS 160, CIS 161, CIS 162 satisfies the B.S. degree requirements for statistics majors.

### **B.A. Degree Requirements**

Completion of these courses, plus the foreign language requirement for a B.A., satisfies the B.A. degree requirements for statistics majors.

The following courses are required of all students majoring in statistics:

- MTH 201 - Calculus I (4 credits)
- MTH 202 - Calculus II (4 credits)
- MTH 204 - Linear Algebra I (3 credits)

**AND** one of the following:

- CIS 160 - Learn to Code in Python (3 credits)
- CIS 161 - Computational Science (3 credits)
- CIS 162 - Computer Science I (4 credits)

### **Application Cognate Courses**

Requires a minimum of six credits.

Each major in statistics must select an area of application consisting of at least six credits from a list of GVSU courses (called Application Cognate courses) that are accepted by the statistics department as applying statistical methodology. Statistics courses on this list will not be one of the required or elective statistics courses listed previously.

Students are strongly encouraged to meet with their advisor as soon as their major in statistics is declared, both to plan their course schedule over the rest of their time at GVSU and to develop specific plans for their application cognate courses.

### **Suggested Order of Coursework for a Major in Statistics**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Without Actuarial Sciences Emphasis**

The following two sample statistics schedules assume the student is in contact with an advisor for the appropriate general education requirements and has a strong mathematical background. Students who do not begin their mathematical sequence with MTH 201 will need to make appropriate changes. Suggested order of coursework one assumes students take MTH 201 in the fall of their first year; suggested order of coursework two assumes students take MTH 201 in the fall of their second year.

Students majoring in statistics who plan to do graduate work are strongly encouraged to take MTH 203 - Calculus III in the fall of their second year, and MTH 204 - Linear Algebra I in the winter of their second year.

### **Schedule Option One**

#### **Year One**

- MTH 201 - Calculus I (4 credits)
- CIS 162 - Computer Science I (4 credits)
- MTH 202 - Calculus II (4 credits)

#### **Year Two**

- MTH 204 - Linear Algebra I (3 credits)
- STA 312 - Probability and Statistics (3 credits)
- STA 216 - Intermediate Applied Statistics (3 credits)

#### **Year Three**

Choose two of the following:

- STA 311 - Introduction to Survey Sampling (3 credits)
- STA 315 - Design of Experiments (3 credits)
- STA 321 - Applied Regression Analysis (3 credits)
- Two courses: either STA electives or application cognates

#### **Year Four**

- STA 412 - Mathematical Statistics I (4 credits)
- STA 415 - Mathematical Statistics II (Capstone) (4 credits)
- STA 419 - Statistics Project (3 credits)
- Two courses: either STA electives or application cognates

### **Schedule Option Two**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Year One**

- STA 215 - Introductory Applied Statistics (3 credits)

## **Year Two**

- CIS 161 - Computational Science (3 credits)
- MTH 201 - Calculus I (4 credits)
- STA 216 - Intermediate Applied Statistics (3 credits)
- MTH 202 - Calculus II (4 credits)

## **Year Three**

- MTH 204 - Linear Algebra I (3 credits)

**AND** two of the following:

- STA 311 - Introduction to Survey Sampling (3 credits)
- STA 315 - Design of Experiments (3 credits)
- STA 321 - Applied Regression Analysis (3 credits)
- Two courses: either STA electives or application cognates

## **Year Four**

- STA 412 - Mathematical Statistics I (4 credits)
- STA 415 - Mathematical Statistics II (Capstone) (4 credits)
- STA 419 - Statistics Project (3 credits)
- Two courses: either STA electives or application cognates

## **Requirements for a Major in Statistics**

### **With Actuarial Sciences Emphasis**

Requirements for the major with the actuarial sciences emphasis are more specific than the major without the emphasis. Students must complete the following:

### **Degree Requirements**

Students must meet the general university degree requirements as identified in the General Academic Regulations section of the Grand Valley State University Undergraduate and Graduate Catalog.

### **Statistics Requirements**

Requires 29 credits as outlined.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## Core Courses

Requires 23 credits, including:

- STA 215 - Introductory Applied Statistics (3 credits) **OR** STA 312 - Probability and Statistics (3 credits)
- STA 216 - Intermediate Applied Statistics (3 credits)
- STA 412 - Mathematical Statistics I (4 credits)
- STA 415 - Mathematical Statistics II (Capstone) (4 credits)
- STA 419 - Statistics Project (3 credits)
- STA 311 - Introduction to Survey Sampling (3 credits)
- STA 321 - Applied Regression Analysis (3 credits)

## Elective Courses

Requires six credits, including:

- STA 318 - Statistical Computing (3 credits) **OR** STA 418 - Statistical Computing and Graphics with R (3 credits)
- STA 425 - Actuarial Probability and Statistics (3 credits)

## B.S. and B.A. Degree Requirements

Requires 14 credits as outlined.

### B.S. Degree Requirements

Completion of MTH 201, MTH 202, MTH 204, and one of CIS 160, CIS 162 or satisfies the B.S. degree requirements for statistics majors.

### B.A. Degree Requirements

Completion of these courses plus the foreign language requirement for a B.A. satisfies the B.A. degree requirements for statistics majors.

The following courses are required of all students majoring in statistics:

- MTH 201 - Calculus I (4 credits)
  - MTH 202 - Calculus II (4 credits)
  - MTH 204 - Linear Algebra I (3 credits)
- AND** one of the following:
- CIS 160 - Learn to Code in Python (3 credits)
  - CIS 161 - Computational Science (3 credits)
  - CIS 162 - Computer Science I (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Application Cognates Courses**

Depending on whether a student takes the ECO 210 and ECO 211 sequence or ECO 200, 15 to 18 hours of cognate credits are required, including:

- ACC 212 - Principles of Financial Accounting (3 credits)
- FIN 320 - Managerial Finance (3 credits)
- FIN 321 - Investments (3 credits)
- FIN 331 - Risk and Insurance (3 credits)
- **BOTH** ECO 210 - Introductory Macroeconomics (3 credits) **AND** ECO 211 - Introductory Microeconomics (3 credits)  
**OR ONLY** ECO 200 - Business Economics (3 credits)

## **Suggested Order of Coursework for a Major in Statistics**

### **With Actuarial Sciences Emphasis**

The following two sample statistics schedules assume the student is in contact with an advisor for the appropriate general education requirements and has a strong mathematical background. Students who do not begin their mathematical sequence with MTH 201 will need to make appropriate changes. Suggested order of coursework one assumes students take MTH 201 in the fall of their first year; suggested order of coursework two assumes students take MTH 201 in the fall of their second year.

Students majoring in statistics who plan to do graduate work are strongly encouraged to complete the three-semester calculus sequence by taking MTH 203 - Calculus and Analytic Geometry III in the fall of their second year before taking MTH 204 - Linear Algebra I in the winter of their second year.

Business courses in the application cognates have prerequisites that mandate some sequence in completing the courses. ACC 212 is required for FIN 320 and FIN 320 is required for FIN 321. The ECO courses require MTH 110, MTH 122, or MTH 201.

### **Schedule Option One**

#### **Year One**

- MTH 201 - Calculus I (4 credits)
- CIS 161 - Computational Science (3 credits)
- MTH 202 - Calculus II (4 credits)
- ACC 212 - Principles of Financial Accounting (3 credits)

#### **Year Two**

- MTH 204 - Linear Algebra I (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- STA 216 - Intermediate Applied Statistics (3 credits)
- **BOTH** ECO 210 - Introductory Macroeconomics (3 credits) **AND** ECO 211 - Introductory Microeconomics (3 credits) **OR ONLY** ECO 200 - Business Economics (3 credits)

### **Year Three**

- STA 311 - Introduction to Survey Sampling (3 credits)
- STA 318 - Statistical Computing (3 credits) **OR** STA 418 - Statistical Computing and Graphics with R (3 credits)
- STA 321 - Applied Regression Analysis (3 credits)
- FIN 320 - Managerial Finance (3 credits)
- FIN 321 - Investments (3 credits)

### **Year Four**

- STA 412 - Mathematical Statistics I (4 credits)
- STA 415 - Mathematical Statistics II (Capstone) (4 credits)
- STA 419 - Statistics Project (3 credits)
- STA 425 - Actuarial Probability and Statistics (3 credits)
- FIN 331 - Risk and Insurance (3 credits)

### **Schedule Option Two**

#### **Year One**

- STA 215 - Introductory Applied Statistics (3 credits)
- ACC 212 - Principles of Financial Accounting (3 credits)
- **BOTH** ECO 210 - Introductory Macroeconomics (3 credits) **AND** ECO 211 - Introductory Microeconomics (3 credits) **OR ONLY** ECO 200 - Business Economics (3 credits)

#### **Year Two**

- CIS 161 - Computational Science (3 credits)
- MTH 201 - Calculus I (4 credits)
- MTH 202 - Calculus II (4 credits)
- STA 216 - Intermediate Applied Statistics (3 credits)

#### **Year Three**

- MTH 204 - Linear Algebra I (3 credits)
- STA 311 - Introduction to Survey Sampling (3 credits)
- STA 318 - Statistical Computing (3 credits) **OR** STA 418 - Statistical Computing and Graphics with R (3 credits)
- STA 321 - Applied Regression Analysis (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- FIN 320 - Managerial Finance (3 credits)
- FIN 321 - Investments (3 credits)

### **Year Four**

- STA 412 - Mathematical Statistics I (4 credits)
- STA 415 - Mathematical Statistics II (Capstone) (4 credits)
- STA 419 - Statistics Project (3 credits)
- STA 425 - Actuarial Probability and Statistics (3 credits)
- FIN 331 - Risk and Insurance (3 credits) (Fall semester)

## **Combined Bachelor of Science in Statistics and Master of Science in Applied Statistics**

Grand Valley State University combined degree programs offer students the opportunity to complete both an undergraduate and graduate degree, meeting their unique personal, academic, and career goals. Pursuing a combined degree can reduce the cost and total time required to complete both.

The combined degree program (B.S./M.S.) offers qualified undergraduates the option to earn a B.S. and an M.S. in an accelerated time frame. Students admitted to this program may use up to 12 credit hours of graduate work as partial satisfaction of the requirements for the undergraduate degree. Since the master's degree in applied statistics is a Professional Science Master's program, four credit hours at the graduate level involve an industry internship experience.

Highlights of the addition of the combined degree program in applied statistics include:

- Enhance our comprehensive major of the B.S. degree in statistics with the hands-on approach of an applied Master's degree.
- An emphasis of both degrees in the application of statistical software to solve problems and interpret data.
- Learn advanced statistical techniques earlier within your academic and professional career.
- Obtain valuable internship experience in the fourth year of five total years to complete both degrees
- Accelerate your career trajectory and complete your degrees one step ahead of the competition.
- Explore career opportunities through partnerships in the West Michigan area.

Qualified undergraduates who choose this program enter an accelerated bachelor/master program and proceed to obtain both a B.S. degree (with appropriate undergraduate statistics coursework) and an M.S. in applied statistics. Students admitted to this program will count up to 12 credits of graduate work in partial satisfaction of the requirements for the undergraduate degree. An additional 24 credit hours will be taken at the graduate level according to the specific

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

requirements of the M.S. in applied statistics. The requirements for applying to the combined degree program in applied statistics are as follows:

- At least 65 hours of undergraduate academic credit have been completed or is in progress
- A cumulative GPA of at least 3.25 at the time of application.
- Completion of the following prior to application with at least B performance in each of the following courses: STA 215 (or STA 312), STA 216, at least one of STA 310, STA 321, STA 315.
- Two letters of recommendation
- Resume
- Letter of intent

Note that the application procedure is identical for the combined degree program in biostatistics and applied statistics.

Admission decisions for the combined degree program will be made by the applied statistics admissions committee and based on the student's application materials and criteria such as overall GPA and GPA in undergraduate statistics courses. Decisions will normally be communicated to students within three weeks of submitting a complete application to the combined degree program.

Registration for 600-level courses is to occur only after acceptance into the combined degree program.

### **Undergraduate Statistics Major Requirements and Shared Courses**

All university requirements, including general education courses, must be completed before the final (graduate) year of the combined B.S./M.S. program. If any shared courses (for both degrees) are dual-listed, students in the combined B.S./M.S. program must complete all assignments expected of graduate students and they will be evaluated in the same way as graduate students. This combined degree will abide by all policies of the graduate school.

The Department of Statistics has identified the following list of courses from which students may choose four courses to potentially dual-count toward the B.S. degree and the M.S. degree in Applied Statistics. Up to 12 credit hours can be dual counted. Students are strongly encouraged to work with the graduate program director and their statistics department advisor to ensure all undergraduate and graduate requirements are met. The details on how each course may be shared in the two degrees are given as follows:

- One of STA 518 or STA 526 may count as both an applied statistics master's course (required or elective) and an undergraduate statistics elective.
- One of STA 518 or STA 526, not previously used, may count as both an applied statistics master's course (required or elective) and as free undergraduate credit hours.
- STA 610 (Section 03) may count as a required applied statistics master's required course and as free undergraduate credit hours.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- STA 628 may count as both applied statistics master's credit (required or elective) and as free undergraduate credit hours.
- PSM 650 may count as an applied statistics master's requirement and either in the undergraduate application cognate or as free undergraduate credit hours.

## **Requirements**

### **During Graduate Studies**

A student shall be considered a graduate student for all purposes upon either of the following events: the award of a baccalaureate degree, or the completion of 120 credit hours.

### **Graduation Without Completion of the Program**

If a student decides at some point to pursue only the undergraduate portion of the combined degree, GVSU will still recognize the graduate courses taken in lieu of undergraduate courses. Credit from the undergraduate degree cannot be used toward a graduate degree at a later date.

### **Sample Order of Coursework**

This sample order of coursework assumes that students will complete the general education courses with the help of their advisor and have completed an appropriate sequence of undergraduate statistics courses to be admitted into the combined degree program. Students are strongly encouraged to work with the Graduate Program and their advisor in Statistics to ensure all undergraduate and graduate requirements are met, and to customize the combined program to their areas of interest.

#### **Year One**

##### Fall

- CIS 162 - Computer Science I (4 credits)
- MTH 201 - Calculus I (4 credits)
- General education course
- General education course
- General education course

##### Winter

- MTH 202 - Calculus II (4 credits)
- STA 312 - Probability and Statistics (3 credits) **OR** STA 315 - Design of Experiments (3 credits)
- General education course
- General education course
- General education course

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Year Two**

### Fall

- STA 216 - Intermediate Applied Statistics (3 credits)
- MTH 204 - Linear Algebra I (3 credits)
- General education course
- General education course
- General education course
- General education course

### Winter

- STA 315 - Design of Experiments (3 credits)
- STA 321 - Applied Regression Analysis (3 credits)
- Statistics elective
- General education course
- General education course

## **Year Three**

### Fall

- STA 419 - Statistics Project (3 credits)
- Elective
- Elective
- Elective

### Winter

- PSM 650 - Ethics and Professionalism in Applied Science (3 credits) (shared)
- Elective
- Elective
- Elective

## **Year Four**

### Fall

- STA 412 - Mathematical Statistics I (4 credits)
- STA 518 - Statistical Computing and Graphics with R (3 credits) OR STA 526 - Multivariate Data Analysis (3 credits) (shared, statistics elective)
- STA 610 - Applied Statistics for Health Professions (3 credits)
- Elective

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- Elective

#### Winter

- STA 415 - Mathematical Statistics II (Capstone) (4 credits)
- STA 526 - Multivariate Data Analysis (3 credits) (shared)
- STA 616 - Statistical Programming (3 credits) (not shared)
- STA 623 - Categorical Data Analysis (3 credits) (not shared)
- Elective

#### Year Five

##### Fall

- STA 621 - Design of Experiments and Regression (4 credits)
- PSM 662 - Seminar in Professional Science Practice (2 credits)
- PSM 691 - Internship (1 to 9 credits)

##### Winter

- STA 628 - Survival Analysis (3 credits)
- STA 630 - Topics in Advanced Statistical Applications (3 credits)
- Graduate elective

The curriculum details listed previously (and sample course sequence) are stated as being specific to statistics major undergraduates, but one does not need to be an undergraduate statistics major to apply or complete the combined degree. The 12 shared credit hours chosen from the same specific bulleted list of five courses listed previously may be used as free credit hours in a student initiated combined degree (SICD) program with appropriate communication among the student, the undergraduate major advisor, and the statistics department. Other circumstances may also be considered on a case by case basis for shared courses in the undergraduate major (beyond the typical case of 12 undergraduate free credit hours from the given list of five courses).

## **Combined Bachelor of Science in Statistics and Master of Science in Biostatistics**

Grand Valley State University combined degree programs offer students the opportunity to complete both an undergraduate and graduate degree, meeting their unique personal, academic, and career goals. Pursuing a combined degree can reduce the cost and total time required to complete both.

The combined degree program (B.S./M.S.) offers qualified undergraduates the option to earn a B.S. and an M.S. in an accelerated time frame. Students admitted to this program may use up to

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12 credit hours of graduate work as partial satisfaction of the requirements for the undergraduate degree. Since the Master's degree in biostatistics is a professional science master's program, four credit hours at the graduate-level involve an industry internship experience.

Highlights of the addition of the combined degree program in biostatistics include:

- Enhance our comprehensive major of the B.S. degree in statistics with the hands-on approach of an applied master's degree.
- An emphasis of both degrees in the application of statistical software to solve problems and interpret data.
- Learn advanced statistical techniques earlier within your academic and professional career.
- Obtain valuable internship experience in the fourth year of five total years to complete both degrees
- Accelerate your career trajectory and complete your degrees one step ahead of the competition.
- Explore career opportunities through partnerships in the West Michigan area.

Qualified undergraduates may choose an accelerated bachelor/master program and obtain both a B.S. degree (with appropriate undergraduate statistics coursework) and an M.S. in biostatistics. Students admitted to this program will count up to 12 credits of graduate work in partial satisfaction of the requirements for the undergraduate. An additional 25 credit hours will be taken at the graduate level according to the specific requirements of the M.S. in biostatistics. The requirements for applying to the combined degree program in biostatistics are as follows:

- At least 65 hours of undergraduate academic credit have been completed or is in progress
- A cumulative GPA of at least 3.25 at the time of application.
- Completion of the following prior to application with at least B performance in each course: STA 215 (or STA 312), STA 215, at least one of STA 310, STA 321, STA 315.
- Two letters of recommendation
- Resume
- Letter of intent

Note that the application procedure is identical for biostatistics and applied statistics.

Admissions decisions for the combined degree program will be made by the biostatistics admissions committee and based on the student's application materials. Criteria such as overall GPA and GPA in undergraduate statistics courses will be utilized. Decisions will normally be communicated to students within three weeks of submitting a complete application to the combined degree program.

Registration for 600-level courses is to occur only after acceptance into the combined degree program.

### **Undergraduate Statistics Major Requirements and Shared Courses**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

All university requirements, including general education courses, must be completed before the final (graduate) year of the combined B.S./M.S. program. If any shared courses (for both degrees) are dual-listed, students in the combined B.S./M.S. program must complete all assignments expected of graduate students and they will be evaluated in the same way as graduate students. This combined degree will abide by all policies of the graduate school.

The Department of Statistics has identified the following list of courses from which students may choose four courses to potentially dual-count toward the B.S. degree and the M.S. degree in biostatistics. Up to 12 credit hours can be dual counted. Students are strongly encouraged to work with the graduate program director and their statistics department advisor to ensure all undergraduate and graduate requirements are met. The details on how each course may be shared in the two degrees are given as follows:

- One of STA 518 or STA 526 may count as both an applied statistics master's course (required or elective) and an undergraduate statistics elective.
- One of STA 518 or STA 526, not previously used, may count as both an applied statistics master's course (required or elective) and as free undergraduate credit hours.
- CIS 661 as a biostatistics master's requirement and either in the application cognate or as free undergraduate credit hours.
- CMB 610 as a biostatistics master's requirement and either in the application cognate or as free undergraduate credit hours.
- STA 610 (Section 03) may count as a required applied statistics master's required course and as free undergraduate credit hours.
- STA 628 may count as both applied statistics master's credit (required or elective) and as free undergraduate credit hours.
- PSM 650 may count as an applied statistics master's requirement and either in the undergraduate application cognate or as free undergraduate credit hours.

## **Requirements**

### **During Graduate Studies**

A student shall be considered a graduate student for all purposes upon either of the following events: the award of a baccalaureate degree, or the completion of 120 credit hours.

### **Graduation Without Completion of the Program**

If a student decides at some point to pursue only the undergraduate portion of the combined degree, GVSU will still recognize the graduate courses taken in lieu of undergraduate courses. Credit from the undergraduate degree cannot be used toward a graduate degree at a later date.

### **Sample Order of Coursework**

This sample order of coursework assumes that students will complete the general education courses with the help of their advisor and have completed an appropriate sequence of

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

undergraduate statistics courses to be admitted into the combined degree program. Students are strongly encouraged to work with the Graduate Program and their advisor in Statistics to ensure all undergraduate and graduate requirements are met, and to customize the combined program to their areas of interest.

## **Year One**

Fall

- CIS 162 - Computer Science I (4 credits)
- MTH 201 - Calculus I (4 credits)
- General education course
- General education course
- General education course

Winter

- MTH 202 - Calculus II (4 credits)
- STA 312 - Probability and Statistics (3 credits) **OR** STA 215 - Introductory Applied Statistics (3 credits)
- General education course
- General education course
- General education course

## **Year Two**

Fall

- STA 216 - Intermediate Applied Statistics (3 credits)
- MTH 204 - Linear Algebra I (3 credits)
- General education course
- General education course
- General education course
- General education course

Winter

- STA 315 - Design of Experiments (3 credits)
- STA 321 - Applied Regression Analysis (3 credits)
- Statistics elective
- General education course
- General education course

## **Year Three**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Fall

- STA 419 - Statistics Project (3 credits)
- Elective
- Elective
- Elective
- Elective

Winter

- CMB 610 - Foundations of Biotechnology (3 credits) (shared)
- Elective
- Elective
- Elective
- Elective

## **Year Four**

Fall

- STA 412 - Mathematical Statistics I (4 credits)
- STA 518 - Statistical Computing and Graphics with R (3 credits) OR STA 526 - Multivariate Data Analysis (3 credits) (shared, statistics elective)
- STA 610 - Applied Statistics for Health Professions (3 credits)
- Elective
- Elective

Winter

- STA 415 - Mathematical Statistics II (Capstone) (4 credits)
- STA 616 - Statistical Programming (3 credits) (not shared)
- STA 623 - Categorical Data Analysis (3 credits) (not shared)
- PSM 650 - Ethics and Professionalism in Applied Science (3 credits) (shared)
- Elective

## **Year Five**

Fall

- STA 621 - Design of Experiments and Regression (4 credits)
- PSM 662 - Seminar in Professional Science Practice (2 credits)
- PSM 691 - Internship (1 to 9 credits)

Winter

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- CIS 661 - Introduction to Health and Bioinformatics (3 credits)
- STA 625 - Clinical Trials (2 credits)
- STA 628 - Survival Analysis (3 credits)
- STA 630 - Topics in Advanced Statistical Applications (3 credits)

The curriculum details listed previously (and sample course sequence) are stated as being specific to statistics major undergraduates, but one does not need to be an undergraduate statistics major to apply or complete the combined degree. The 12 shared credit hours chosen from the same specific bulleted list of seven courses listed previously may be used as free credit hours in a student initiated combined degree (SICD) program with appropriate communication among the student, the undergraduate major advisor, and the statistics department. Other circumstances may also be considered on a case by case basis for shared courses in the undergraduate major (beyond the typical case of 12 undergraduate free credit hours from the given list of seven courses).

## Data Science Minor

### Requirements

#### Statistics

- \*STA 216 - Intermediate Applied Statistics (3 credits) **OR** \*STA 318 - Statistical Computing (3 credits)
- STA 321 - Applied Regression Analysis (3 credits)
- STA 426 - Multivariate Data Analysis (3 credits)

#### Computing

- CIS 162 - Computer Science I (4 credits) **OR** CIS 161 - Computational Science (3 credits)
- CIS 335 - Data Mining (3 credits)
- CIS 360 - Information Management and Science (3 credits)

\*Note: STA 216 and STA 318 have a prerequisite of STA 215 or STA 312. One additional three-credit course is required. This course must provide an appropriate application of data science or deepen knowledge in either statistics or computer science. Students should meet with a data science faculty member from the statistics or computing and information systems departments to determine an appropriate course meeting this requirement. Students are strongly encouraged to meet with a data science faculty member as soon as they decide to minor in data science.

### Suggested Order of Coursework

#### Year One

- MTH 110 - Algebra (4 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- STA 215 - Introductory Applied Statistics (3 credits)

### **Year Two**

- CIS 161 - Computational Science (3 credits)
- STA 216 - Intermediate Applied Statistics (3 credits)

### **Year Three**

- CIS 335 - Data Mining (3 credits)
- STA 321 - Applied Regression Analysis (3 credits)

### **Year Four**

- Program elective
- CIS 360 - Information Management and Science (3 credits)
- STA 426 - Multivariate Data Analysis (3 credits)

## **Mathematical Statistics Minor**

### **Requirements for a Minor in Mathematical Statistics**

The mathematical statistics minor is offered within the Department of Statistics and consists of six courses (at least 22 credits). The minor in mathematical statistics is a calculus-based program that focuses heavily on mathematical theory of statistics.

### **Core Courses**

All minors in mathematical statistics must complete the following core courses:

- MTH 201 - Calculus I (4 credits)
- MTH 202 - Calculus II (4 credits)
- STA 216 - Intermediate Applied Statistics (3 credits)
- STA 312 - Probability and Statistics (3 credits)
- STA 412 - Mathematical Statistics I (4 credits)

### **Additional Course**

All mathematical statistics minors must complete one additional course, selected in consultation with a member of the statistics faculty, from the following list:

- STA 310 - Introduction to Biostatistics (3 credits)
- STA 311 - Introduction to Survey Sampling (3 credits)
- STA 314 - Statistical Quality Methods (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- STA 315 - Design of Experiments (3 credits)
- STA 317 - Nonparametric Statistical Analysis (3 credits)
- STA 318 - Statistical Computing (3 credits)
- STA 321 - Applied Regression Analysis (3 credits)
- STA 415 - Mathematical Statistics II (Capstone) (4 credits)
- STA 419 - Statistics Project (3 credits)
- STA 426 - Multivariate Data Analysis (3 credits)

## Supply Chain Management

For additional information about opportunities your college offers, please refer to the Seidman College of Business section in this catalog.

The field of supply chain management involves the acquisition of components and finished goods from original sources, production scheduling and manufacturing, and logistics functions necessary to flow components inbound to manufacturing and finished goods outbound to wholesalers, retailers, and/or directly to end users. Specific functions relate to purchasing, forecasting, production scheduling, manufacturing operations, inventory control, customer service, warehousing, and transportation. Students with this major are employed by manufacturers, wholesalers, retailers, third-party service providers, and transportation carriers.

## Bachelor of Business Administration in Supply Chain Management

### Requirements for the B.B.A.

A supply chain covers all the activities that go into creating a product or service. Managing a supply chain means making sure those activities generate maximum value for customers at minimum cost to the company, its partners, and the environment. That means supply chain management professionals touch every aspect of a business: from new product development to building relationships with suppliers, designing and improving production processes, and making goods and services available to customers. They need to have strong quantitative reasoning skills and be able to work effectively with people from across a business. Supply chain talent is in high demand and companies are willing to pay a premium for new hires. The Seidman supply chain program equips students with the skills and knowledge they need to succeed in this dynamic field and supercharge their company's value creating engine.

### Core Courses

All business core courses acquaint you with various fields in business and help you learn to communicate, to interact, and to assume responsible positions in your chosen field.

For the B.B.A., you must complete the following courses:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- ACC 212 - Principles of Financial Accounting (3 credits)
- ACC 213 - Principles of Managerial Accounting (3 credits)
- BUS 201 - Legal Environment for Business (3 credits)
- **BOTH** ECO 210 - Introductory Macroeconomics (3 credits) **AND** ECO 211 - Introductory Microeconomics (3 credits)
- OR ONLY** ECO 200 - Business Economics (3 credits)
- Upper-division economics course; ECO 490 does not fulfill this requirement. (3 credits)
- FIN 320 - Managerial Finance (3 credits)
- MGT 268 - Business Processes and Management Information Systems (3 credits)
- MGT 331 - Managing People and Organizations (3 credits)
- MGT 366 - Operations Management (3 credits)
- MGT 495 - Administrative Policy (3 credits)
- MKT 350 - Marketing Management (3 credits)

Students are required to select one class from the following list. This course may count toward the major or minor if applicable.

- ACC 333 - Corporate Governance and Accounting Ethics (3 credits)
- ECO 440 - Public Economics and Ethics (3 credits)
- FIN 330 - Ethics in Finance (3 credits)
- MGT 340 - Ethics and Business, Social Justice and Sustainability (3 credits)
- MGT 438 - Business Ethics (3 credits)
- MKT 375 - Marketing Ethics (3 credits)

### **Required Business Electives**

Three upper-division Seidman courses are not applied to the major or minor (nine credits total). However, these courses can be applied toward a second business major if one is declared.

### **Elective Courses**

Students may elect nonbusiness or business courses to fulfill their elective course requirements. Students may apply up to six hours of internship and independent research credit, in any combination, toward their degree requirements. Business majors may not take any of the major courses, except the internship and study abroad courses, on a credit/no-credit basis.

### **Requirements for a Major in Supply Chain Management**

The following courses are required:

- STA 215 - Introductory Applied Statistics (3 credits)
- MKT 354 - Distribution Institutions and Logistics (3 credits)
- MKT 457 - Logistics and Transportation (3 credits)
- MGT 337 - Supply Chain Management (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- MGT 367 - Manufacturing Planning and Control (3 credits)
- MGT 467 - Advanced Topics in Operations and Supply Chain Management (3 credits)

Quantitative group - choose one course from the following:

- MTH 122 - College Algebra (3 credits)
- MTH 125 - Survey of Calculus (3 credits)
- MTH 201 - Calculus I (4 credits)
- MGT 361 - Management Science (3 credits)
- PHI 103 - Logic (3 credits)

Choose one course from the following:

- MKT 355 - International Logistics (3 credits)
- MGT 363 - Managing Quality (3 credits)

Choose one course from the following:

- MGT 351 - Enterprise Information Systems (3 credits)
- MGT 362 - Computers in Operations Management (3 credits)
- MGT 365 - Strategic Management of Operations (3 credits)
- MGT 466 - International Management and Multinational Corporations (3 credits)
- MKT 353 - Marketing Negotiations (3 credits)
- MKT 356 - Professional Selling (3 credits)
- MKT 357 - Retailing (3 credits)
- MKT 359 - Multinational Marketing (3 credits)

## Taxation

For additional information about opportunities your college offers, and for a listing of faculty, please refer to the Seidman College of Business section of this catalog.

### Degree Offered

Master of Science in Taxation (M.S.T.)

The M.S.T. program serves individuals who are interested in expanding or continuing their education in taxation. It is a specialized degree for tax professionals. Students examine substantive tax law and enhance their analytical and research skills, enabling them to identify relevant issues, and arrive at appropriate conclusions or courses of action.

### School of Accounting Mission

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Seidman's School of Accounting educates students to become successful accounting and business professionals. The School contributes to the college, university, the profession, and society through quality teaching, scholarship, and service.

### **Accreditation**

The Master of Science in Taxation Program is accredited by the Association to Advance Collegiate Schools of Business (AACSB International).

### **Minimum Number of Hours for Graduation**

The M.S.T. program consists of 33 semester hours of 600-level coursework.

### **Program Location**

The M.S.T. program is offered in the L. William Seidman Center, Pew Grand Rapids Campus, located in downtown Grand Rapids, MI.

## **Badge in Advanced Tax Practice**

The School of Accounting's badge in advanced tax practice (not a degree or a certificate) is designed to prepare students for advanced level tax research and planning for a variety of situations, including tasks such as:

- Research and provide tax law conclusions for tax issues posited by various tax fact patterns regarding
- Employee benefit plans and executive compensation under the Internal Revenue Code and ERISA, with an in-depth review of the requirements for qualified retirement plans, for welfare plans (medical, dental, vision, disability, etc.), and applicable federal mandates (COBRA, HIPAA, etc.), and for nonqualified and stock-based plans
- Fundamental concepts applicable to tax accounting periods and to consolidated income tax returns, including income and expense recognition, the installment method, inventories, changes in accounting methods and periods, qualification and filing of consolidated tax returns, intercompany transactions, distributions, and basis calculations
- Federal tax practice and procedure, including tax return filing issues, interest and penalties, assessment and collection of tax deficiencies, IRS audits, appeals and enforcement activities, and professional and practical requirements for practice before the IRS

### **Program Format**

The advanced tax practice badge is comprised of three courses (9 credits).

### **Admission**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Successful completion of ACC 622 or permission of the program director. Applicants seeking this badge while undergraduate or dual enrolled students must specify whether each course will count toward their current undergraduate degree or a future graduate degree.

### **Program Location**

The advanced tax practice badge is offered on the Pew Campus in downtown Grand Rapids, MI.

### **Requirements for the Advanced Tax Practice Badge**

- ACC 631 - Employee Benefit Plans and Deferred Compensation (3 credits)
- ACC 632 - Tax Accounting (3 credits)
- ACC 639 - Federal Tax Practice and Procedure (3 credits)

## **Badge in Corporate Transactions**

The School of Accounting's badge in corporate transactions (not a degree or a certificate) is designed to prepare students for advanced level tax research and planning for corporate transactions, including tasks such as:

- Research and provide tax law conclusions for tax issues posited by various tax fact patterns regarding:
  - Corporate liquidations, liquidation of subsidiaries, taxable and nontaxable acquisitive transactions including mergers and consolidations and corporate divisions, judicial doctrines, affiliated corporations, and carryover of tax attributes
  - Key issues in multistate taxation, including the conditional nexus for includability, landmark and key court cases, and current versus past trends and future judicial direction
  - United States jurisdiction to tax on the basis of citizenship, source of income, and other minimum contacts required by international or constitutional law, along with taxation of domestic corporations doing business abroad, entities that are either controlled foreign corporations or foreign personal holding companies, the foreign tax credit, U.S. possession corporations, domestic international sales corporations, and tax treaties

### **Program Format**

The corporate transactions badge is comprised of three courses (9 credits).

### **Admission**

Successful completion of ACC 622 and ACC 624 or equivalents. Applicants seeking this badge while undergraduate or dual enrolled students must specify whether each course will count toward their current undergraduate degree or a future graduate degree.

### **Program Location**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

The corporate transactions badge is offered on the Pew Campus in downtown Grand Rapids, MI.

### **Requirements for the Corporate Transactions Badge**

- ACC 625 - Corporate Tax II (3 credits)
- ACC 630 - Multistate Taxation (3 credits)
- ACC 633 - International Tax Practice (3 credits)

## **Badge in Foundations of Tax Practice**

The School of Accounting's foundations of tax practice badge (not a degree or a certificate) is designed to prepare students for entry-level tax research, planning, and preparation for corporations, partnerships, estates, gifts, and trusts, including tasks such as:

- Explain the techniques of tax research and formal written communication.
- Explain the hierarchy of tax law sources, including the Internal Revenue Code, case law, administrative regulations, and administrative ruling.
- Research and provide tax law conclusions for tax issues posited by various tax fact patterns regarding:
  - taxability of corporations and their shareholders, corporate formation, non-liquidating distributions, and redemptions
  - transfer tax rules, including estate tax inclusion, marital deductions, exemption amounts, gift taxes, and annual exclusions, formation and operation of partnerships, including receipt of a partnership interest for services, liquidations, terminations, distributions and sales of partnership interest, calculation of basis, special basis adjustments, decedent partner issues, and LLCs

### **Program Format**

The foundations of tax practice badge is comprised of four courses (12 credits).

### **Admission**

Completion of a bachelor's degree in accounting, with at least a 3.0 cumulative GPA. Alternatively, Seidman College accounting students with senior standing who have completed ACC 310, ACC 311, and ACC 340 with a grade of B or better, who have no more than 35 credits left to complete their undergraduate degree requirements, and who have a cumulative GPA of at least 3.0. Applicants seeking this badge while undergraduate or dual enrolled students must specify whether each course will count toward their current undergraduate degree or a future graduate degree.

### **Program Location**

The foundations of tax practice badge is offered on the Pew Campus in downtown Grand Rapids, MI.

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

## **Requirements for the Foundations of Tax Practice**

- ACC 622 - Tax Research and Writing (3 credits)
- ACC 624 - Corporate Tax I (3 credits)
- ACC 627 - Estate, Gift, and Trust I (3 credits)
- ACC 629 - Partnership Taxation (3 credits)

## **Badge in Wealth Planning**

The School of Accounting's wealth planning badge (not a degree or a certificate) is designed to prepare students for advanced level tax research and planning for estates, gifts, and trusts, including tasks such as:

- Research and provide tax law conclusions for tax issues posited by various tax fact patterns regarding:
  - Federal income taxation of trusts and estates and the generation-skipping transfer tax, including entity classification, determination of distributable net income, simple trusts, fiduciary accounting income, throwback rules, decedent income, and grantor trust rules
  - Advanced transfer tax issues in estate and gift tax returns, discounts, special valuation rules, irrevocable life insurance trusts, gifting issues, marital deductions, buy-sell agreements, family limited partnerships, and charitable trusts

### **Program Format**

The wealth planning badge is comprised of two courses (6 credits).

### **Admission**

Successful completion of ACC 622 and ACC 627 or equivalents. Applicants seeking this badge while undergraduate or dual enrolled students must specify whether each course will count toward their current undergraduate degree or a future graduate degree.

### **Program Location**

The wealth planning badge is offered on the Pew Campus in downtown Grand Rapids, MI.

### **Requirements for the Wealth Planning Badge**

- ACC 628 - Fiduciary Income Tax (3 credits)
- ACC 641 - Advanced Estate and Gift Taxation (3 credits)

## **Master of Science in Taxation**

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

The Master of Science in Taxation (M.S.T.) program serves individuals who are interested in expanding or continuing their education in taxation. It is a specialized degree for tax professionals. Students examine substantive tax law and enhance their analytical and research skills, enabling them to identify relevant issues, and arrive at appropriate conclusions or courses of action.

## **Admission**

Admission to the M.S.T. program is based on an evaluation of the candidate's application and other submitted documentation. An undergraduate degree in accounting is not required, although those with limited undergraduate exposure to taxation are required to complete appropriate courses to provide a foundation for advanced study in taxation. Applicants must submit official documentation of all previous college coursework, including a baccalaureate degree (or equivalent international credential). Additionally, applicants must submit:

- GMAT score, unless waived
- Personal statement
- TOEFL score, required if English is not the applicant's first language

Candidates are admitted to the M.S.T. program based on an assessment of the candidate's potential to successfully complete the program. The Graduate Accounting Committee bases admission decisions on previous undergraduate and graduate academic performance and evidence of other competencies related to program and workplace success. Applicants with a cumulative GPA of at least 3.0 for the last 60 semester hours of undergraduate coursework and with grades of B or better in all intermediate accounting courses at an AACSB-accredited school are considered academically qualified for full admission and the GMAT requirement is waived. A TOEFL score of at least 80 (IBT) is required of applicants whose first language is not English. Work experience is not required but may be considered in the admissions decision.

For applicants with a cumulative GPA below 3.0 for the last 60 semester hours of undergraduate coursework, the Graduate Admissions Committee considers a scholastic index (SI) for M.S.T. applicants computed as follows:

$SI = (\text{GPA for last 60 semester hours of undergraduate coursework} \times 200) + \text{GMAT score.}$

Applicants with a scholastic index of 1100, and satisfactory evidence in their other credentials are considered academically qualified for full admission.

## **Conditional Admission**

Applicants may be conditionally admitted to the M.S.T. program due to deficiencies in the applicant's academic preparation or performance, or insufficient evidence to completely assess the applicant's potential for success. Students admitted under this status must meet specific requirements detailed in their letter of admission to be fully admitted to the program.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

All application materials must be completely submitted at least one month before the semester begins. Individuals not yet admitted to the M.S.T. program may enroll in 500-level Foundation courses with permission from the Seidman Graduate Programs Office.

### **Dual Enrollment**

Enrollment in dual-listed courses at the 500- or in 600-level courses is generally restricted to students admitted to the respective program who have also completed the appropriate prerequisite courses. The exception to this policy is Seidman College accounting students with senior standing who meet all other admissions criteria. Such students will have completed ACC 310, ACC 311, and ACC 340 with a grade of B or better; no more than 35 credits left to complete their undergraduate degree requirements; and a cumulative GPA of at least 3.0. With permission of the Seidman Graduate Programs Office, such students may enroll in as many as four graduate-level accounting courses that may be applied toward the M.S.T. degree once admitted.

### **GMAT Waiver**

The following categories of applicants may request a waiver of the GMAT examination requirement:

- Applicants who have earned a master's degree from an AACSB-accredited business school.
- Applicants who have completed a U.S. Juris Doctor (J.D.) degree with a cumulative GPA of 3.0 or higher.
- A Certified Public Accountant registered or licensed in any U.S. jurisdiction.

Applicants seeking a GMAT waiver should contact the Seidman Graduate Programs Office for details. A GMAT waiver does not result in guaranteed admission; the admissions decision will be based on the applicant's application and other submitted materials.

### **Transfer Credit**

A maximum of nine semester hours of transfer credit will be given for appropriate graduate courses completed with a grade of B or better from another AACSB-accredited college. These credits may be substituted for required courses or elective courses as determined by the Seidman Graduate Programs Office. University policy on transfer of credit also governs such courses.

### **Academic Review**

A cumulative GPA of 3.0 or higher is required in all graduate-level courses. Additionally, a cumulative GPA of 3.0 is required in all 500-level dual-listed courses and 600-level courses that fulfill graduation requirements for the M.S.T. A grade of C or better must be earned in all graduate courses that fulfill graduation requirements for the M.S.T.

### **Graduate Outcomes**

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

The Seidman faculty have identified the following learning objectives for M.S.T students, and objectives are assessed regularly to ensure that they are being achieved.

Seidman M.S.T. graduates will be able to do the following:

- Write skillful tax communications.
- Be effective in analyzing and resolving tax problems.
- Be strategic tax planners.
- Master substantive tax law about the formation of a business entity in the context of real-world or simulated client situations.
- Be prepared to recognize and respond to ethical questions encountered in the practice of tax accounting.

## Requirements

All M.S.T. students must complete a minimum of 33 graduate credits that include at least 24 credits of 600-level courses and 21 credits in 600-level tax courses.

## Foundation

Foundation requirements must be completed before graduation. They may be completed as part of the student's undergraduate program prior to admission to the M.S.T. program or completed anytime between admission and program completion. Foundation requirements may be met by completion of the following undergraduate GVSU courses or their equivalents:

<b>Area</b>	<b>Course</b>
Accounting	<ul style="list-style-type: none"><li>• ACC 212 - Principles of Financial Accounting (3 credits)</li><li>• ACC 213 - Principles of Managerial Accounting (3 credits)</li></ul>
Legal Environment and Business	<ul style="list-style-type: none"><li>• BUS 201 - Legal Environment for Business (3 credits)</li></ul>
Statistics	<ul style="list-style-type: none"><li>• STA 215 - Introductory Applied Statistics (3 credits)</li></ul>
Finance	<ul style="list-style-type: none"><li>• FIN 320 - Managerial Finance (3 credits)</li></ul>
Economics	<ul style="list-style-type: none"><li>• ECO 210 - Introductory Macroeconomics (3 credits)</li><li>• ECO 211 - Introductory Microeconomics (3 credits)</li></ul>

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Students who have completed GVSU undergraduate courses listed previously with a grade of B or better or the equivalent at another college or university are not required to complete additional coursework in the respective areas. A background assessment showing the status of the student's foundation requirements is provided to each student at the time of admission.

### **M.S.T. Core**

The following six core courses are required of all M.S.T. students:

- ACC 607 - Ethics for Accountants (3 credits)
- ACC 622 - Tax Research and Writing (3 credits)
- ACC 624 - Corporate Tax I (3 credits)
- ACC 627 - Estate, Gift, and Trust I (3 credits)
- ACC 629 - Partnership Taxation (3 credits)
- ACC 636 - Taxation Problems, Planning, and Current Issues (3 credits)

ACC 636 is the Capstone course and may not be taken until other core courses are complete.

### **M.S.T. Electives**

In addition, all M.S.T. students must complete at least two of the following tax elective courses:

- ACC 623 - Sales, Exchanges, and Other Property Dispositions (3 credits)
- ACC 625 - Corporate Tax II (3 credits)
- ACC 628 - Fiduciary Income Tax (3 credits)
- ACC 630 - Multistate Taxation (3 credits)
- ACC 631 - Employee Benefit Plans and Deferred Compensation (3 credits)
- ACC 632 - Tax Accounting (3 credits)
- ACC 633 - International Tax Practice (3 credits)
- ACC 639 - Federal Tax Practice and Procedure (3 credits)
- ACC 640 - S Corp and Limited Liability Co Taxation (3 credits)
- ACC 641 - Advanced Estate and Gift Taxation (3 credits)

The remaining three electives may be selected from among Seidman College M.S.T. courses or, with faculty advisor approval, other Seidman College graduate offerings or graduate program offerings outside the Seidman College of Business.

### **Program Plan**

The M.S.T. is a program designed for working professionals. Classes are offered in the evenings, and most students attend part time. Students who have completed the foundation requirements and enroll for six credits each semester graduate in two years. A student who has completed all foundation requirements prior to admission and who is enrolled full-time in at least two Fall semesters can complete the M.S.T. degree in a total of four full-time semesters. These semesters need not be contiguous.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Students must complete a program plan with their faculty advisor prior to beginning coursework.

## **Master of Science in Taxation and Law**

The Seidman College of Business and Michigan State University College of Law (MSU COL) offer the dual M.S.T./J.D. The partnership enables students to transfer 12 credits of M.S.T. courses to the MSU Law J.D. program and 12 credits of J.D. credits to the M.S.T. program, thus reducing the total number of graduate credit hours required to complete both programs from 121 to 97. Prerequisites for both programs must be met in addition to the 97 graduate credits. Participating students must meet admission standards of each school and be admitted to both programs prior to registering for coursework that will be transferred to either program.

The transfer work from MSU COL must include at least two tax courses. Courses not eligible for transfer are those that are required for the M.S.T. degree. Thus, students pursuing this degree will complete, in addition to the M.S.T. prerequisites, the five required core courses and two constrained electives. Specific coursework to be transferred to the M.S.T. from MSU COL must be planned with the graduate programs director. Students are referred to the associate dean for Academic Affairs of MSU COL for advising with respect to the J.D. and the specific M.S.T. transfer courses.

## **Theatre**

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences website.

**Website:** [gvsu.edu/theatre](http://gvsu.edu/theatre)

The Department of Music, Theatre, and Dance offers curricula leading to the Bachelor of Arts in music, Bachelor of Music, Bachelor of Music Education, certificate in piano pedagogy, Bachelor of Arts in theatre, Bachelor of Science in theatre, and the Bachelor of Arts in dance. Minors in music, theatre, and dance are also offered. These degree programs provide personalized attention, career building opportunities, and professional and extensive training in the various idioms of music, theatre, and dance. In the context of a broad liberal education that fosters critical thinking, creative problem solving, and cultural understanding, these degree programs prepare students well to answer the call of rewarding careers in music, theatre, and dance.

The theatre program provides quality student-centered education and performance experiences within Grand Valley State University's liberal education environment. The theatre program enables students to fully explore their potential as productive, literate, articulate, humane, and culturally engaged members of a global public through a close study of theatre theory and practice. Students so educated are able to bring highly developed aesthetic and critical skills, flexibility, and creativity to a wide range of graduate school and career opportunities.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Students may use the major as a preparation for graduate or professional work; the required courses provide basic training in essential theatre areas, and students planning to pursue more advanced work should take well-chosen electives in areas designed to increase specific skills. All theatre majors are required to participate in university theatre productions as actors, designers, production technicians, and managers; academic credit is given for all such involvement. The program also supports students pursuing regional, national, and international internships as managers, publicists, technicians, and production assistants with major professional theaters and arts organizations. Theatre courses from overseas schools can substitute for GVSU theatre requirements for those students pursuing international studies.

Note: Theatre majors are encouraged to take ENG 112 in general education.

## **Bachelor of Arts or Bachelor of Science in Theatre**

### **Requirements for a Major in Theatre**

A bachelor's degree in theatre requires completion of (1) B.A. or B.S. degree requirements, (2) theatre core, (3) theatre electives, and (4) a theatre Capstone. The Bachelor of Arts requires between 50 and 62 credit hours depending on the number of courses required to demonstrate language proficiency, while the Bachelor of Science requires 59 credit hours.

### **B.A. and B.S. Degree Requirements**

All students selecting a theatre major must choose either the B.A. or the B.S. degree.

### **B.A. Degree Requirements**

The B.A. degree requires a third-semester proficiency in a classical or modern foreign language of the student's choice.

### **B.S. Degree Requirements**

- STA 215 - Introductory Applied Statistics (3 credits)

**AND** two of the following:

- HST 290 - Research Methods in History (3 credits)
- INT 301 - Interdisciplinary Research Methods (3 credits)
- STA 216 - Intermediate Applied Statistics (3 credits)

### **Core Courses**

Theatre core courses require 35 credits as outlined.

### **Design/Tech/Management Area**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Requires eight credits, including two of the following:

- THE 250 - Theatre Management (3 credits)
- THE 261 - Stagecraft I (3 credits)
- THE 262 - Costume Construction (3 credits)

**AND** two (one-credit) sections of applied theatre practice corresponding to courses selected from design/tech/management areas listed previously:

- THE 298 - Applied Theatre Practice (1 to 3 credits)

### **Theatre Studies Area**

Requires 12 credits, including:

- THE 161 - Theatre Production (3 credits)
- THE 162 - Play Analysis (3 credits)
- THE 371 - Theatre History I (3 credits)
- THE 372 - Theatre History II (3 credits)

### **Performance Area**

Requires nine credits, including:

- THE 151 - Acting Process (3 credits)
- THE 252 - Acting Characterization (3 credits)
- THE 365 - Directing I (3 credits)

### **Advanced Theatre Study**

Requires six credits, including two of the following (one must be a design course selected from THE 367, THE 368, or THE 369):

- THE 362 - Production Dramaturgy (3 credits)
- THE 367 - Scenography (3 credits)
- THE 368 - Lighting Design (3 credits)
- THE 369 - Costume Design (3 credits)
- THE 465 - Directing II (3 credits)

### **Elective Courses**

Requires 12 credits. Electives must be taken in addition to courses taken in the theatre core. Courses not selected to fulfill the theatre core may be taken as electives once core requirements are met. Elective credit for THE 298 is available only after completing tech lab requirement.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- THE 152 - Voice for the Actor (3 credits)
- THE 198 - Rehearsal and Performance (1 to 3 credits)
- THE 250 - Theatre Management (3 credits)
- THE 261 - Stagecraft I (3 credits)
- THE 262 - Costume Construction (3 credits)
- THE 263 - Makeup (2 credits)
- THE 298 - Applied Theatre Practice (1 to 3 credits)
- THE 300 - Storytelling (3 credits)
- THE 325 - Theatre for Social Change (3 credits)
- THE 356 - Acting for the Camera (3 credits)
- THE 362 - Production Dramaturgy (3 credits)
- THE 366 - Drama in Education (3 credits)
- THE 367 - Scenography (3 credits)
- THE 368 - Lighting Design (3 credits)
- THE 369 - Costume Design (3 credits)
- THE 380 - Special Topics in Theatre (1 to 3 credits)
- THE 399 - Independent Reading (1 to 3 credits)
- THE 400 - Touring Theatre Production (3 credits)
- THE 454 - Acting Advanced Scene Study (3 credits)
- THE 455 - Shakespeare Performance (3 credits)
- THE 465 - Directing II (3 credits)
- THE 490 - Internship (1 to 6 credits)
- THE 499 - Independent Research (1 to 3 credits)

A maximum of three credits from THE 490 - Internship may be counted toward the required theatre elective credit. With advisor approval, students can also complete a maximum of six hours of credits in other disciplines related to theatre to apply toward elective requirements (non-THE prefix).

### **Capstone**

Requires three credits. All students majoring in theatre must take THE 495 as a senior. This course offers a synthesis of ideas and theories about one or more current critical issues in theatre.

- THE 495 - Theatre Capstone (3 credits)

### **Suggested Order of Coursework**

The following guidelines are for completing the theatre major. Students should verify specific major requirements with their advisor. This option assumes students will complete the required skills, general education, and required courses working toward a B.S. or B.A. degree. Theatre students are encouraged to avoid taking evening courses where possible, due to rehearsal conflicts in the cocurricular theatre program.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Year One**

- THE 151 - Acting Process (3 credits)
- \*THE 161 - Theatre Production (3 credits)
- THE 162 - Play Analysis (3 credits)

\*THE 161 fulfills the general education Foundations Arts category and is required for the theatre major.

## **Year Two**

Requires two credits (one credit each) of THE 298 in concert with two technical theatre classes, as follows:

- THE 252 - Acting Characterization (3 credits)
- THE 298 - Applied Theatre Practice (1 to 3 credits)

**AND** two of the following:

- THE 250 - Theatre Management (3 credits)
- THE 261 - Stagecraft I (3 credits)
- THE 262 - Costume Construction (3 credits)

## **Years Three and Four**

Select one design course and either an additional design course or THE 362 or THE 465.

- THE 365 - Directing I (3 credits)
- THE 371 - Theatre History I (3 credits)
- THE 372 - Theatre History II (3 credits)

Design Course

- THE 367 - Scenography (3 credits)
- THE 368 - Lighting Design (3 credits)
- THE 369 - Costume Design (3 credits)

The following courses can fulfill the additional course requirement:

- THE 362 - Production Dramaturgy (3 credits)
- THE 465 - Directing II (3 credits)
- THE 495 - Theatre Capstone (3 credits)
- Theatre electives (12 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

# Theatre Minor

## Requirements

Minors must complete 20 hours of theatre coursework. Minors must complete one course in the design/tech/management area, one in the theatre studies area, and one in the performance area. Most of these select courses also serve as prerequisite courses for more advanced theatre study. Minors must complete additional courses in any theatre area to fulfill the 20 hours minimum credit requirement.

## Required Courses

### Design/Tech/Management (D/T/M) Area

Requires four credits.

Choose one of the following:

- THE 250 - Theatre Management (3 credits)
- THE 261 - Stagecraft I (3 credits)
- THE 262 - Costume Construction (3 credits)

**AND** the following:

- THE 298 - Applied Theatre Practice (1 to 3 credits) Each D/T/M class requires a corresponding one-credit section of THE 298 as a theatre production lab.

### Theatre Studies Area

Requires three credits.

Choose one of the following:

- THE 101 - Introduction to Theatre (3 credits)
- THE 161 - Theatre Production (3 credits)
- THE 162 - Play Analysis (3 credits)

Note: THE 101 and THE 161 fulfill the general education Foundations Arts category.

### Performance Area

Requires three credits.

Choose one of the following:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- THE 151 - Acting Process (3 credits)
- THE 152 - Voice for the Actor (3 credits)

### **Elective Courses**

Requires 10 credits. Courses taken to fulfill the required courses cannot also count toward electives, but courses not selected from the required courses may be taken to complete theatre electives. For example, a student who completes THE 151 - Acting Process for the required performance area may elect to take THE 152 - Voice for the Actor as an elective.

- THE 101 - Introduction to Theatre (3 credits)
- THE 151 - Acting Process (3 credits)
- THE 152 - Voice for the Actor (3 credits)
- THE 161 - Theatre Production (3 credits)
- THE 162 - Play Analysis (3 credits)
- \*THE 198 - Rehearsal and Performance (1 to 3 credits)
- THE 250 - Theatre Management (3 credits)
- THE 261 - Stagecraft I (3 credits)
- THE 262 - Costume Construction (3 credits)
- THE 263 - Makeup (2 credits)
- \*THE 298 - Applied Theatre Practice (1 to 3 credits)
- THE 300 - Storytelling (3 credits)
- THE 356 - Acting for the Camera (3 credits)
- THE 362 - Production Dramaturgy (3 credits)
- THE 366 - Drama in Education (3 credits)
- THE 367 - Scenography (3 credits)
- THE 368 - Lighting Design (3 credits)
- THE 369 - Costume Design (3 credits)
- THE 380 - Special Topics in Theatre (1 to 3 credits)
- THE 399 - Independent Reading (1 to 3 credits)
- THE 400 - Touring Theatre Production (3 credits)
- THE 454 - Acting Advanced Scene Study (3 credits)
- THE 455 - Shakespeare Performance (3 credits)
- THE 465 - Directing II (3 credits)
- THE 490 - Internship (1 to 6 credits)
- THE 499 - Independent Research (1 to 3 credits)

\*No more than three total credit hours from THE 198 and THE 298 may be applied toward elective credit for the theatre minor.

## **Undergraduate Education**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

For additional information about opportunities your college offers, please refer to the College of Education and Community Innovation section in this catalog.

**Website:** [gvsu.edu/ceci](http://gvsu.edu/ceci)

### **Mission**

Teaching, leading, and learning in a democratic society.

### **Philosophy**

Believing that schools function as social and political entities as well as for the growth of individuals, the College of Education and Community Innovation prepares teachers and leaders a) to enhance the academic and personal potential of their students, and b) to evaluate the social and ethical implications of educational policies and practices.

### **Values**

The College of Education and Community Innovation values *expertise* to guide our practice, *equity* to guide our interactions, *liberal education* to guide our perspectives, and *social responsibility* to guide our commitment to democratic education. We value these ideals in our preparation of candidates, our development of faculty, and our relationships with the larger community we serve.

### **Undergraduate Teacher Education Description**

The teacher preparation program reflects a belief in strong backgrounds in the liberal arts, familiarity with learning theory, and practical experience in diverse settings. College of Education and Community Innovation faculty teach courses and seminars in educational philosophy and psychology, methods and materials, school organization and management, technology, and assessment. Faculty from the College of Liberal Arts and Science teach content-related courses.

### **Advising and Course Planning**

Teacher preparation is an upper-division professional program and second major. During the freshman and sophomore years, students work toward fulfilling degree requirements, major and minor requirements, and prerequisite courses in education to permit application to the College of Education and Community Innovation. Comprehensive Science and Arts for Teaching (CSAT) majors are strongly encouraged to pass the Michigan Test for Teacher Certification (MTTC) Elementary Certification exam during the semester of their CSAT Capstone course (SAT 495). Students will have two or more advisors: an advisor in the student's content area major and an education major advisor. Transfer students follow the same dual advising process. Students also consult with education faculty prior to admission. Students should discuss career and employment opportunities with their advisors and with the Career Center. Candidates should also review policies in the Undergraduate Teacher Education Student Advising Handbook, available

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

at advising sessions. In addition, advising materials and sample four-year course sequences are available in the College of Education and Community Innovation Student Information and Services Center.

## **Academic Policies**

Due to stringent requirements being set forth by the State of Michigan Department of Education, students pursuing initial certification, first or second renewal of their standard teaching certification, additional endorsement, school counseling license, and professional or administrator certification are now being held to a higher standard. Students who have certain misdemeanors, multiple misdemeanors, or a felony may be denied and/or not recommended for any level of certification by GVSU College of Education and Community Innovation and/or the State of Michigan. If a student is recommended to the Michigan Department of Education for standard teaching certification, additional endorsement, school counseling license, professional or administrator certification, the conviction could have an adverse effect on being granted a certificate. If a certificate is granted, there is no guarantee of employability.

## **Application Procedures**

Deadlines for application to undergraduate teacher education are September 15 for winter admission and field placement; February 1 for fall admission and field placement. Application packets are available on the College of Education and Community Innovation's website. Packets must be complete at the time of application. Students who postpone admission must reapply.

Students should apply during the semester before they expect to do their first field placement (EDI 330, EDS 332, EDS 332), except for the following:

- Students seeking a CSAT major with special education must apply during the winter semester (February 1) for fall admission.
- Students seeking a CSAT major are strongly encouraged to pass the MTTC Elementary Certification exam during the semester of their CSAT capstone course (SAT 495).

Students seeking a major in music education must apply during the winter semester (February 1) for fall admission (i.e. fall teacher assisting).

Students seeking a major in world languages must pass the Oral Proficiency Interview (OPI) prior to their student teaching semester.

Refer to [gvsu.edu/education/undergraduate](http://gvsu.edu/education/undergraduate) for more information on applying to the education programs at Grand Valley.

## **Program Location**

Programs are offered in the DeVos Center, Pew Grand Rapids Campus, located in downtown Grand Rapids, MI.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Minimum Admission Criteria**

In keeping with the Council for the Accreditation of Educator Preparation Programs (CAEP) guidelines and unit policies, Undergraduate Teacher Education considers students who fulfill the following criteria. As a unit granting secondary admission, admission requirements are those that appear in the Grand Valley State University catalog at the time of application to the unit. Unless otherwise noted, all requirements must be complete at the time of application.

### **Academic Achievement**

- An established 2.7 Grand Valley GPA overall and in the teaching major, minor, and education major program. Currently, these content area majors require a 3.0 GPA: art education, language arts, social studies, English (major and minor), and history (major and minor). The minimum Grand Valley GPA must be established by the time of application.
- Most general education requirements completed.
- Significant progress in the content area minor as determined by the content area major advisor.
- Significant progress in the content area as determined by the content area advisor.
- For elementary education, completion of ENG 308 is required.
- For elementary education, completion of MTH 126 and MTH 226; or completion of MTH 223 is required.
- At least one meeting completed with assigned College of Education and Community Innovation advisor.
- All remaining requirements met.

### **Secondary Review Process**

- An established 2.699-2.5 Grand Valley GPA overall and in the content area major, minor, and education major program. Currently, these content area majors require an established 2.999-2.7 GPA for secondary review: art education, language arts, social studies, English (major and minor), and history (major and minor).
- Most general education requirements completed.
- Most requirements in the content area major completed, as determined by content area major advisor.
- Significant progress in the content area minor as determined by the content area major advisor.
- For elementary education, completion of ENG 308 is required.
- For elementary education, completion of MTH 126 and MTH 226; or completion of MTH 223 is required.
- Subject area and certification tests taken and passed during the semester application is submitted (e.g. September applicants take the October test; February applications take the January or April tests). Secondary candidates take the teaching major and minor tests. Elementary candidates take the elementary test and teaching major test. Special education candidates take the elementary test only.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- Two meetings completed with assigned College of Education and Community Innovation advisor, including a signed Secondary Review Process form submitted with application.
- All remaining application requirements met.

### **Admission Test Requirement**

- Students seeking the Comprehensive Science and Arts for Teaching (CSAT) major are strongly encouraged to pass the MTTC Elementary Exam prior to application to the College of Education and Community Innovation.
- CSAT major students are strongly encouraged to pass the MTTC Elementary Exam prior to COE application.

### **Prerequisite Courses**

- Prerequisite courses may be in progress during the semester of application, but preference will be given to candidates who have completed the requirements at the time of application. A cumulative GPA of 2.7 or better must be established in these courses, with no grade lower than C and none of these courses recorded as credit or no credit.

### **General Education**

- EDF 315 - Diverse Perspectives on Education (3 credits)
- EDI 338 - Teachers as Decision Makers: Instruction and Assessment in Elementary Schools (3 credits) (elementary education) **OR** EDI 339 - Teachers as Decision Makers: Instruction and Assessment in Secondary Schools (3 credits) (secondary education)
- PSY 301 - Child Development (3 credits)
- Flex Course 1: This course is taken before **OR** after admission to the College of Education and Community Innovation. It must be completed before student teaching (grade B- or better).
- EDS 378 - Universal Design for Learning: Elementary (3 credits) **OR** EDS 379 - Universal Design for Learning: Secondary (3 credits)

### **Special Education**

- EDF 315 - Diverse Perspectives on Education (3 credits)
- PSY 304 - The Psychology and Education of the Exceptional Child (3 credits)
- PSY 325 - Educational Psychology (3 credits)
- PSY 310 - Behavior Modification (3 credits) **AND/OR** PSY 326 - Intellectual/Developmental Disabilities (3 credits) (Both courses are required for undergraduate endorsement)
- Additional required prerequisites for elementary and special education candidates:
- ENG 308 - Teaching Reading: The Necessary Skills (4 credits)
- MTH 126 and MTH 226; or completion of MTH 223 - Mathematics for Elementary Teachers I and II; or III.
- University requirements: Completion of university course requirements or test equivalents in Writing 150 and Mathematics 110.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- Advisor recommendations: One from the content area major advisor/department and another from a College of Education and Community Innovation advisor. Students with dual majors must submit a major advisor recommendation form for each major/department.
- Positive recommendation: One from an unrelated individual who can address the candidate's ability as a prospective teacher.
- Experience: Documentation of 25 hours of experience with children or youth. The experience must be with the age group for which the applicant intends to seek certification. This would rule out, for example, working in the university tutoring center. Special education candidates should have experience working with persons with disabilities, e.g., camp experience, Special Olympics, respite care. For additional options, contact the Community Service Learning Center.
- Academic progress: Completion of at least 60 semester credits and junior status.
- Felony and misdemeanor conviction statement: Review procedures for those who have been convicted or pleaded no contest to a felony or certain misdemeanors are available from the College of Education and Community Innovation. Conviction or a plea of no contest may cause the candidate to be denied for admission, field placement, or final certification. Candidates are required to pay a fee for conducting a Live Scan criminal background check; information on conducting Live Scan will be provided while turning in your application for admission to the College of Education and Community Innovation.
- MyPath degree evaluation: Copy of myPath and current course listings of classes being taken at another college or university.
- Resume: Two copies of current resume on plain white paper with an objective stated and a minimum of three references listed.

All admissions decisions will be rendered by the dean of the College of Education and Community Innovation, based on faculty recommendations.

### **Field Placement Requirements**

Flex Course 2: EDT 370 - Technology in Education (3 credits) Grade B- or better. This course is taken after admission to the College of Education and Community Innovation. It must be taken before student teaching.

- EDT 370 prerequisites: Teacher assisting (education) include - EDI 330, EDI 331, and EDS 332

Upon admission to undergraduate teacher education, the student will be placed in teacher assisting for the following semester, contingent upon an interview and acceptance by the school administrator. Students who postpone their entrance after admission must reapply as new applicants if they seek readmission. Students must follow the holiday break schedule designated by the K-12 district for their school placement/assignment, not the GVSU holiday break schedule, for both teacher assisting and student teaching. Field placements are generally made within a 50-mile radius from campus unless further placement is deemed necessary for suitable supervision and effective use of unit resources. See the College of Education and Community Innovation Undergraduate Advising Handbook for additional placement policies. Student teaching courses (education) include - EDI 430, EDI 431 and EDI 432, EDS 471, and EDS 472.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- Submission of completed application packet by September 15 for winter placement, February 1 for fall placement.
- Completion of teacher assisting with a grade of B- or better and positive recommendations.
- Completion of EDI 310 and EDR 320, or EDR 321 with a B- or better.
- Completion of EDT 370 and EDS 378, or EDS 379 (elementary and secondary general education students only) with a B- or better.
- Continued 2.7 GPA overall and in the content area major, minor, and education major sequence. Currently, these content area majors require a 3.0 GPA: art education, language arts, social studies, English (major and minor), and history (major and minor).
- Interview and acceptance by school administrator.

Students must inform the associate director for placement if they must withdraw from a field placement course. Notification must be immediate and in writing. Failure to do so will result in removal from the program.

### **Exit Requirements**

Recommendation for the Michigan Provisional Certificate requires the following:

- Completion of degree requirements and content area major, minor, and education major program requirements.
- An established 2.7 Grand Valley GPA overall and in the content area major, minor, and Education major program. Currently, these content area majors require a 3.0 GPA: art education, language arts, social studies, English (major and minor), and history (major and minor).
- Grades of B- or better and positive recommendations in professional fieldwork courses, EDI 310, EDR 320 or EDR 321, EDT 370, EDS 378 or EDS 379, EDI 330, EDI 331 and EDS 332, EDI 430, EDI 431 and EDI 432, EDS 471 and EDS 472, and EDF 485.
- Passing scores on Michigan Subject Area Tests. Elementary candidates must pass the elementary test; if they also pass subject area tests in their academic areas or special education endorsement areas, these will also be added to their certificates. Secondary candidates must pass subject area tests in their teaching major and minor.
- Current certification of CPR (adult/child) instruction and first aid (standard or basic).
- If your criminal background information has changed since you originally applied for admission to the College of Education and Community Innovation, contact the Student Information and Services Center (SISC) to confirm the change(s) are on file.

### **Postbaccalaureate Additional Endorsement Requirements**

Students may return to Grand Valley State University to obtain a postbaccalaureate endorsement to append to their teaching certificate by adding one or more content areas. Students may choose to add any endorsement for which Grand Valley State University has approval from the Michigan Department of Education (MDE). Students must meet all of the MDE requirements for an endorsement, which includes taking and passing all courses identified on the endorsement

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

planned program (course substitutions will be permitted with prior departmental approval), meeting GVSU GPA program requirements, taking and passing the associated subject area test for the endorsement through the Michigan Test for Teacher Certification, and meeting any and all other requirements, which might include, but not be limited to, a criminal background check and providing other university transcripts.

Please note: A student seeking a Grand Valley State University recommendation that the Michigan Department of Education add a content-area endorsement to an existing Michigan teaching certificate must be certified at the appropriate level. Six credits of the planned program minor and 12 credits of the planned program major must be earned at Grand Valley State University. For a complete list of the content area endorsements that Grand Valley offers, please refer to the CLAS Academic Advising Center website ([gvsu.edu/clasadvising/endorsements-87.htm](http://gvsu.edu/clasadvising/endorsements-87.htm)).

## **Educator Certification Instructions**

Students who are applying for educator certification must have an MEIS account and **initiate the application process by self-registering online** in the Michigan Online Educator Certification System (MOECS). For instructions on how to create an MEIS account and apply for the certificate, go to [michigan.gov/moecs](http://michigan.gov/moecs).

Candidates should apply for their Standard Teaching Certificate at the beginning of the semester in which they expect to complete all requirements. They should also be certain that they have met all university requirements for graduation and certification. Upon completion of program requirements, **candidates must initiate the process online** through the Michigan Online Educator Certification System (MOECS). For instructions on how to create an MEIS account and apply for additional endorsements or licensure, go to [michigan.gov/moecs](http://michigan.gov/moecs).

## **Elementary Teacher Certification (General Education)**

Michigan elementary standard teaching certification allows the holder to teach any subject in kindergarten through fifth grade; major subjects in sixth through eighth; all subjects in kindergarten through eighth in self-contained classrooms. In addition to degree requirements, candidates must complete the teaching major, minor, and education major program.

### **Teaching Major - Elementary Certification**

The Michigan State Board of Education sets elementary education standards that ensure teachers are prepared with depth and breadth of content knowledge. Students pursuing an elementary standard teaching certificate may select from the following four state approved major programs:

- Integrated science
- Mathematics
- Group social studies
- Language arts

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

In addition to selecting one of the listed teachable majors, education candidates must complete requirements for the elementary teaching minor and the education major program for elementary certification.

Students should meet with their advisor before selecting courses for the elementary minor.

## **Requirements**

Candidates must complete the following 31-credit program. At least one field semester must be completed in a multicultural setting.

### **English**

- ENG 308 - Teaching Reading: The Necessary Skills (4 credits)

### **Mathematics**

- MTH 126 - Mathematics for Elementary Teachers (2 credits) **AND** MTH 226 - Mathematics for PK-6: Whole Numbers and Operations (3 credits) **OR ONLY** MTH 223 - Mathematics for Elementary Teachers III (5 credits)

Elementary candidates must take each of the following courses, except the course listed in their chosen content major area.

### **Fine Arts**

- MAT 300 - Music, Art, and Theatre for Elementary Education (3 credits)

### **Language Arts**

- ENG 302 - Introduction to Language Arts: Teaching Writing and Children's Literature (3 credits)

### **Science**

- SCI 225 - Integrated Life Science for PK-3 Teachers (4 credits)
- SCI 226 - Integrated Physical Science for PK-3 Teachers (3 credits)

### **Physical Education/Health**

- PED 265 - Teaching Health in Elementary Schools (2 credits)
- PED 266 - Move-Dance-Learn! PE and Dance for Elementary Education (2 credits)

### **Social Studies**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- SST 309 - Teaching Elementary Social Studies: Grades 3-6 (3 credits)

### **Requirements for the Education Major Program - Elementary Certification**

Candidates must complete the following 39-credit education major. At least one field semester must be completed in a multicultural setting.

The following must be taken prior to admission to undergraduate teacher education:

- EDF 315 - Diverse Perspectives on Education (3 credits)
- PSY 301 - Child Development (3 credits)
- EDI 338 - Teachers as Decision Makers: Instruction and Assessment in Elementary Schools (3 credits)

#### **Course One**

Taken before **OR** after admission to the College of Education and Community Innovation. It must be completed before student teaching.

- EDS 378 - Universal Design for Learning: Elementary (3 credits)

#### **Course Two**

Taken after admission to the College of Education and Community Innovation. It must be completed before student teaching.

- EDT 370 - Technology in Education (3 credits)

#### **Teacher Assisting Semester**

- EDI 310 - Building and Sustaining Positive Learning Environments (3 credits)
- EDR 320 - Emergent Literacy and the Development of Reading, Writing, and Language (3 credits)
- EDI 330 - Elementary Apprenticeship PK-6 (6 credits)

#### **Student Teaching Semester**

- EDI 430 - Student Teaching, Elementary (10 credits)
- EDF 485 - The Context of Educational Issues (3 credits) May be taken after EDI 430 but before certification.

## **Elementary Teacher Certification For Grades PK-3 and K-12 (CKET) (Special Education)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Michigan PK-3 or 3-6 elementary teacher certification with special education endorsements allows the holder to teach the special education endorsement areas in kindergarten through 12th grade. It also permits teaching any subject in pre-kindergarten through grade three or grade three through grade six. Special education endorsement areas include:

- Autism Spectrum Disorder (ASD)
- Cognitive Impairment (CI)
- Emotional Impairment (EI)
- Learning Disabled (LD)

Special education teacher candidates choose **two** endorsement areas.

In addition to degree requirements, special education candidates must complete the PCKET major for either PK-3 or 3-6, certification core, elementary special education major, and endorsement requirements for two endorsements.

The PCKET major is designed for students seeking certification to teach in specialized areas at the elementary level. It provides a solid foundation in subject-matter knowledge and pedagogical approaches across all content areas taught at these levels; fine arts, health and physical education, integrated science, language arts, mathematics, and social studies. Students complete several field experiences in classrooms, as well as learning to plan instruction and assessments and to understand and work with diverse learners. Our graduates have a unique combination of skills and experiences that are highly valued.

The special education major is designed for students seeking certification to teach students with disabilities. The special education major prepares candidates to effectively teach students with disabilities in a variety of settings and to effectively manage the classroom by developing the ability to adjust teaching practices according to individual student needs. The program features highly trained faculty who value interaction with candidates, robust field placement opportunities, and content that is directly applicable to the K-12 classroom setting. The curriculum provides:

- knowledge of childhood development
- use of high leverage and inclusive teaching practices
- the ability to adapt content knowledge and present it according to individual needs
- extensive field experiences teaching in special education classrooms

### **Requirements for the Pedagogical Content Knowledge for Elementary Teaching (PCKET) PK-3 Major**

The 50-credit PCKET major consists of the following courses and must be planned with the student's PCKET advisor.

#### **Language Arts**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- ENG 201 - Foundations of Literacy Instruction (3 credits)
- ENG 301 - Reading and Writing in the Elementary Classroom (3 credits)
- ENG 401 - Languages, Literacies, and Cultures (3 credits)

### **Mathematics**

- MTH 226 - Mathematics for PK-6: Whole Numbers and Operations (3 credits)
- MTH 326 - Math for PK-6: Fractions, Decimals, and Proportional Reasoning (3 credits)
- MTH 428 - Teaching Math in the Elementary Grades (1 credit)

### **Social Studies**

- HST 209 - History and Social Studies for Elementary Teachers (3 credits)
- SST 309 - Teaching Elementary Social Studies: Grades 3-6 (3 credits)

**AND** one of the following:

- HST 205 - American History to 1877 (3 credits)
- SST 308 - Teaching Elementary Social Studies: Grades PK-3 (3 credits)
- SST 311 - Data Literacy for Social Studies Teachers (3 credits)

### **Integrated Science**

- SCI 225 - Integrated Life Science for PK-3 Teachers (4 credits)
- SCI 226 - Integrated Physical Science for PK-3 Teachers (3 credits)
- SCI 227 - Integrated Life and Earth Science for 3-6 Teachers (3 credits)

### **World Languages**

- ENG 355 - Teaching English Learners, PK-6 (3 credits)

### **Fine Arts**

- ART 231 - Integrating the Visual Arts Across Disciplines (3 credits) **OR** MUS 128 - Strum and Drum for Everyone (3 credits)

### **Health/Physical Education**

- HPE 267 - Health and Movement Education for Elementary Teachers (3 credits)

### **Foundations**

- PSY 301 - Child Development (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## Capstone

- PCK 495 - Integrated Discipline-Based Research in the PK-6 Classrooms (Capstone) (3 credits)

### **Requirements for the Certificate - Educational Studies Core 3-6 Major**

- EDF 115 - Introduction to Education: An Exploration of Schooling in America (3 credits)
- EDF 315 - Diverse Perspectives on Education (3 credits)
- EDF 320 - International Teaching Certificate Preparation (1 credit)
- EDT 476 - Teaching with Technology (3 credits)
- EDI 430 - Student Teaching, Elementary (10 credits)

### **Requirements for the Certificate - Elementary Special Education Major**

Teacher candidates will be placed in academically, culturally, linguistically, and economically diverse settings. Special education candidates must meet with their advisors for the exact sequence of courses.

The following are taken in the graduate special education program as part of the initial standard teaching certificate:

## **International Teaching Undergraduate Certificate**

The goal of this program is to recognize the importance of preparing teachers to be culturally competent in a global society. This program will recognize the candidate's interest in preparing to teach diverse populations in domestic or foreign settings. The courses required for completion of the certificate are typically accomplished in two semesters. All courses required for the certificate, except EDF 320 (1 credit), are also required for a degree in teacher education and Michigan teacher certification. Additional courses, beyond those required for the Certificate of International Teaching Experience, are required to earn a degree in teacher education and Michigan teaching certification. Admission into the College of Education and Community Innovation is required. Completion of coursework with grade of B- or better is required.

### **Courses Needed to Obtain Certification**

- EDI 310 - Building and Sustaining Positive Learning Environments (3 credits)
- EDF 320 - International Teaching Certificate Preparation (1 credit)
- EDF 485 - The Context of Educational Issues (3 credits)
- EDI 330 - Elementary Apprenticeship PK-6 (6 credits)
- OR** EDI 331 - Methods and Strategies of Secondary Teaching (5 credits)
- OR** EDI 430 - Student Teaching, Elementary (10 credits)
- OR BOTH** EDI 431 - Student Teaching, Secondary (8 credits) **AND** EDI 432 - Student Teaching, Secondary Content Practicum (2 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Participation in one of the following College of Education and Community Innovation study abroad programs:

- Teacher assisting in South Africa
- Teacher assisting in Spain
- Teacher assisting/student teaching in Germany
- Student teaching with the Consortium for Overseas Student Teaching (COST) program

Upon completion of requirements, the candidate will receive recognition on his/her transcript and a certificate of completion.

## Michigan Professional Certification

Candidates for Michigan Professional Certification must fulfill the following requirements:

- Hold a Michigan Provisional Certificate.
- Teach successfully for three years after the issuance of the provisional certificate and according to its validity.
- Show evidence of coursework in reading methods: six semester credits for elementary, three for secondary. In Michigan, if provisional certificate was issued after 1983, requirement is met in the initial provisional program.
- Complete an approved state-required course (reading diagnostic) in the diagnosis and remediation of reading disabilities and differentiated instruction, including field experiences, as part of the professional certificate requirement.
- Complete requirements from the professional development/coursework requirement options. Candidates should contact the College of Education and Community Innovation Certification Administrator or visit the College of Education and Community Innovation certification website at [gvsu.edu/education/apply-for-certification-208.htm](http://gvsu.edu/education/apply-for-certification-208.htm) for requirements.

If necessary, the provisional certificate may be renewed for a three-year period. Additional information is available at the College of Education and Community Innovation website at [gvsu.edu/education/renewals-205.htm](http://gvsu.edu/education/renewals-205.htm).

### Renewal of Professional Certificate

The Michigan Professional Certificate must be renewed every five years. Additional information is available on the College of Education and Community Innovation website at [gvsu.edu/coe/professional](http://gvsu.edu/coe/professional).

Students applying for professional certificate renewal must have an MEIS account and **initiate the application process by self-registering online** in the Michigan Online Educator Certification System (MOECS). For instructions on how to create your MEIS account and apply for your renewal, go to [michigan.gov/moecs](http://michigan.gov/moecs).

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

## **Applying for Certification and Endorsements**

Students applying for educator certificate must have an MEIS account and **initiate the application process by self-registering online** in the Michigan Online Educator Certification System (MOECS). For instructions on how to create your MEIS account and apply for your initial Standard Teaching Certificate, Professional Teaching Certificate, Administrative Certificate, renewals, or additional endorsements go to [michigan.gov/moecs](http://michigan.gov/moecs).

Candidates should apply for certificate and/or endorsement(s) at the beginning of the semester in which they expect to complete all requirements. They should also be certain that they have an approved planned program and have met all university requirements for certification. Upon completion of program requirements, **candidates must initiate the process online** through the Michigan Online Educator Certification System (MOECS). For instructions on how to create an MEIS account and apply for additional endorsements or licensure, go to [michigan.gov/moecs](http://michigan.gov/moecs).

## **Planned Program Options for Professional Certification**

It is recommended that candidates who select credit hours for professional development meet with an advisor in the College of Education and Community Innovation to select appropriate course(s).

### **Option One: Master's Degree**

Earning a master's degree from an approved teacher education institution with quality graduate education programs will enhance teacher skills at various levels. It is recommended that students meet with an appropriate College of Education and Community Innovation advisor to select a planned program that meets their needs.

See Graduate Programs in Education section in catalog for more information.

### **Option Two: Additional Major or Minor**

The applicant may earn additional endorsements consisting of at least 20 hours within the College of Education and Community Innovation or with approved subject area majors or minors: [gvsu.edu/clasadvising](http://gvsu.edu/clasadvising). For graduate endorsements, program advisors must approve all additional endorsements. Applicants adding additional subject area endorsements and endorsements at the graduate level must also pass Michigan subject area tests (MTTC).

### **Option Three: Additional Certificate Level**

This option is available for candidates who wish to become certified at a level other than that of their original certificate. For example, a secondary teacher who wants to become elementary certified.

Candidates may select from the following endorsements:

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

- Early childhood endorsement
- Elementary endorsement
- Secondary endorsement

### **Option Four: Professional Development**

Candidates selecting credit hours for their professional certificate may select one of the previously listed options in an approved planned program with a College of Education and Community Innovation advisor or choose courses in subject matter related to the applicant's teaching grade level and content endorsement.

### **Reading Diagnostics Requirement**

Effective July 1, 2009, candidates for the Michigan Professional Certificate are required to complete a course in the diagnosis and remediation of reading disabilities and differentiated instruction. At Grand Valley State University, this requirement can be met with the following courses (choose one):

- EDR 612 - Reading Assessment: Elementary Teacher (3 credits)
- EDR 613 - Reading Assessment: Secondary Teacher (3 credits)
- EDR 626 - Field-based Literacy Assessment for Learning (3 credits) (This course is only for teachers admitted into GVSU master's in reading program.)
- EDS 636 - Diagnostic and Interpretative Procedures (3 credits) **AND** EDS 638 - Instructional Practices: Learning Disabilities II (3 credits) (This combination of courses is only for teachers admitted into the M.Ed. in Special Education - Learning Disabilities.)

Note: The reading diagnostics requirement mentioned previously for progression to the Professional Teaching Certificate **is different** from the reading methods requirement for the Michigan Standard Teaching Certificate.

### **Reading Methods Requirement**

If you completed an initial teaching certificate at a Michigan Institution of Higher Education after 1985, your coursework likely already meets the reading methods requirement.

If you completed your initial teaching certificate out of state, please verify that the reading methods requirement has been met by your previous coursework with the GVSU Teacher Certification Officer in the College of Education and Community Innovation Student Information and Services Center.

Completion of the reading methods and the reading diagnostics requirements are necessary to obtain a Professional Teaching Certificate.

Please note: All certification requirements are subject to change by the Michigan Department of Education.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

# Visual and Media Arts

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

**Website:** [gvsu.edu/vma](http://gvsu.edu/vma)

The Department of Visual and Media Arts offers courses with degree programs leading to a B.A. or B.S. degree in art education and a B.A. in art history, B.A. or B.S. degree in film and video production, photography and studio art, a B.F.A. degree in studio art with an emphasis in ceramics, graphic design, illustration, jewelry and metalsmithing, painting, printmaking, sculpture, or visual studies. Minors are available in art history, photography, and studio art. The degree programs in Visual and Media Arts combine intensive studio training in the visual arts with a liberal arts education. The programs are designed to support students' acquisition of conceptual and technical skills while fostering their awareness of current issues, theoretical frameworks, as well as the historical and cultural contexts for visual and media arts production.

Coursework is augmented by field trips, a campus student exhibition program, campus and off campus student film screenings, visiting artists and filmmakers, and international programs. Internships and independent study also enhance coursework, especially in film and video production, graphic design, and photography, where off-campus field experience is required or recommended.

## Admission

Students admitted to Grand Valley State University who declare an interest in pursuing an art history, film and video production, or photography degree can begin to register for the introductory courses. Students admitted to Grand Valley who are pursuing the art education or studio arts degrees will receive a materials packet explaining the portfolio entrance. The student is then responsible for following the instructions in the packet. In addition, film and video production, graphic design, and illustration require a secondary admission. Students can find details on the website or consult with their academic advisor. Photography and several studio arts emphasis programs do not require a secondary admission. More information regarding application for studio art and art education admission is available online at [gvsu.edu/vma](http://gvsu.edu/vma).

## Transfer Students

- Transfer students pursuing film and video production and photography degrees will be able to receive transfer credit for those courses approved as an equivalent course from their previous institution. The Registrar's office will be able to provide course equivalency information.
- Transfer students pursuing art education or studio art will be able to receive transfer credit for those courses approved as an equivalent course from their previous institution. Other courses are evaluated by a transfer portfolio review at the time of admittance to the department. Contact the department for application information and specific details.

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

- Transfer students pursuing studio art and art education are required to take a minimum of 15 art credits within the department, including one art history course.
- Transfer students may take longer to graduate in the B.F.A. or art education programs because of the high number of professional courses required in those programs and the sequencing necessary for skill development.
- Admission information on how to apply to the Department of Visual and Media Arts is available online at [gvsu.edu/vma](http://gvsu.edu/vma).

### **Accreditation**

The department is accredited by the National Association of Schools of Art and Design (NASAD).

## **Art History Minor**

The minor in art history is a general introduction to the study of art history and its methods. It offers students from many disciplines, including studio art, the humanities, and professional degrees, the opportunity to examine the contexts for the production of the visual arts.

### **Survey Courses**

There are six credits required.

- ART 221 - Survey of Art History I (3 credits)
- ART 222 - Survey of Art History II (3 credits)

### **Distribution Courses**

There are nine credits required. Art history minors are required to take one course from each of the three following areas. Consult with art history faculty about new courses and special topics offerings for credit in the distribution and elective areas.

#### Ancient through Early-Modern Art

There are three credits required. Choose one of the following:

- CLA 250 - Classical Art and Archaeology (3 credits)
- ART 322 - Goths to Gothic: Medieval Art (3 credits)
- ART 323 - Rethinking Renaissance Art (3 credits)

#### Modern and Contemporary Art

There are three credits required. Choose one of the following:

- ART 327 - Art Since 1945 (3 credits)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

- ART 421 - Surrealism (3 credits)
- ART 425 - Depicting a Nation: 19th Century American Art (3 credits)

### World Art

There are three credits required. Choose one of the following:

- ART 420 - Asian Art (3 credits)
- ART 422 - Art and the Worlds of Islam (3 credits)

### Art History Electives

There are six credits required. Select two courses:

- ART 218 - Design History (3 credits)
- ART 322 - Goths to Gothic: Medieval Art (3 credits)
- ART 323 - Rethinking Renaissance Art (3 credits)
- ART 327 - Art Since 1945 (3 credits)
- ART 380 - Special Topics in Art and Design (1 to 3 credits) (History emphasis.)
- ART 420 - Asian Art (3 credits)
- ART 421 - Surrealism (3 credits)
- ART 422 - Art and the Worlds of Islam (3 credits)
- ART 423 - Animals in Art (3 credits)
- ART 425 - Depicting a Nation: 19th Century American Art (3 credits)
- CLA 250 - Classical Art and Archaeology (3 credits)
- FVP 225 - Film Culture (3 credits)
- FVP 348 - Film Theories (3 credits)
- PHO 366 - History of Photography II (3 credits)
- PHI 220 - Aesthetics (3 credits)
- SOC 289 - Sociology of Art (3 credits)

## Bachelor of Arts in Art History

The art history major at Grand Valley State University offers students a broad-based knowledge of visual culture, its social and historical contexts of production, as well as an introduction to theoretical approaches. The major uses an interdisciplinary model, which offers students opportunities for intensive study within the Department of Visual and Media Arts while allowing them to select from courses offered in other departments across the GVSU campus.

### Requirements for a Major in Art History

All art history majors will earn a B.A. degree. Students are required to complete 39 credit hours in art history and studio art courses. Students will also meet the general education requirements, including third semester language proficiency.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Foundations Courses**

There are six credit hours required. All art history majors are required to take two introductory courses to provide them with an overview of the chronology and methods of the discipline of art history.

- ART 221 - Survey of Art History I (3 credits)
- ART 222 - Survey of Art History II (3 credits)

## **Distribution Courses**

There are 15 credit hours required. Art history majors are required to take classes covering a range of historical periods and cultures. Students take two courses in Ancient through Early-Modern Art as well as two courses in Modern and Contemporary Art categories for a total of 12 credit hours. In addition, one course is required from the World Art category for an additional three hours toward the distribution requirements.

### Ancient through Early-Modern Art

Choose two courses:

- ART 322 - Goths to Gothic: Medieval Art (3 credits)
- ART 323 - Rethinking Renaissance Art (3 credits)
- CLA 250 - Classical Art and Archaeology (3 credits)

### Modern and Contemporary Art

Choose two courses:

- ART 325 - Nineteenth-Century Art (3 credits)
- ART 327 - Art Since 1945 (3 credits)
- ART 421 - Surrealism (3 credits)
- ART 425 - Depicting a Nation: 19th Century American Art (3 credits)

### World Art

Choose one course:

- ART 420 - Asian Art (3 credits)
- ART 422 - Art and the Worlds of Islam (3 credits)

## **Studio Requirements**

There are six credit hours required. Select two courses:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- ART 150 - Foundations: 2-D Design (3 credits)
- ART 151 - Foundations: 3-D Design (3 credits)
- ART 152 - Foundations: Color and Design (3 credits)
- ART 153 - Foundations: Making and Meaning in Art and Design (3 credits)
- ART 155 - Foundations: Introduction to Drawing I (3 credits)
- ART 157 - Foundations: Introduction to Drawing II (3 credits)
- 200-level studio course in any emphasis area

### **Capstone and Senior Thesis**

There are six credit hours required. After completion of other art history requirements, students take a Capstone seminar, which offers them a discussion-intensive classroom experience. During their final semester, students complete a senior thesis with the assistance of their academic advisor.

- ART 495 - Issues in Art (Capstone) (3 credits)

### **Art History Electives**

There are six credit hours required.

- ART 218 - Design History (3 credits)
- ART 322 - Goths to Gothic: Medieval Art (3 credits)
- ART 323 - Rethinking Renaissance Art (3 credits)
- ART 327 - Art Since 1945 (3 credits)
- ART 380 - Special Topics in Art and Design (1 to 3 credits) (History emphasis.)
- ART 420 - Asian Art (3 credits)
- ART 421 - Surrealism (3 credits)
- ART 422 - Art and the Worlds of Islam (3 credits)
- ART 423 - Animals in Art (3 credits)
- ART 425 - Depicting a Nation: 19th Century American Art (3 credits)
- CLA 250 - Classical Art and Archaeology (3 credits)
- FVP 225 - Film Culture (3 credits)
- FVP 348 - Film Theories (3 credits)
- PHO 366 - History of Photography II (3 credits)
- PHI 220 - Aesthetics (3 credits)
- SOC 289 - Sociology of Art (3 credits)

### **Distribution of General Education Requirements**

Students are strongly encouraged to work closely with their advisors and create individual study plans appropriate to their area of interest in the major. These courses allow students to enrich their understanding of the cultural contexts for art production. Students may combine these courses to meet other requirements in the art history and general education programs. Some

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possible fields of exploration include sociology, anthropology, history, philosophy, literature, music history, theater history, and languages.

## **Suggested Order of Coursework for a Major in Art History**

### **Year One**

Fall Semester:

- ART 221 - Survey of Art History I (3 credits)
- WRT 150 - Strategies in Writing (4 credits)
- First semester foreign language (4 credits)
- One general education elective (3 credits)

Winter Semester:

- ART 222 - Survey of Art History II (3 credits)
- Second semester foreign language (4 credits)
- Two general education electives (6 credits)

### **Year Two**

Fall Semester:

- Two art history distribution courses (6 credits)
- Third semester foreign language (4 credits)
- One studio elective (3 credits)
- One general education elective (3 credits)

Winter Semester:

- Two art history distribution courses (6 credits)
- One Issues course (3 credits)
- Two general education electives (6 credits)
- Complete the second SWS course

### **Year Three**

Fall Semester:

- One art history distribution course (3 credits)
- One art history elective (3 credits)
- One Issues course (3 credits)
- One studio elective (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

- One general education elective (3 credits)

Winter Semester:

- One art history elective (3 credits)
- Four electives: general education/additional art history/second major/minor (15 credits)

### **Year Four**

Fall Semester:

- ART 495 - Issues in Art (Capstone) (3 credits)
- Four electives: general education/additional art history/second major/minor (12 credits)

Winter Semester:

- Complete senior thesis requirement (3 credits)
- Four electives: general education/additional art history/second major/minor (12 credits)

## **Bachelor of Arts or Bachelor of Science in Art Education (Teacher Certification)**

The art education program enables students to meet certification requirements for teaching visual art in Michigan elementary and secondary schools.

### **Degree Requirements**

All students entering art education must follow the program leading to LQ certification (K-12 comprehensive with no teachable minor).

Entering students in art education, or degree-holding students wishing teacher certification must complete 75 credits in art, including four introductory studios and a studio emphasis chosen from ceramics, graphic design, illustration, jewelry/metalsmithing, painting, printmaking, sculpture, or visual studies.

### **General Education**

In the GVSU general education requirements, the Foundations section lists ART 101 - Introduction to Art as a choice. ART 101 is not required for the B.F.A., B.A., or B.S. in visual and media arts programs. Some of the material in Art 101 will be duplicated in the required coursework. Studio arts and art education majors are advised to take one of the other classes in the general education Arts category.

### **Requirements for a Major in Art Education**

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

## **B.A. Degree Requirements**

- Foreign language (third-semester proficiency in a foreign language)

## **B.S. Degree Requirements (Credits: 9)**

- CIS 150 - Introduction to Computing (3 credits)
- STA 215 - Introductory Applied Statistics (3 credits)
- STA 216 - Intermediate Applied Statistics (3 credits) **OR** HST 290 - Research Methods in History (3 credits)

## **Foundations Review and Courses**

After completing the foundations program (ART 150, ART 151, ART 152, ART 153, ART 155, ART 157), all art students are evaluated for entrance into the design and fine arts programs. All art students are required to submit their collective work for faculty review.

## **Foundations**

Requires 18 credits. Must be taken during freshman year.

- ART 150 - Foundations: 2-D Design (3 credits)
- ART 151 - Foundations: 3-D Design (3 credits)
- ART 152 - Foundations: Color and Design (3 credits)
- ART 153 - Foundations: Making and Meaning in Art and Design (3 credits)
- ART 155 - Foundations: Introduction to Drawing I (3 credits)
- ART 157 - Foundations: Introduction to Drawing II (3 credits)

## **Art History**

Requires 12 credits.

- Art History electives (6 credits)
- ART 221 - Survey of Art History I (3 credits)
- ART 222 - Survey of Art History II (3 credits)

## **Requirements**

- ART 332 - Introduction to Art Education (3 credits)
- ART 333 - Curriculum Development and Practice (3 credits)
- ART 335 - Digital Creativity (3 credits)
- ART 495 - Issues in Art (Capstone) (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Note: Art methodology courses (ART 332, ART 333, and ART 335) must be taken before arranging for teacher assisting and directed teaching. Students should consult the College of Education and Community Innovation for the specific requirements concerning teacher assisting and student directed teaching.

Note: Completion of the art history requirements (see previous) of the B.A. or B.S. program is a prerequisite for ART 495.

Complete four courses (select corresponding coursework):

- ART 210 - Graphic Design I (3 credits)
- ART 245 - Introduction to Jewelry and Metalsmithing (3 credits)
- ART 260 - Introduction to Painting (3 credits)
- ART 265 - Introduction to Printmaking (3 credits)
- ART 270 - Introduction to Sculpture (3 credits)
- ART 275 - Introduction to Ceramics (3 credits)
- ART 281 - Introduction to Illustration (3 credits)

Two drawing courses:

- ART 257 - Life Drawing (3 credits)
- ART 258 - Intermediate Drawing (3 credits)
- ART 355 - Advanced Drawing I (3 credits)

Three studio courses (from one emphasis area):

- Two intermediate studio emphasis courses (6 credits)
- One advanced studio emphasis course (3 credits)

Two studio art or art education electives (6 credits)

### **Additional Requirements**

Prerequisite courses required prior to admission to undergraduate teacher education:

- PSY 301 - Child Development (3 credits)
- EDF 315 - Diverse Perspectives on Education (3 credits)
- EDI 338 - Teachers as Decision Makers: Instruction and Assessment in Elementary Schools (3 credits)
- EDI 339 - Teachers as Decision Makers: Instruction and Assessment in Secondary Schools (3 credits)
- Requirements for admission to assisted and student-directed teaching, please consult with art education/CECI advisor for specific requirements.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Note: These prerequisite courses require a 2.7 GPA or better, with no grade lower than a C.

Passing scores (reading and writing component must be passed with a score of 480 or higher, and mathematics component must be passed with a score of 530 or higher) on the SAT Evidence-based Test will be required prior to admission to the College of Education and Community Innovation. Passing scores on the Content Area, #95-Visual Arts Education, test will be required prior to obtaining certification. The Content Area (#95) test can be taken during teacher assisting, student teaching, or before graduation. MTTC website: [mttc.nesinc.com](http://mttc.nesinc.com).

**Prerequisites to College of Education and Community Innovation Application:** Nine credits

A 3.0 GPA in the major, passing score on the SAT Evidence-based Test, and completion of EDF 315, EDI 338, EDI 339, and PSY 301 with a grade of C or better are required before admission to College of Education and Community Innovation's Teacher Assisting semester.

**Certificate Requirement:** Pass the Michigan Test for Teacher Certification (MTTC) [mttc.nesinc.com](http://mttc.nesinc.com), #95-Visual Arts Education, in the content area before graduation.

## **Bachelor of Arts or Bachelor of Science in Studio Art**

The B.A. and B.S. programs emphasize breadth of experience over specialization in a single medium. Students complete a more diverse curriculum including coursework in two- and three-dimensional disciplines.

### **Requirements for a Major in Studio Art**

Art majors seeking a B.A. or B.S. degree must complete a minimum of 45 credits in art and design.

### **General Education Courses**

In the GVSU general education requirements, the Foundations section lists ART 101 - Introduction to Art as a choice. ART 101 is not required for the B.A. or B.S. in studio art. Some of the material in ART 101 will be duplicated in the required coursework. B.A. and B.S. majors in studio art are advised to take one of the other classes in the general education Arts category.

### **Foundations Courses**

After completing the Foundations program (ART 150, ART 151, ART 152, ART 155, and ART 157), all studio art and art education students are evaluated by the faculty during Foundations portfolio review for entrance into majors in the Department of Visual and Media Arts.

- ART 150 - Foundations: 2-D Design (3 credits)
- ART 151 - Foundations: 3-D Design (3 credits)
- ART 152 - Foundations: Color and Design (3 credits)

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

- ART 155 - Foundations: Introduction to Drawing I (3 credits)
- ART 157 - Foundations: Introduction to Drawing II (3 credits)

### **Additional Requirements**

Students seeking a major in studio art can earn either the B.A. or B.S. degree. Requirements include completion of the following.

### **Art History Electives**

Requires nine credits.

Choose three courses from the following:

- ART 221 - Survey of Art History I (3 credits)
- ART 222 - Survey of Art History II (3 credits)
- ART 218 - Design History (3 credits)
- ART 322 - Goths to Gothic: Medieval Art (3 credits)
- ART 323 - Rethinking Renaissance Art (3 credits)
- ART 327 - Art Since 1945 (3 credits)
- ART 380 - Special Topics in Art and Design (1 to 3 credits)
- ART 420 - Asian Art (3 credits)
- ART 421 - Surrealism (3 credits)
- ART 422 - Art and the Worlds of Islam (3 credits)
- ART 423 - Animals in Art (3 credits)
- ART 425 - Depicting a Nation: 19th Century American Art (3 credits)

### **Studio Art 2-D Courses**

Requires six credits.

Choose two courses in different 2-D areas from the following:

- ART 210 - Graphic Design I (3 credits)
- ART 257 - Life Drawing (3 credits)
- ART 260 - Introduction to Painting (3 credits)
- ART 265 - Introduction to Printmaking (3 credits)
- ART 280 - Special Topics in Art and Design (3 credits)
- ART 393 - Image Studio (3 credits)

### **Studio Art 3-D Courses**

Requires six credits.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Choose two courses in different 3-D areas from the following:

- ART 245 - Introduction to Jewelry and Metalsmithing (3 credits)
- ART 270 - Introduction to Sculpture (3 credits)
- ART 275 - Introduction to Ceramics (3 credits)
- ART 395 - Space Studio (3 credits)

### **Studio Electives**

Requires six credits.

Choose two courses from the following:

- ART 307 - Digital Prepress (3 credits)
- ART 310 - Graphic Design III (3 credits)
- ART 312 - Graphic Design IV - Experience Design (3 credits)
- ART 313 - 3-D for Graphic Design (3 credits)
- ART 346 - Intermediate Jewelry and Metalsmithing I (3 credits)
- ART 347 - Intermediate Jewelry and Metalsmithing II (3 credits)
- ART 355 - Advanced Drawing I (3 credits)
- ART 356 - Advanced Drawing II (3 credits)
- ART 361 - Intermediate Painting I (3 credits)
- ART 362 - Intermediate Painting II (3 credits)
- ART 366 - Intermediate Printmaking I (3 credits)
- ART 367 - Intermediate Printmaking II (3 credits)
- ART 371 - Intermediate Sculpture 1: Fabrications (3 credits)
- ART 372 - Intermediate Sculpture 2: Replications (3 credits)
- ART 376 - Intermediate Ceramics 1: Wheel Throwing (3 credits)
- ART 377 - Intermediate Ceramics 2: Voice/Concept (3 credits)
- ART 380 - Special Topics in Art and Design (1 to 3 credits)
- ART 381 - Intermediate Illustration I (3 credits)
- ART 382 - Intermediate Illustration II (3 credits)
- ART 391 - Civic Studio (3 credits)
- ART 392 - Curatorial Studio (3 credits)
- ART 393 - Image Studio (3 credits)
- ART 394 - Interactive Studio (3 credits)
- ART 395 - Space Studio (3 credits)
- ART 396 - Time Studio (3 credits)

### **Capstone**

Requires three credits, including:

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- ART 495 - Issues in Art (Capstone) (3 credits)

Completion of the art history requirements of the B.A. or B.S. program is a prerequisite for ART 495. Students register for a section taught by an art history professor.

## **B.A. and B.S. Degree Requirements**

### **B.A. Degree Requirements**

Students must complete third-semester proficiency in a foreign language.

### **B.S. Degree Requirements**

Students must complete the following:

- CIS 150 - Introduction to Computing (3 credits)
- STA 215 - Introductory Applied Statistics (3 credits)

**AND** one of the following:

- STA 216 - Intermediate Applied Statistics (3 credits)
- HST 290 - Research Methods in History (3 credits)

## **Suggested Order of Coursework for a Major in Studio Art**

This suggested order of coursework applies generally to the fine arts curriculum for students working toward a B.S. or a B.A. degree. Students should verify specific major requirements with their assigned advisor.

### **Year One**

Fall Semester:

- ART 150 - Foundations: 2-D Design (3 credits)
- ART 151 - Foundations: 3-D Design (3 credits)
- ART 155 - Foundations: Introduction to Drawing I (3 credits)
- Two general education courses

Winter Semester:

- ART 152 - Foundations: Color and Design (3 credits)
- ART 157 - Foundations: Introduction to Drawing II (3 credits)
- Three general education courses

### **Year Two**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- Two courses from art history (6 credits)
- Four studio courses (12 credits)
- Four general education courses or electives

### **Year Three**

- One course from art history (3 credits)
- Two studio courses (6 credits)
- Seven general education courses or electives

### **Year Four**

- ART 495 - Issues in Art (Capstone) (3 credits)
- Nine general education courses or electives

## **Bachelor of Fine Arts in Studio Art**

The B.F.A. degree is designed for students interested in a professional degree in art or design. It will prepare students for a career as a professional artist or designer.

### **Requirements for a Major in Studio Art**

Students seeking a B.F.A. degree must complete a minimum of 84 credits in art and design, including completion of the foundation and art history component, as well as the specific emphasis requirements as follows. A 2.75 GPA must be maintained in the upper-level studio courses for a B.F.A.

### **General Education Requirements**

In the GVSU general education requirements, the Foundations section lists ART 101 - Introduction to Art as a choice. ART 101 is not required for the B.F.A., B.A., or B.S. in studio art. Some of the material in ART 101 will be duplicated in the required coursework. Majors are advised to take one of the other classes in the general education Arts category.

### **Foundations Courses**

After completing the Foundations program (ART 150, ART 151, ART 152, ART 153, ART 155, and ART 157), all majors are evaluated for entrance into the design and fine arts programs.

**Note: All majors are required to submit their collective work for faculty review.**

The following (18 credits) must be completed in year one:

- ART 150 - Foundations: 2-D Design (3 credits)
- ART 151 - Foundations: 3-D Design (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- ART 152 - Foundations: Color and Design (3 credits)
- ART 153 - Foundations: Making and Meaning in Art and Design (3 credits)
- ART 155 - Foundations: Introduction to Drawing I (3 credits)
- ART 157 - Foundations: Introduction to Drawing II (3 credits)

### **Secondary Admission**

Students seeking either the graphic design or illustration emphasis, must participate in a secondary admission process after successful completion of the Foundations Review. Both programs prioritize admission based on a review of portfolio work from the foundations courses.

### **Junior Review**

Two semesters before their B.F.A. exhibition, all B.F.A. students are required to submit a sample of their work, completed since the foundations program, for faculty review and comment. Based on the review, students may be asked to do remedial work and submit to a second review. If a second review is unsuccessful, the student will be asked to leave his or her current program or the department. See the Department of Visual and Media Arts Student Handbook for scheduling details and specific requirements.

### **B.F.A. Exhibition**

Graduating seniors must have a B.F.A. show and a final acceptance of their work by art and design faculty, earning a grade of at least a C for their Senior Project (ART 498 or ART 415). The fine arts and illustration seniors will have a group exhibition. The graphic design seniors will have a group exhibit evaluated by graphic design faculty. See the Department of Visual and Media Arts Student Handbook for details.

### **Art History**

Requires 12 credits, including:

- Art history electives (6 credits)
- ART 221 - Survey of Art History I (3 credits)
- ART 222 - Survey of Art History II (3 credits)

### **Capstone**

- ART 495 - Issues in Art (Capstone) (3 credits)

Completion of the art history requirements of the B.F.A. program is a prerequisite for ART 495. Students register for a section taught by an art history professor.

### **Emphases**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Ceramics**

Ceramics emphasis requires 54 credits as outlined.

### **Studio Elective Courses**

Requires 18 credits.

### **Required Emphasis Courses**

Requires 36 credits, including:

- ART 245 - Introduction to Jewelry and Metalsmithing (3 credits)
- ART 270 - Introduction to Sculpture (3 credits)
- ART 275 - Introduction to Ceramics (3 credits)
- ART 376 - Intermediate Ceramics 1: Wheel Throwing (3 credits)
- ART 377 - Intermediate Ceramics 2: Voice/Concept (3 credits)
- ART 401 - Senior Seminar (3 credits)
- ART 477 - Advanced Ceramics 1 (3 credits)
- ART 478 - Advanced Ceramics 2 (3 credits)
- ART 479 - Glaze Calculation (3 credits)
- ART 495 - Issues in Art (Capstone) (3 credits)
- ART 498 - Senior Project (6 credits)

## **Graphic Design**

Graphic design emphasis requires 54 to 55 credits as outlined.

### **Studio Elective Courses**

Requires 15 credits. Studio electives may be selected in art, photography, or film and video. Electives in other areas must be approved by graphic design faculty.

### **Required Emphasis Courses**

Requires 39 to 40 credits, including:

- ART 210 - Graphic Design I (3 credits)
- ART 211 - Graphic Design II (3 credits)
- ART 215 - Advanced Typography (3 credits)
- ART 258 - Intermediate Drawing (3 credits)
- ART 310 - Graphic Design III (3 credits)
- ART 312 - Graphic Design IV - Experience Design (3 credits)
- ART 410 - Graphic Design V (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- ART 413 - Portfolio (3 credits)
- ART 415 - Senior Project: Graphics/Illustration (3 credits)
- ART 495 - Issues in Art (Capstone) (3 credits)
- PHO 171 - Photography I (4 credits) **OR** PHO 175 - Understanding Still Photography (3 credits)

Note for PHO 171 or PHO 175: Consult advisor to make PHO course selection. Access to studio courses in the School of Communications cannot be guaranteed for art and design majors.

### **Business Practice Courses**

Select one course (three credits) from the following:

- BUS 201 - Legal Environment for Business (3 credits)
- MKT 350 - Marketing Management (3 credits)
- CAP 210 - Fundamentals of Advertising (3 credits)
- CAP 220 - Fundamentals of Public Relations (3 credits)

### **Internship**

An off-campus experience is required for internship credit.

- ART 491 - Internship in Studio Art (1 to 6 credits)

### **Design History Course**

Students must substitute ART 218 - Design History (3 credits) for one of the two art history elective courses.

### **Illustration**

Illustration emphasis requires 54 credits as outlined.

### **Studio Elective Courses**

Requires 15 credits.

### **Required Emphasis Courses**

Requires 39 credits, including:

- ART 212 - Graphic Design for Illustrators (3 credits)
- ART 257 - Life Drawing (3 credits)
- ART 258 - Intermediate Drawing (3 credits)
- ART 260 - Introduction to Painting (3 credits)
- ART 265 - Introduction to Printmaking (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- ART 281 - Introduction to Illustration (3 credits)
- ART 381 - Intermediate Illustration I (3 credits)
- ART 382 - Intermediate Illustration II (3 credits)
- ART 413 - Portfolio (3 credits)
- ART 415 - Senior Project: Graphics/Illustration (3 credits)
- ART 482 - Advanced Illustration I (3 credits)
- ART 483 - Advanced Illustration II (3 credits)
- ART 495 - Issues in Art (Capstone) (3 credits)

### **Jewelry/Metalsmithing**

Jewelry/metalsmithing emphasis requires 54 credits as outlined.

### **Studio Elective Courses**

Requires 18 credits.

### **Required Emphasis Courses**

Requires 36 credits, including:

- ART 245 - Introduction to Jewelry and Metalsmithing (3 credits)
- ART 270 - Introduction to Sculpture (3 credits)
- ART 275 - Introduction to Ceramics (3 credits)
- ART 345 - Relevant Skills for the Jeweler (3 credits)
- ART 346 - Intermediate Jewelry and Metalsmithing I (3 credits)
- ART 347 - Intermediate Jewelry and Metalsmithing II (3 credits)
- ART 401 - Senior Seminar (3 credits)
- ART 447 - Advanced Jewelry and Metalsmithing I (3 credits)
- ART 448 - Advanced Jewelry and Metalsmithing II (3 credits)
- ART 495 - Issues in Art (Capstone) (3 credits)
- ART 498 - Senior Project (6 credits)

### **Painting**

Painting emphasis requires 54 credits as outlined.

### **Printmaking or Illustration Course**

Requires three credits.

### **Metals, Sculpture, or Ceramics Course**

Requires three credits.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Studio Elective Courses**

Requires 12 credits.

## **Required Emphasis Courses**

Requires 42 credits, including:

- ART 257 - Life Drawing (3 credits)
- ART 258 - Intermediate Drawing (3 credits)
- ART 260 - Introduction to Painting (3 credits)
- ART 355 - Advanced Drawing I (3 credits)
- ART 361 - Intermediate Painting I (3 credits)
- ART 362 - Intermediate Painting II (3 credits)
- ART 401 - Senior Seminar (3 credits)
- ART 462 - Advanced Painting I (3 credits)
- ART 463 - Advanced Painting II (3 credits)
- ART 495 - Issues in Art (Capstone) (3 credits)
- ART 498 - Senior Project (6 credits)

## **Printmaking**

Printmaking emphasis requires 54 credits as outlined.

## **Metals, Sculpture, or Ceramics Course**

Requires three credits.

## **Studio Elective Courses**

Requires nine credits.

## **Required Emphasis Courses**

Requires 45 credits, including:

- ART 257 - Life Drawing (3 credits)
- ART 258 - Intermediate Drawing (3 credits)
- ART 260 - Introduction to Painting (3 credits)
- ART 265 - Introduction to Printmaking (3 credits)
- ART 355 - Advanced Drawing I (3 credits)
- ART 356 - Advanced Drawing II (3 credits)
- ART 366 - Intermediate Printmaking I (3 credits)
- ART 367 - Intermediate Printmaking II (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- ART 401 - Senior Seminar (3 credits)
- ART 467 - Advanced Printmaking I (3 credits)
- ART 468 - Advanced Printmaking II (3 credits)
- ART 495 - Issues in Art (Capstone) (3 credits)
- ART 498 - Senior Project (6 credits)

## **Sculpture**

Sculpture emphasis requires 54 credits as outlined.

### **Studio Elective Courses**

Requires 18 credits.

### **Required Emphasis Courses**

Requires 36 credits, including:

- ART 245 - Introduction to Jewelry and Metalsmithing (3 credits)
- ART 270 - Introduction to Sculpture (3 credits)
- ART 275 - Introduction to Ceramics (3 credits)
- ART 271 - Digital 3-D Modeling and Design (3 credits)
- ART 371 - Intermediate Sculpture 1: Fabrications (3 credits)
- ART 372 - Intermediate Sculpture 2: Replications (3 credits)
- ART 401 - Senior Seminar (3 credits)
- ART 472 - Advanced Sculpture 1 (3 credits)
- ART 473 - Advanced Sculpture 2 (3 credits)
- ART 495 - Issues in Art (Capstone) (3 credits)
- ART 498 - Senior Project (6 credits)

## **Visual Studies**

Visual studies emphasis requires 54 credits as outlined.

### **Studio Elective Courses**

Requires 18 to 27 credits.

### **Required Emphasis Courses**

Requires 27 to 36 credits, including:

- ART 391 - Civic Studio (3 credits)
- ART 392 - Curatorial Studio (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- ART 393 - Image Studio (3 credits)
- ART 394 - Interactive Studio (3 credits)
- ART 395 - Space Studio (3 credits)
- ART 396 - Time Studio (3 credits)
- ART 401 - Senior Seminar (3 credits)
- ART 495 - Issues in Art (Capstone) (3 credits)
- ART 498 - Senior Project (6 credits)

Working with their advisor, undergraduates create individualized learning plans, which are evaluated every semester. Students take five to eight courses specific to visual studies in at least four different areas (ART 391, ART 392, ART 393, ART 394, ART 395, and ART 396). These may be repeated once. Students complete the remaining credits in the emphasis with the studio electives they have chosen for their learning plan for a total of 54 credits.

## **Suggested Order of Coursework for a B.F.A. in Studio Art**

### **Year One**

Fall Semester (15 credits):

- Two general education courses (6 credits)
- Three foundation studio courses:
  - ART 150 - Foundations: 2-D Design (3 credits)
  - ART 151 - Foundations: 3-D Design (3 credits) **OR** ART 153 - Foundations: Making and Meaning in Art and Design (3 credits)
  - ART 155 - Foundations: Introduction to Drawing I (3 credits)

Winter Semester (15 credits):

- Two general education courses credits (6 credits)
- Three foundation studio courses:
  - ART 151 - Foundations: 3-D Design (3 credits) **OR** ART 153 - Foundations: Making and Meaning in Art and Design (3 credits)
  - ART 152 - Foundations: Color and Design (3 credits)
  - ART 157 - Foundations: Introduction to Drawing II (3 credits)

### **Year Two**

Fall Semester (18 credits):

- Emphasis requirements (9 credits)
- Two general education courses (6 credits)
- ART 221 - Survey of Art History I (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Winter Semester (18 credits):

- Emphasis requirements (9 credits)
- Two general education courses (6 credits)
- ART 222 - Survey of Art History II (3 credits)

### **Year Three**

Fall Semester (18 credits):

- Emphasis requirements and electives (9 credits)
- Art history elective (3 credits)
- Two general education Issues courses (6 credits)

Winter Semester (15 to 18 credits):

- Emphasis requirements and electives (9 credits)
- Art history elective (3 credits)
- One or two general education Issues courses (3 to 6 credits)

### **Year Four**

Fall Semester (12 credits):

- Emphasis requirements and electives (6 credits)
- ART 401 - Senior Seminar (3 credits) **OR** ART 413 - Portfolio (3 credits)
- ART 495 - Issues in Art (Capstone) (3 credits)

Winter Semester (12 to 15 credits):

- Emphasis requirements and electives (3 credits)
- One or two general education courses (3 to 6 credits)
- ART 498 - Senior Project (6 credits)

## **Studio Art Minor**

The studio art minor offers students in other majors the opportunity to pursue their interests in the visual arts. Students choose eight courses for the minor, which can be structured for broad engagement or focused learning in studio art.

### **Requirements for Minor in Studio Art**

The minor in studio art requires 24 credits.

## **Studio Art**

Complete the following (18 credits) studio foundations courses:

- ART 151 - Foundations: 3-D Design (3 credits)
- ART 153 - Foundations: Making and Meaning in Art and Design (3 credits)
- ART 155 - Foundations: Introduction to Drawing I (3 credits)
- Choose two studio courses at the 200-level or above.
- Choose one studio course at the 300-level or above.

## **Art History**

- One art history course at the 200-level or above (3 credits)

## **Elective Course**

- One additional three-credit course with the ART designation.

Note: ART courses include studio art courses at any level (including 100-level foundation courses), ART 101, art history at any level, and art education courses at any level.

# **Women, Gender, and Sexuality Studies**

For additional information about opportunities your college offers, please refer to the Brooks College of Interdisciplinary Studies section in this catalog.

**Website:** [gvsu.edu/wgs](http://gvsu.edu/wgs)

## **Mission**

Creating and sustaining a community of scholar-activists who: understand systems of gender and sexuality; generate and apply intersectional feminist and queer perspectives; challenge structural inequalities; and work for social justice.

## **Program Information**

Students may earn a Bachelor of Arts or Bachelor of Science degree in Women, Gender, and Sexuality Studies (WGS). The program also offers a minor in WGS and a minor in Lesbian, Gay, Bisexual, Transgender, Queer Studies (LGBTQ).

The Women, Gender, and Sexuality Studies Department at GVSU offers an interdisciplinary curriculum that acquaints students with the scholarship on women, gender, and sexuality; raises awareness of how categories of gender and sexuality affect and are affected by our everyday lives, historical currents, social institutions, science, art,

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

and literature; and prepares students for graduate school and/or careers in which knowledge of these issues is relevant.

The WGS curriculum focuses on diversity and the integration of theory and practice within the field. Liberal education is central to WGS, and the department requires that students critically reflect on and recognize their own social and cultural environments and challenge prevailing ideas of privilege and inequality. These attributes encourage students to develop the skills of inquiry, reflection, critical analysis, dialogue, and expression central to the university's vision for undergraduate success.

Each semester, more than 500 students enroll in WGS courses, ranging from an introduction to gender studies to classes cross-listed with several other departments, to our high-impact courses that empower students to challenge gender stereotypes, understand feminist perspectives, and work actively for diverse gender justice through service learning and civic engagement at the community level and through an international lens.

### **Campus Engagement**

The WGS Department contributes to the experience of all students on campus by working in collaboration with the Gayle R. Davis Center for Women and Gender Equity, the Milton E. Ford LGBT Resource Center, the Office of Multicultural Affairs, student organizations and academic programs, and departments across the university to sponsor speakers and events that contribute to understanding women, gender, and sexuality in the contemporary world.

### **Study Abroad**

Students are encouraged to consider study abroad experiences with programs that examine issues and topics related to women, gender, and/or sexuality studies. WGS faculty currently facilitate a study abroad program in Cape Town, South Africa which combines academic curriculum with service to the community. Participants examine how issues such as reproductive health, education, violence, political representation, and Apartheid have intersected, and gain a deeper understanding of race and class through a global feminist perspective. Students learn about and visit several sites of historical and cultural significance in and around Cape Town and Johannesburg.

For more information about opportunities to study women, gender, and/or sexuality abroad, students should contact the Women, Gender, and Sexuality Studies Department or the Padnos International Center.

### **Honors Organizations**

Iota Iota Iota (Triota) is the academic honor society for the field of women and gender, gender, and sexuality studies. Triota strives to maintain feminist values central to WGS: egalitarianism, inclusiveness, and the celebration of the diversity of gendered experiences. The organization also works to enhance the experience of students by recognizing their

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

academic achievements and supporting scholarship in women, gender, and sexuality studies at Grand Valley. Students meeting eligibility criteria are inducted into GVSU's chapter of Iota Iota Iota each year.

## **Bachelor of Arts or Bachelor of Science in Women, Gender, and Sexuality Studies**

### **Requirements**

Students pursuing a major in women, gender, and sexuality studies are required to complete at least 30 credits, which includes five core courses. Students must also complete 15 credits in electives at the 200-level or higher, one of which must come from the high impact/civic engagement emphasis.

### **Required Courses**

- WGS 200 - Introduction to Gender Studies (3 credits)
- WGS 360 - Foundations of Feminism (3 credits)
- WGS 395 - Women and Gender Studies Research Methods (3 credits)
- WGS 450 - Global Feminisms (3 credits)
- WGS 495 - Capstone (3 credits)

### **High Impact/Civic Engagement Emphasis**

Civic engagement has long been a core value in the field of women, gender, and sexuality studies, reflecting the field's deep roots in activism. The high impact/civic engagement courses offer students the opportunity to engage in reflective application of theory through direct engagement with community partners or through developing a vision and a strategy for social justice activism.

- WGS 490 - WGS Internship (variable credits)
- WGS 491 - Contemporary Theory and Practicum (3 credits)
- WGS 492 - Community Collaborative (3 credits)
- WGS 493 - Community Collaborative in South Africa (3 credits)

### **Elective Courses**

For the remaining four electives, students can choose from a wide range of courses within WGS, courses cross-listed with and taught by other departments, and other approved electives.

Other courses that have significant content devoted to the study of women, gender, and/or sexuality during a particular semester may also be counted toward the major on an individual case basis with department chair approval.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Choose four courses (minimum of 12 credits) from the following:

- WGS 224 - Introduction to LGBTQ Studies (3 credits)
- WGS 255 - Gender and Popular Culture (3 credits)
- WGS 280 - Special Topics in Women Gender, and Sexuality Studies (3 credits)
- WGS 302 - Women, Politics, and Public Policy (3 credits)
- WGS 310 - LGBTQ Rights and the Law (3 credits)
- WGS 315/PSY 315 - Psychology of Sex Differences (3 credits)
- WGS 316/PSY 316 - The Psychology of Human Intimacy and Sexuality (3 credits)
- WGS 317/SOC 317 - Sociology of Gender (3 credits)
- WGS 318/SOC 318 - Sociology of Sexuality (3 credits)
- WGS 320/CJ 320 - Crimes Against Women (3 credits)
- WGS 325/CLA 325 - Body, Gender, Sexuality in Antiquity (3 credits)
- WGS 326/INT 326 - Sexuality, Justice, and Advocacy (3 credits)
- WGS 335 - Women, Health and Environment (3 credits)
- WGS 336/ENG 336 - Lesbian, Gay and Queer Literature (3 credits)
- WGS 343/AAA 343 - Black Feminist Thought (3 credits)
- WGS 350/SOC 350 - Family and Gender in the Developing World (3 credits)
- WGS 352/AAA 352 - Black Women's Culture and Communities (3 credits)
- WGS 358 - Women and Gender in South Africa (3 credits)
- WGS 370/LS 370 - Women and the Law (3 credits)
- WGS 371/HST 371 - Historical Perspectives on Gender and Sexualities (3 credits)
- WGS 380 - Special Topics in Women Gender, and Sexuality Studies (1 to 4 credits)
- WGS 399 - Independent Readings (1 to 3 credits)
- WGS 402 - Feminist Visionary Thinkers (3 credits)
- WGS 460/SPA 460 - Women Authors (3 credits)
- WGS 461/ENS 401 - Environmental Problem Solving (3 credits)
- WGS 490 - WGS Internship (variable credits)
- WGS 491 - Contemporary Theory and Practicum (3 credits)
- WGS 492 - Community Collaborative (3 credits)
- WGS 493 - Community Collaborative in South Africa (3 credits)
- WGS 499 - Independent Study and Research (1 to 4 credits)
- AAA 351 - Perspectives on African American Males (3 credits)
- ANT 370 - Cross-cultural Perspectives on Gender (3 credits)
- BIO 325 - Human Sexuality (3 credits)
- ECO 350 - Economics of Gender (3 credits)
- ENG 436 - Women and Literature (3 credits)
- PHI 370 - Sex Matters: Feminist Philosophy in the Contemporary World (3 credits)
- SOC 285 - Families in Society (3 credits)
- SOC 379 - Sociology of Love (3 credits)
- SOC 381 - Class, Race, Gender, and Sexuality (3 credits)
- SOC 389 - Child Maltreatment (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- SW 333 - Community Work with the Lesbian, Gay, Bisexual and Transgender Community (3 credits)

## **B.A. and B.S. Degree Requirements**

### **B.A. Degree Requirements**

Candidates for the B.A. degree must demonstrate third-semester proficiency in a foreign language, either by successful completion of a 201-level language course or by passing a proficiency examination.

### **B.S. Degree Requirements**

Candidates for the B.S. degree must complete one of the following tracks.

#### **Track One**

- WGS 395 - Women and Gender Studies Research Methods (3 credits)
- MTH 122 - College Algebra (3 credits) **OR** MTH 201 - Calculus I (4 credits)
- CIS 231 - Problem Solving Using Spreadsheets (3 credits)

#### **Track Two**

- WGS 395 - Women and Gender Studies Research Methods (3 credits)
- STA 215 - Introductory Applied Statistics (3 credits)

**AND** one of the following:

- AHS 301 - Introduction to Health Care Research (3 credits)
- BMS 301 - Introduction to Research in the Biomedical Sciences (3 credits)
- COM 375 - Communication Research (3 credits)
- HST 290 - Research Methods in History (3 credits)
- PLS 300 - Political Analysis (3 credits)
- STA 216 - Intermediate Applied Statistics (3 credits)
- STA 314 - Statistical Quality Methods (3 credits)
- STA 318 - Statistical Computing (3 credits)
- STA 340 - Statistics in the Media (3 credits)
- STA 345 - Statistics in Sports (3 credits)

#### **Double Major**

A double major in women, gender, and sexuality studies and another area of study carries many advantages for students with multiple interests. WGS faculty advisors are available to meet with

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students to explore options for double majors or additional minors that align well with their academic and career interests.

## **Study Abroad**

Students are encouraged to consider study abroad experiences with programs that examine issues and topics related to women, gender, and/or sexuality studies. WGS faculty currently facilitate a study abroad program in Cape Town, South Africa which combines academic curriculum with service to the community. Participants examine how issues such as reproductive health, education, violence, political representation, and Apartheid have intersected and gain a deeper understanding of race and class through a global feminist perspective. Students learn about and visit several sites of historical and cultural significance in and around Cape Town and Johannesburg.

For more information about opportunities to study women, gender, and/or sexuality abroad, contact the Women, Gender, and Sexuality Studies Department or the Padnos International Center.

## **Suggested Order of Coursework**

### **Year One**

- Three general education Foundations courses
- Two foreign language courses (B.A. candidates)
- STA 215 - Introductory Applied Statistics (3 credits) **OR** CIS 160 - Learn to Code in Python (3 credits) (B.S. candidates)
- WGS 200 - Introduction to Gender Studies (3 credits)
- MTH 110 - Algebra (4 credits)
- WRT 150 - Strategies in Writing (4 credits)

### **Year Two**

- Four general education Foundations courses
- One foreign language course (B.A. candidates)
- One approved course that focuses on mathematics, statistics, quantitative reasoning or scientific analysis (B.S. candidates)
- WGS 360 - Foundations of Feminism (3 credits)
- WGS elective

### **Year Three**

- Four general education Foundations courses
- General education Issues courses
- WGS 395 - Women and Gender Studies Research Methods (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- WGS 450 - Global Feminisms (3 credits)

### **Year Four**

- Four general education Foundations courses
- General education Issues course
- WGS 495 - Capstone (3 credits)

## **Lesbian, Gay, Bisexual, Transgender, Queer Studies Minor**

### **Requirements**

Students who minor in lesbian, gay, bisexual, transgender, queer studies must complete at least 21 credit hours including:

- WGS 224 - Introduction to LGBTQ Studies (3 credits)
- WGS 365 - Queer Theory (3 credits)
- WGS 491 - Contemporary Theory and Practicum (3 credits)

### **Elective Courses**

The remaining four courses (minimum of 12 credits) must be selected from the electives listed as follows. Other courses that have significant content devoted to the study of LGBTQ topics during a particular semester may also be counted toward the minor on an individual case basis with department chair approval.

- WGS 310 - LGBTQ Rights and the Law (3 credits)
- WGS 315/PSY 315 - Psychology of Sex Differences (3 credits)
- WGS 316/PSY 316 - The Psychology of Human Intimacy and Sexuality (3 credits)
- WGS 318/SOC 318 - Sociology of Sexuality (3 credits)
- WGS 336/ENG 336 - Lesbian, Gay and Queer Literature (3 credits)
- WGS 371/HST 371 - Historical Perspectives on Gender and Sexualities (3 credits)
- WGS 399 - Independent Readings (1 to 3 credits)
- WGS 490 - WGS Internship (variable credits)
- WGS 499 - Independent Study and Research (1 to 4 credits)
- ANT 370 - Cross-cultural Perspectives on Gender (3 credits)
- BIO 325 - Human Sexuality (3 credits)
- INT 325 - LGBTQ Identities (3 credits)
- SOC 379 - Sociology of Love (3 credits)
- SOC 381 - Class, Race, Gender, and Sexuality (3 credits)
- SW 333 - Community Work with the Lesbian, Gay, Bisexual and Transgender Community (3 credits)

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

# Women, Gender, and Sexuality Studies Minor

## Requirements

Students who want to minor in women, gender, and sexuality studies must complete at least 21 credit hours as outlined.

## Required Courses

Requires nine credits, including:

- WGS 200 - Introduction to Gender Studies (3 credits)
- WGS 360 - Foundations of Feminism (3 credits)

**AND** one of the following:

- WGS 491 - Contemporary Theory and Practicum (3 credits)
- WGS 492 - Community Collaborative (3 credits)
- WGS 493 - Community Collaborative in South Africa (3 credits)

## Electives

The remaining four courses (minimum of 12 credits) must be selected from the electives listed under the Bachelor of Arts or Bachelor of Science in women, gender, and sexuality studies; students may also select courses required for the major as part of their program. Other courses that have significant content devoted to the study of women, gender and/or sexuality during a particular semester may also be counted toward the minor on an individual case basis with department chair approval.

# Writing

For additional information about opportunities your college offers, please refer to the College of Liberal Arts and Sciences section in this catalog.

**Website:** [gvsu.edu/writing](http://gvsu.edu/writing)

The Department of Writing offers instruction in academic, creative, and professional writing genres. Knowing how to construct texts that appeal to different audiences is a critical skill for the 21st century. With the proliferation of online and accelerated communication, the ability to tell a story that engages and persuades an audience is more important than ever. A major or minor in writing can help students to develop this ability.

Students in writing will have opportunities to develop storytelling skills in a wide variety of genres and media. Whether they are interested in connecting storytelling to traditional genres

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(academic, poetry, magazine, fiction, nonfiction) or to the latest writing technologies (document design software, content management systems), students can select courses that best prepare them for their future professional careers.

For students who choose to major in writing, the department offers coursework that will help students develop as strong writers in professional, literary, and civic contexts. The department also offers a minor in writing for students wishing to develop their writing abilities for personal or professional reasons.

## **Writing Major**

Through a unique modular curriculum that combines courses in professional, academic, and creative writing genres, students majoring in writing will learn how to create, shape, design, and share texts. These abilities will allow them to enter the world in a variety of careers. Students who pursue a major in writing can become a web writer, freelancer, document designer, magazine writer, editor, publisher, or technical writer, to name a few. The flexibility and the variety of courses offered lets students shape their educational experience and future professional identity.

Through the 42-credit B.A. or B.S. degree, writing majors develop the skillset to

- write fiction and nonfiction texts;
- develop and tailor content to both print and online media;
- work with the industry standard writing and design software;
- collaborate with other writers, editors, subject matter experts, and designers to prepare content for publication; and
- develop promotional materials to pitch and sell content.

## **Writing Minor**

The minor in writing is designed to serve students in a wide variety of disciplines, such as computer science, business, math, nursing, classics, and engineering, by giving them the opportunity to develop personal and workplace writing skills and greater rhetorical sensitivity. The minor requires 18 credits; the range of courses offered encourages students to tailor a program that augments their professional needs and personal talents as writers.

## **First-year Writing Requirement**

All Grand Valley students, regardless of major, must satisfy the general education Foundations first-year writing requirement (WRT 150 or WRT 120 and WRT 130). First-year writing courses focus on developing student fluency and skill, with special attention given to general forms of writing common in many academic settings. Students draw on personal experience and opinions, use library resources, conduct research, integrate sources into their writing, and become familiar with the Fred Meijer Center for Writing as an important campus resource. Students must complete general education Foundations first-year writing requirement with a grade of C (not C-)

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or better. If students feel confident in their writing skills and have experience writing researched essays, it is recommended they take WRT 150. If students have less experience writing in high school or they would like more practice and support to develop their writing skills, they should register for WRT 120 and WRT 130.

## **Extracurricular Activities**

The Department of Writing offers a rich community of writers and readers, including students, faculty, local professionals, and regional and national authors. Beyond their coursework, students have a number of opportunities to participate in extracurricular writing communities and organizations across campus.

- **AWP Intro Journal Awards.** A literary competition for the discovery and publication of the best new works by students currently enrolled in the programs of AWP.
- **Distinction in Writing.** A program that encourages majors to explore opportunities in addition to the regular curriculum. Interested students work with their advisors to plan and complete a series of extracurricular activities over a one-or two-year period. Successful students submit a final portfolio of work and are awarded the Distinction in Writing designation upon graduation.
- ***fishladder: A Student Journal of Art and Writing.*** The literary arts magazine publishes creative work of students once yearly and is edited by students under the guidance of a faculty advisor.
- **Grand Valley Writers Series.** This annual series brings regionally, nationally, and internationally known writers to campus for public readings and class visits.
- ***InWriting.*** A bi-annual newsletter about the faculty, students, alumni, and events from the Department of Writing that is written and edited by students under the guidance of a faculty advisor.
- **Oldenburg Writing Contest.** An annual writing contest, cosponsored with the English Department, carrying cash prizes for essays and creative writing in various categories.
- **Organization for Professional Writers.** An organization for students to further their understanding of professional writing as a field, utilize their skills outside of the classroom, and network with other writing majors, minors, and professionals.
- **Student Reading Series.** A public series of evening readings of promising student work from intermediate and advanced writing courses. Works typically include fiction, nonfiction, and poetry.

## **Bachelor of Arts or Bachelor of Science in Writing**

### **Requirements**

Students can pursue either a Bachelor of Arts or Bachelor of Science in writing. The writing major totals 42 credits.

### **B.A. and B.S. Degree Requirements**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **B.A. Degree Requirements**

The Bachelor of Arts degree in writing requires third-semester proficiency in a foreign language of the student's choice.

## **B.S. Degree Requirements**

The Bachelor of Science degree in writing requires the following:

- CIS 238 - Internet Media and Programming (3 credits)
- ENG 261 - Foundations of Language Study (3 credits)
- STA 215 - Introductory Applied Statistics (3 credits)

## **Core Courses**

Requires 12 credits, including:

- WRT 200 - Introduction to Professional Writing (3 credits)
- WRT 210 - Introduction to Style (3 credits)
- WRT 219 - Introduction to Creative Writing (3 credits)
- WRT 253 - Document Production and Design (3 credits)

Note: Students should do their best to complete the four previously listed courses in the first two semesters as a major because

- the advanced WRT courses generally require some of the core courses as prerequisites;
- the core courses introduce students to a wide range of areas that could help them choose the better path as a major; and
- students cannot complete an internship or take the Capstone without first completing these four courses.

## **Modules**

**Students must choose three of the following eight modules and complete two courses in each (18 credits).**

When selecting three modules, think about which ones might help shape you as the writer you need to be for your future career. If you are uncertain as to which modules might best support your career goals, consult with your advisor. If you are uncertain what your career goals are, it would be good to talk with your advisor.

If you take a course in a module and decide the module is not for you, or perhaps change your career goals, you may use the single course to count toward the elective requirement.

## **Working with Writers and Manuscripts**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

- WRT 307 - Consulting with Writers (3 credits)
- WRT 308 - Editing and Publishing (3 credits)

### **Style and Technique**

- WRT 316 - Style and Technique (3 credits)
- WRT 411 - Style and the Book (3 credits)

### **Poetry Writing**

- WRT 320 - Intermediate Poetry Workshop (3 credits)
- WRT 420 - Advanced Poetry Workshop (3 credits)

### **Fiction Writing**

- WRT 330 - Intermediate Fiction Workshop (3 credits)
- WRT 430 - Advanced Fiction Workshop (3 credits)

### **Writing for the Web**

- WRT 351 - Writing for the Web (3 credits)
- WRT 451 - Advanced Writing for the Web (3 credits)

### **Writing with Technologies**

- WRT 353 - Visual Rhetoric and Document Design (3 credits)
- WRT 455 - Multimodal Composing (3 credits)

### **Nonfiction Writing**

- WRT 360 - Intermediate Creative Nonfiction (3 credits)
- WRT 460 - Advanced Creative Nonfiction (3 credits)

### **Magazine Writing**

- WRT 365 - Intermediate Magazine Writing (3 credits)
- WRT 465 - Advanced Magazine Writing (3 credits)

### **Elective Courses**

The writing electives offer you further flexibility to design your curriculum to suit your future career. For example, you can choose WRT courses that are not part of the modules listed previously. In some instances, you may be able to choose elective courses that also count towards completion of another major or minor. Be sure to verify this by talking to advisors in both disciplines.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Choose any two from the following (six credits):

- Any WRT module course other than those being used to complete the module requirement.
- WRT 350 - Business Communication (3 credits)
- WRT 354 - Writing in the Global Context: Culture, Technology, and Language Practices (3 credits)
- WRT 380 - Special Topics in Writing (3 credits)
- WRT 381 - Writing and Sports (3 credits)
- **OR** any two preapproved writing electives from the approved list.
- **OR** two advisor-approved interdisciplinary electives. Talk to your advisor prior to selecting courses.

### **Internship and Capstone Courses**

Requires six credits.

Students must be in senior standing and have completed all the core classes before taking the Capstone. An internship is something that needs to be planned well in advance. Be sure to review the WRT Internship Guide to learn more.

- WRT 490 - Writing Internship (1 to 3 credits)
- WRT 495 - Genre and Writing (Capstone) (3 credits)

### **Workplace Technology and Badge**

This badge (not a degree or certificate) in workplace technology and communication gives students much needed workplace communication skills such as designing effective business documents, recognizing business communication ethical issues, using statistical analysis tools for effective decision making, and creating effective data displays and visualizations. Students earn this badge by successfully completing WRT 350 - Business Communication and CIS 231 - Problem Solving Using Spreadsheets. By completing this badge, students will have completed problem-solving projects that demonstrate these competencies:

- Composing business communications appropriate to specific audiences, purposes, and contexts.
- Designing effective business documents using commonly available office software.
- Communicating effectively in emails, written reports, and oral presentations.
- Recognizing ethical issues related to business communication.
- Building and manipulating Microsoft Excel spreadsheets.
- Using applicable statistical analysis tools for effective decision making.
- Designing data models using local decision-making functions.
- Building datasets by importing, cleansing, and organizing raw data.
- Creating effective data displays and visuals, using commonly available office software.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **Admission**

Admission is available as a degree-seeking or nondegree-seeking student.

## **Program Location**

Courses will be online, hybrid, or face-to-face. Face-to-face courses will be offered in Allendale and Grand Rapids.

## **Requirements for the Workplace Technology and Communication Badge**

The digital badge is comprised of two courses (six credits), including:

- \*CIS 231 - Problem Solving Using Spreadsheets (3 credits)
- \*\*WRT 350 - Business Communication (3 credits)

\*Prerequisite of MTH 110, MTH 122, or MTH 201. \*\*Prerequisite of WRT 150 **OR BOTH** WRT 120 **AND** WRT 130.

## **Writing Minor**

The minor in writing is designed to serve students in a wide variety of disciplines, such as computer science, business, math, nursing, classics, and engineering, by giving them the opportunity to develop personal and workplace writing skills and greater rhetorical sensitivity. The range of courses offered encourages students to tailor a program that augments their professional needs and personal talents as writers.

## **Requirements**

The minor in writing requires 18 credits.

## **Core Courses**

Choose three courses (nine credits) from the following:

- WRT 200 - Introduction to Professional Writing (3 credits)
- WRT 210 - Introduction to Style (3 credits)
- WRT 219 - Introduction to Creative Writing (3 credits)
- WRT 253 - Document Production and Design (3 credits)

## **Additional Courses**

Choose three upper-division writing courses (nine credits) from the following:

- WRT 307 - Consulting with Writers (3 credits)

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- WRT 308 - Editing and Publishing (3 credits)
- WRT 316 - Style and Technique (3 credits)
- WRT 320 - Intermediate Poetry Workshop (3 credits)
- WRT 330 - Intermediate Fiction Workshop (3 credits)
- WRT 350 - Business Communication (3 credits)
- WRT 351 - Writing for the Web (3 credits)
- WRT 353 - Visual Rhetoric and Document Design (3 credits)
- WRT 354 - Writing in the Global Context: Culture, Technology, and Language Practices (3 credits)
- WRT 360 - Intermediate Creative Nonfiction (3 credits)
- WRT 365 - Intermediate Magazine Writing (3 credits)
- WRT 381 - Writing and Sports (3 credits)
- WRT 411 - Style and the Book (3 credits)
- WRT 420 - Advanced Poetry Workshop (3 credits)
- WRT 430 - Advanced Fiction Workshop (3 credits)
- WRT 451 - Advanced Writing for the Web (3 credits)
- WRT 455 - Multimodal Composing (3 credits)
- WRT 460 - Advanced Creative Nonfiction (3 credits)
- WRT 465 - Advanced Magazine Writing (3 credits)

## Courses

### **AAA 200 - Understanding Africa (3 credits)**

An introduction to the theoretical, conceptual, and historical framework that has shaped the study of Africa and a multidisciplinary survey of the main topics and issues facing the African continent as a vehicle for understanding African studies and making sense of Africa's evolution. Fulfills Foundations - Social and Behavioral Sciences. Fulfills Cultures - Global Perspectives. Offered fall and winter semesters.

### **AAA 201 - Introduction to African American Studies (3 credits)**

Traces the historical development and examines the scope, theories, discourses, and methodologies defining African American studies and the critical responses to these studies. Surveys perspectives on African American history, religion, social organization, politics, economy, literature, and culture and social ideology. Fulfills Foundations - Social and Behavioral Sciences. Fulfills Cultures - U.S. Diversity. Offered fall and winter semesters.

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## **AAA 231 - Early African American Literature (3 credits)**

Analysis and discussion of discourse primarily written by African Americans during the formative years of this nation. Emphasis on literary discourse as a means of defining African American consciousness and community, understanding representations of African American's community of origin, and investigating how the communities African Americans inhabit shaped their discursive expression. Cross-listed with ENG 231. Students may not receive credit for both. Fulfills Foundations - Philosophy and Literature. Fulfills Cultures - Global Perspectives. Offered fall semester. Prerequisite: Fulfillment of general education Foundations - Writing.

## **AAA 232 - Modern African American Literature (3 credits)**

Analysis and discussion of discourse by and about African Americans written primarily during the 20th century. Emphasis on literary discourse as a means of defining African American consciousness and community and understanding how the communities African Americans inhabit shaped their discursive expression. Cross-listed with ENG 232. Offered winter semester. Prerequisite: Fulfillment of general education Foundations - Writing.

## **AAA 300 - U.S. - Africa Relations (3 credits)**

Examines the historical development of the relationship between the United States and Africa, and the broad range of issues, cultural, economic, political, security and social, that condition and shape the relationship. Fulfills Cultures - Global Perspectives. Offered every year.

## **AAA 302 - African Diaspora (3 credits)**

Overview of the history and culture of African societies throughout the world and the persistence of African culture among black populations outside of Africa. Chronicle of major events in the diasporic experience. Examines ethnocultural debate, African cultural values, artistic and intellectual traditions, and cultural continua of African forms in the New World. Fulfills Cultures - Global Perspectives. Offered winter semester.

## **AAA 315 - Field to Factory: African American Migration (3 credits)**

Examines the sociocultural, political, economic, psychological, and interpersonal consequences of the migration of over one million African Americans from the rural South to the industrialized North during the decades surrounding World Wars I and II. Offered fall semester.

## **AAA 319 - African Politics (3 credits)**

A study of social and economic forces that shape the political processes in Africa through a combination of individual cases and general themes. Topics include colonization, regional

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integration, democratic transitions, state collapse and violence, politics of ethnicity, religion, gender and class, civil society, development, and Africa's role in world affairs. Fulfills Cultures - Global Perspectives. Part of the Globalization Issue. Cross-listed with PLS 319. Offered fall semester. Prerequisite: Junior standing.

### **AAA 333 - Study Abroad - African/African American Studies (1 to 6 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only. Credits may vary. Offered as needed. Prerequisites: Specific to course and instructor.

### **AAA 337 - Contemporary Black Literature (3 credits)**

Studies the importance and variety of literature by Black authors from Africa, the Americas and/or Afro-Europe since 1975. Texts written earlier than 1975 are used to consider influential historical and/or social events, trends and themes, literary styles, innovative uses of popular culture, and/or expression of the experience of marginality. Fulfills Cultures - Global Perspectives. Part of the Identity Issue. Cross-listed with ENG 337. Prerequisite: Junior standing.

### **AAA 340 - African American Culture and Social Thought (3 credits)**

A critical examination of African American cultural expression, several African American cultural and social movements, and the defining intellectual conversations and persons in African American culture and social thought. Part of the Identity Issue. Offered winter semester. Prerequisite: Junior standing.

### **AAA 343 - Black Feminist Thought (3 credits)**

Survey of the interdisciplinary field of black feminist studies. Focuses on the history, theoretical approaches, and interventions of black feminist studies through examination of the foundational topics and concerns of the field. Cross-listed with WGS 343. Offered fall semester.

### **AAA 351 - Perspectives on African American Males (3 credits)**

A critical examination of the socialization, life ways, status, and future of African American males. Historical perspectives, present status, cultural expression and social relationships, empowerment, masculinity, psychosocial development and coping, and the future of African American males. Offered winter semester of odd-numbered years.

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## **AAA 352 - Black Women's Culture and Communities (3 credits)**

A historical and theoretical analysis of the distinct identities African American women constructed for themselves (and had constructed for them) in response to the forces of patriarchal domination and political colonization. Fulfills U.S. Diversity requirement. Part of the Human Rights Issue. Cross-listed with WGS 352. Offered fall semester. Prerequisite: Junior standing.

## **AAA 355 - History of Underground Railroad (3 credits)**

An exploration of the historical, political, and cultural contexts out of which the American Underground Railroad and Abolitionists Movements emerged with emphasis on the important role the State of Michigan played in these movements due to its geographical proximity of Canada. Fulfills Cultures - U.S. Diversity. Offered fall semester. Prerequisite: Junior standing.

## **AAA 357 - The Black Diaspora and the Meaning of Sports, 1800 to the Present (3 credits)**

This course explores the Black Diaspora (1800-present) through the lens of the black athlete in order to help examine global issues such as race, politics, economics, and gender. Part of Globalization Issue. Cross-listed with HST 357. Offered winter semester. Prerequisite: Junior standing.

## **AAA 380 - Special Topics in African/African American Studies (1 to 3 credits)**

A seminar for the study of important topics not ordinarily covered in other courses. Course may be taken more than once when the topic is different. Offered on sufficient demand.

## **AAA 399 - Independent Readings (1 to 3 credits)**

Independent supervised readings in selected topics. A student may take only one reading course for one to three credits per term. No more than six credit hours of AAA 399 and AAA 499 combined may count toward the minor. Offered fall and winter semesters.

## **AAA 490 - Practicum: Career-Service in Community Building (1 to 6 credits)**

Agency experience in the community relating practical training and independent study in a specialized area in African American studies. Maximum of six credits. Nine hours of course

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preparation and permission of instructor and program coordinator required. Offered fall and winter semesters.

### **AAA 499 - Independent Study and Research (1 to 4 credits)**

Research conducted individually with faculty supervision. Attention given to written and oral presentation of research findings. A student may take only one independent study course for one to four credits per term. No more than six credit hours of AAA 399 and AAA 499 combined may count toward the minor. Graded credit/no-credit. Offered fall and winter semesters. Prerequisites: Nine hours in the department and written permission of the instructor before registration.

### **ACC 201 - Accounting for Non-Business Majors 1 (1.5 credits)**

A working knowledge of financial statements and generally accepted accounting principles to demonstrate how managers make decisions with accounting information typically portrayed on income statements, balance sheets, and cash flow statements. Bachelor of Business Administration (B.B.A.) degree-seeking students will not be given credit toward degree completion for this course. Offered fall and winter semesters. Prerequisite: MTH 110.

### **ACC 202 - Accounting for Non-Business Majors 2 (1.5 credits)**

A working knowledge of product and labor cost behaviors, cost-volume-profit relationships, budgeting, relevant costing, and capital management to demonstrate how managers make decisions based on understanding of accounting and cost information. Bachelor of Business Administration (B.B.A.) degree-seeking students will not be given credit toward degree completion for this course. Offered fall and winter semesters. Prerequisites: ACC 201.

### **ACC 212 - Principles of Financial Accounting (3 credits)**

Introduction to financial accounting. Emphasizes the importance of accounting information, how accounting information is produced, and how this information is used in making decisions about organizations. Offered every semester.

### **ACC 213 - Principles of Managerial Accounting (3 credits)**

This course addresses accounting information in business. Topics include cost concepts and behavior, product and activity-based costing, cost-volume-profit relationships, variable costing, budgeting/performance analysis, standard costs/variance analysis, and relevant costs for decision-making. Knowledge of spreadsheets and college algebra is recommended as these tools will be used throughout the course. Offered every semester. Prerequisite: ACC 212. Knowledge of spreadsheets and college algebra recommended.

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## **ACC 240 - Financial Accounting Applications (1 credit)**

A review of the financial accounting process and an introduction to financial accounting database and retrieval procedures. Offered every semester. Prerequisite: ACC 212.

## **ACC 280 - Special Topics in Accounting (1 to 3 credits)**

Readings, lectures, and/or discussions in specific topics not normally covered by other courses in the program.

## **ACC 310 - Intermediate Accounting I (3 credits)**

Theory and application of financial accounting. Topics include the accounting cycle, development of accounting standards, financial statement presentation, basic asset/liability/equity transactions, revenue recognition, and the time value of money. Offered every semester. Prerequisites: ACC 240 with a B- or better or both ACC 212 and ACC 213 with honors designations with a B- or better, and admission to Seidman College of Business, or by permit.

## **ACC 311 - Intermediate Accounting II (3 credits)**

Continuation of the theory and application of financial accounting. Topics include the recognition, measurement and presentation of liabilities, equity, deferred taxes, leases, and pensions as well as accounting changes and the cash flow statement. Offered every semester. Prerequisites: Grade of C or better in ACC 310 and admission to Seidman College of Business, or by permit.

## **ACC 317 - Individual Income Taxation (3 credits)**

Consideration of the basic theory and practice applicable to the determination of the taxable income of individuals. The course will cover the individual income tax formula including the determination of income, the role of deductions and credits, and simple and complex property transactions. Offered fall and winter semesters. Prerequisites: ACC 212 and admission to Seidman College of Business, or by permit.

## **ACC 318 - Entity Taxation (3 credits)**

Introduction to tax characteristics of various types of business entities including C and S corporations, partnerships, and limited liability companies. Topics covered include the tax consequences of entity formation, distributions, operations, and liquidations. The course will also cover federal estate and gift taxation. Offered fall and winter semesters. Prerequisites: ACC 212 and admission to Seidman College of Business, or by permit. ACC 317 recommended.

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## **ACC 321 - Cost Strategy and Decision Making (3 credits)**

The course examines the use of cost management techniques and tools to enable better managerial decision making. The course topics include: cost concepts and cost behavior, product and activity-based costing, absorption and variable costing, cost of capacity utilization, transfer pricing, relevant costs for decision-making and strategic analysis of income. Offered fall and winter semesters. Prerequisites: ACC 213 and admission to Seidman College of Business, or by permit.

## **ACC 330 - International Accounting (3 credits)**

Survey of the major differences between accounting systems around the world and the business practices and environments within which these systems developed and function today. Basic study of the accounting issues affecting multinational companies, including consolidations, price changes, and inflation, foreign currency transactions and translation, transfer pricing, and international taxation. May be offered any semester. Prerequisites: ACC 212 and admission to Seidman College of Business, or by permit.

## **ACC 333 - Corporate Governance and Accounting Ethics (3 credits)**

The class examines ethical decision-making in professional accounting settings. The class focuses on ethical reasoning and the legal and professional environment that accountants work in. Students will apply ethical reasoning in the accounting environment, and evaluate others' decisions in that environment. Offered fall and winter semesters. Prerequisites: ACC 310 and admission to Seidman College of Business, or by permit.

## **ACC 340 - Accounting Systems (3 credits)**

A study of automated systems of processing data for accounting information. The accounting system is discussed from the perspective of developing and maintaining systems capable of producing information for internal decision-making and external reporting. Hands-on experience may include general ledger, ERP, flowcharting software, and other relevant computer technology. Offered fall and winter semesters. Prerequisites: ACC 240, MGT 268, and admission to Seidman College of Business, or by permit.

## **ACC 380 - Special Topics in Accounting (1 to 3 credits)**

To be arranged with a full-time faculty member with the approval of the department chairperson. A maximum of three hours of credit may be applied to the degree requirements. Offered as demand warrants. Prerequisite: Admission to Seidman College of Business, or by permit.

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## **ACC 408 - Governmental and Not-for-Profit Accounting (3 credits)**

Introduction to accounting and auditing concepts related to state and local governmental and not-for-profit entities. Course will focus on financial reporting and transaction analysis related to these entities. Course emphasizes accountability in governmental and not-for-profit accounting and financial reporting regulations that guide financial reporting and transaction analysis. Cross-listed with ACC 508. Offered fall semester. Prerequisites: ACC 310 and admission to Seidman College of Business, or by permit.

## **ACC 413 - Internal Auditing (3 credits)**

This course covers the specialized area of internal auditing. The topics include the internal audit professional standards and other authoritative practice guidance, risk assessment and mitigation, internal control processes, governance, ethics, and operational, compliance, financial and information systems auditing. Auditing with generalized audit software such as ACL is also covered. Cross-listed with ACC 513. Offered fall semester. Prerequisites: Senior standing, ACC 212 or equivalent, and admission to Seidman College of Business.

## **ACC 414 - External Auditing (3 credits)**

Introduction to various principles, theories and concepts relating to financial statement audits. Topics include an overview of the profession, planning, risks, fraud, internal controls, substantive procedures, sampling, completion, reporting, and opinions. Course emphasizes the assertion level risks for various accounts and gathering/evaluating evidence to support audit opinions. Cross-listed with ACC 514. Offered fall semester. Prerequisites: ACC 310 and admission to Seidman College of Business, or by permit. ACC 340 strongly recommended.

## **ACC 416 - Information Systems Auditing (3 credits)**

This course covers the theory and practical application of information systems audit and control. Topics include authoritative information technology control frameworks, computer security, continuous auditing, and audit approaches to new and emerging technologies such as electronic commerce, the Internet, client/server networking, and enterprise systems. Cross-listed with ACC 516. Offered winter semester. Prerequisites: ACC 413/ACC 513 or ACC 414/ACC 514, and admission to Seidman College of Business, or by permit.

## **ACC 480 - Special Topics in Accounting (1 to 3 credits)**

Readings, lectures, and/or discussions in specific topics not normally covered by other courses in the program. Prerequisite: Admission to Seidman College of Business, or by permit.

## **ACC 490 - Accounting Internship (1 to 6 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

This course will be used to grant accounting credit to students who complete internships in the accounting field. Prerequisites: Junior standing, minimum 2.5 GPA, and admission to Seidman College of Business, or by permit. Graded credit/no-credit.

### **ACC 499 - Independent Research (1 to 3 credits)**

Students propose an independent study culminating in a written and oral report. The proposal must include learning outcomes and a reading list. Proposals involving primary research should include a detailed description of objectives and methodology. Students must find an interested faculty member to help them prepare the proposal and to supervise the independent research. Offered every semester. Prerequisite: Admission to Seidman College of Business, or by permit.

### **ACC 508 - Governmental and Not-for-Profit Accounting (3 credits)**

Introduction to accounting and auditing concepts related to state and local governmental and not-for-profit entities. Course will focus on financial reporting and transaction analysis related to these entities. Course emphasizes accountability in governmental and not-for-profit accounting and financial reporting regulations that guide financial reporting and transaction analysis. Cross-listed with ACC 408. Offered fall semester.

### **ACC 511 - Financial and Managerial Accounting Concepts (3 credits)**

An introduction to financial and managerial accounting. Financial accounting includes an examination of accounting concepts and understanding and interpreting financial statements. Managerial accounting includes examining the use of accounting information for planning, control, and decision-making in today's fast-changing business environment. No prior knowledge of accounting is required or assumed. Equivalent to ACC 212 and ACC 213. Offered fall and winter semesters.

### **ACC 513 - Internal Auditing (3 credits)**

This course covers the specialized area of internal auditing. The topics include the internal audit professional standards and other authoritative practice guidance, risk assessment and mitigation, internal control processes, governance, ethics, and operational, compliance, financial and information systems auditing. Auditing with generalized audit software such as ACL is also covered. Cross-listed with ACC 413. Offered fall semester.

### **ACC 514 - External Auditing (3 credits)**

Introduction to various principles, theories and concepts relating to financial statement audits. Topics include an overview of the profession, planning, risks, fraud, internal controls,

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substantive procedures, sampling, completion, reporting, and opinions. Course emphasizes the assertion level risks for various accounts and gathering/evaluating evidence to support audit opinions. Cross-listed with ACC 414. Offered fall semester.

### **ACC 516 - Information Systems Auditing (3 credits)**

This course covers the theory and practical application of information systems audit and control. Topics include authoritative information technology control frameworks, computer security, continuous auditing, and audit approaches to new and emerging technologies such as electronic commerce, the Internet, client/server networking, and enterprise systems. Cross-listed with ACC 416. Offered winter semester. Prerequisite: ACC 513 or ACC 514.

### **ACC 580 - Special Topics in Accounting (1 to 3 credits)**

Readings, lectures, and/or discussions in specific topics not normally covered by other courses in the program.

### **ACC 603 - Accounting and Auditing Research (3 credits)**

This course focuses on research using codified U.S. and international accounting and auditing standards as well as databases used by accounting professionals. Cases and exercises unite research techniques and technical accounting issues. Communication and critical thinking skills are developed through written assignments and oral presentations. Offered fall semester. Prerequisite: ACC 311 or equivalent.

### **ACC 607 - Ethics for Accountants (3 credits)**

This course covers stakeholder's ethical expectations of accountants, directors and officers, principles of corporate governance, philosophic and practical approaches to making ethical decisions, and an introduction to accountants' regulatory requirements and codes of conduct. Offered fall semester. Prerequisite: Admission to a Seidman College of Business graduate program.

### **ACC 608 - Forensic Accounting (3 credits)**

This course surveys concepts of forensic accounting and analyzes practical application in the conduct of day-to-day financial investigations. Course topics include detecting and fighting fraud in financial statements, the corporation, and other entities. There is a detailed examination of investigative auditing techniques, computers, criminology, and the relevant legal environment. Offered winter semester. Prerequisite: ACC 310 or equivalent.

### **ACC 611 - Contemporary Managerial Accounting (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Examines the use of information for cost management, decision-making, and performance evaluation and measurement. Topics include activity-based management, cost of unused resources, relevant costs for decision-making, productivity measurement, transfer pricing, theory of constraints, balanced scorecards, total quality management, and just-in-time. Offered fall and winter semesters. Prerequisite: Completion of M.B.A. or M.S.A. background equivalents.

### **ACC 612 - The Accountant's Legal Environment (3 credits)**

An intensive course in business law with emphasis on those subjects that relate to the accountant's legal environment, including accountant's legal liability, federal securities regulation, sales law, insurance suretyship, anti-trust law, secured transactions, bankruptcy, property law, etc. Offered winter semester. Prerequisite: ACC 310 or equivalent.

### **ACC 613 - Financial Statement Analysis (3 credits)**

The course focuses on financial performance analysis in the context of equity (share) valuation, with some attention given to credit analysis and the valuation of debt. Emphasis is placed on the persistence of earnings and the accounting choices made in financial statement preparation that affect earnings quality and comparisons. Offered fall and spring/summer semesters. Prerequisites: ACC 311 or equivalent, and completion of M.B.A. background equivalents.

### **ACC 615 - Entity Taxation-Theory and Practice (3 credits)**

Examination of the tax characteristics of various business entities, including the C and S corporation, partnerships, and limited liability companies. Topics covered include the tax consequences of forming, operating, and liquidating such business entities. Tax research and planning issues are also discussed. Course may not be taken for credit if student has received credit for ACC 318 or equivalent. Not available to M.S.T. students without permission of director of graduate programs. Prerequisite: ACC 212 or ACC 511 or equivalent.

### **ACC 616 - Structured Accounting Analytics and Emerging Technologies (3 credits)**

Development of skills and knowledge related to integration of information technology in accounting and business with a focus on structured accounting data creation, storage, analytics, and reporting within and across organizations. Prerequisite: ACC 340 or equivalent.

### **ACC 617 - International Accounting (3 credits)**

This course addresses accounting issues relevant to managers of a multinational company and to global investors. Topics include translation of foreign currency financial statements, accounting for foreign exchange derivatives, international financial reporting standards, comparative financial reporting, and corporate governance systems. Prerequisite: ACC 310 or equivalent.

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## **ACC 618 - Advanced Accounting (3 credits)**

This course covers the theory, concepts, and methodologies underlying business combinations and consolidations, interim reporting, accounting for partnerships, and governmental and not-for-profit accounting. Offered fall and spring/summer semesters. Prerequisite: ACC 310 or equivalent.

## **ACC 620 - Accounting Theory (3 credits)**

This course examines the conceptual underpinnings of accounting thought and how accounting relates to valuation theory and capital markets. The role of accounting information is addressed from the points of view of management, auditors and investors. Additionally, selected topics are discussed. Offered fall and winter semesters. Prerequisites: ACC 613, ACC 616, ACC 617, and ACC 618. May be taken concurrently with any of these during the final semester.

## **ACC 622 - Tax Research and Writing (3 credits)**

Focuses on tools and techniques of tax research and the preparation of formal written communications common to tax practice. Emphasis on tax research methodology and skills in context of practical tax compliance and planning situations.

## **ACC 623 - Sales, Exchanges, and Other Property Dispositions (3 credits)**

Examines the federal income tax issues pertaining to the sale or exchange of property. Topics include like-kind exchanges, involuntary conversions, the disposition of a principle residence, the disposition of business assets, installment sales, unstated interest, and sale-leaseback transactions.

## **ACC 624 - Corporate Tax I (3 credits)**

Detailed analysis of the income taxation of corporations and their shareholders, including corporate formation, capital structure, dividends, and other nonliquidating distributions and stock redemptions. Also covered are subchapter S corporations and various penalties tax issues.

## **ACC 625 - Corporate Tax II (3 credits)**

Continues the discussion of the income taxation of corporations and their shareholders in Corporate Tax I. Includes corporate liquidations, liquidation of a subsidiary, taxable, and nontaxable acquisitive transactions including mergers and consolidations, and corporate divisions. Also judicial doctrines, affiliated corporations, and carryover of tax attributes. Prerequisite: ACC 624.

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## **ACC 627 - Estate, Gift, and Trust I (3 credits)**

Examines the federal transfer tax system, including estate and gift tax statutes, regulations, rulings, and cases. Topics include the definition of a gift, disclaimers, the annual exclusion, calculation of gross estate, revocable transfers, jointly held property, annuities, powers of appointment, life insurance, the marital deduction, and valuation.

## **ACC 628 - Fiduciary Income Tax (3 credits)**

Examines the federal income taxation of trusts and estates and the generation-skipping transfer tax. Topics include entity classification, determination of distributable net income, simple trusts, fiduciary accounting income, the throwback rules, income in respect of a decedent, and the grantor trust rules. Prerequisite: Completion of M.S.T. background equivalents.

## **ACC 629 - Partnership Taxation (3 credits)**

Covers the federal taxation of partners and partnerships. Topics include formation and operation of a partnership including receipt of a partnership interest for services, liquidations and terminations, distributions and sales of a partnership interest, calculation of basis, and special basis adjustments. Decedent partner issues and LLCs are also covered.

## **ACC 630 - Multistate Taxation (3 credits)**

Conceptual issues and constitutional framework of multistate taxation are developed and explored. Current issues, including Michigan taxes, are presented.

## **ACC 631 - Employee Benefit Plans and Deferred Compensation (3 credits)**

Provides a survey of employee benefit plans and executive compensation under the Internal Revenue Code and ERISA, with an in-depth review of the requirements for qualified retirement plans, for welfare plans (medical, dental, vision, disability, etc.) and applicable federal mandates (COBRA, HIPAA, etc.), and for nonqualified and stock-based plans.

## **ACC 632 - Tax Accounting (3 credits)**

Covers fundamental concepts applicable to tax accounting methods and periods, and to consolidated income tax returns. Topics include income and expense recognition, the installment method, inventories, changes in accounting methods and periods, qualification and filing of consolidated tax returns, and intercompany transactions, distributions, and basis calculations.

## **ACC 633 - International Tax Practice (3 credits)**

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United States jurisdiction to tax on the basis of citizenship, source of income, and other minimum contacts required by international or constitutional law is treated, along with taxation of domestic corporations doing business abroad, entities that are either controlled foreign corporations or foreign personal holding companies, and the foreign tax credit. U.S. possession corporations, domestic international sales corporations, and tax treaties are also considered.

## **ACC 636 - Taxation Problems, Planning, and Current Issues (3 credits)**

Integrates the specific knowledge learned in the prior M.S.T. courses with sophisticated business/individual taxation problems. Students will be expected to research and defend their solutions to various taxation controversies. Last course prior to graduation. Prerequisites: ACC 622, ACC 624, ACC 627, and ACC 629.

## **ACC 639 - Federal Tax Practice and Procedure (3 credits)**

Course overviews federal tax practice and procedure under the Code and Regulations. Specific topics include tax return filing issues, interest and penalties, and assessment and collection of tax deficiencies. IRS audits, appeals, and enforcement activities are surveyed, as are the professional and practical requirements for practice before the IRS. Offered every other year. Prerequisite: ACC 622 or permission of the graduate business programs director.

## **ACC 640 - S Corp and Limited Liability Co Taxation (3 credits)**

Examines the federal tax issues of S corporations and limited liability companies. S corporation topics include eligibility and the S election, income taxation of the S corporation and its shareholders, determination of basis, and distributions. Limited liability company topics include formation, entity conversions, basis determinations, member taxation, distributions, and estate planning issues. Prerequisite: ACC 629 or permission of director.

## **ACC 641 - Advanced Estate and Gift Taxation (3 credits)**

The course focuses on more advanced transfer tax issues. Topics include estate and gift tax returns, discounts, the special valuation rules of Chapter 14, irrevocable life insurance trusts, gifting issues, the generation skipping tax, marital deductions, buy-sell agreements, family limited partnerships and charitable trusts. Prerequisite: ACC 627.

## **ACC 680 - Special Topics in Accounting (1 to 3 credits)**

Analysis and discussion of advanced topics, contemporary problems, new or controversial topics. Specific topics will reflect interest of students and instructors. Prerequisite: Permission of instructor.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **ACC 690 - Accounting Internship (1 to 3 credits)**

Employment in an accounting capacity that is a new and significant experience for the student, including a minimum of 100 hours of work for every one credit of internship for a maximum of three credits. Students who have completed an internship at the undergraduate level will not be given credit for this course. The internship must be approved by the accounting chair.

Prerequisites: Admission to the M.S.A. program and completion of ACC 511 or the undergraduate equivalents, and at least one additional undergraduate or graduate accounting level course.

## **ACC 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

## **ACC 699 - Independent Study (1 to 3 credits)**

Independent research in the student's area of interest, supervised by a member of the Seidman College of Business faculty and culminating in a written and oral report. Written permission of supervising faculty required.

## **AFN 281 - Advocacy in Food and Nutrition (1 credit)**

This course will provide students with an overview of issues that impact America's nutrition and health status. History of food advocacy as a social movement and evaluation of advocacy activities will be covered. Students will be actively engaged in the development of an advocacy action plan. Offered winter semester.

## **AFN 300 - Food Protection Management (3 credits)**

This course will cover the historical development of food safety as a science, discuss human behavior and microbial issues resulting in food-borne illness, examine the intersection of food safety and food waste, and apply accepted food safety mechanisms (including allergen protection and identification) across various sectors. Prerequisite: BIO 120.

## **AFN 381 - Design Thinking in Applied Food and Nutrition (3 credits)**

Design thinking will be used to provide a solutions-based approach which allows the student to more fully examine difficult nutrition related issues. The students will seek to understand the user, challenge assumptions, and identify alternative strategies and solutions by working in teams in and outside of the classroom. Offered fall semester.

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## **AFN 400 - Applied Medical Nutrition Therapy (3 credits)**

Application of principles and techniques of nutrition care for patients at low to moderate nutrition risk. Includes practical application of evidence-based diets and menu editing for individuals with common chronic diseases. Nutrition screening, care planning for diagnosis and interventions, and evaluation for chronic diseases are included in the hybrid course. Offered winter semester. Prerequisites: BMS 105, BMS 250, BMS 251, and CHM 232.

## **AFN 401 - Emerging Issues in Food and Nutrition (2 credits)**

This course will review current issues in the economic, social, ethical, political, legal, technological, and ecological environment and the effect of these on dietetic-related practice. The course will prepare students for practice by discussing how food, nutrition and dietetic practice must adapt to a changing health landscape. Offered winter semester. Prerequisite: Admission to the applied food and nutrition program.

## **AFN 410 - Nutrition Care Delivery: Assessment, Implementation, and Evaluation (4 credits)**

This class provides didactic and experiential learning in three domains of nutrition care. Modules include nutrition care process, community-based intervention, and food service quality assurance and improvement. All modules relate to assessment of needs and evaluation of implementation using biometrics and documented outcomes. Offered winter semester. Prerequisite: Admission to the applied nutrition program.

## **AFN 416 - Applied Food and Culinary Science (3 credits)**

This course studies the scientific principles behind modern culinary techniques, with emphasis on preparation, nutrient quality, and health. Offered fall semester. Prerequisites: Admission to the applied food and nutrition program, AFN 300, and AFN 417.

## **AFN 417 - Food Service Practicum (1 to 2 credits)**

This course provides hands-on experiential learning in a variety of food systems management settings. Students will complete applicable competency standards required for eligibility to sit for the credentialing examination for Nutrition and Dietetic Technicians, Registered. Offered winter semester. Prerequisites: Admission to the applied food and nutrition program and AFN 300.

## **AFN 418 - Community Nutrition Practicum (1 to 3 credits)**

This course provides hands-on experiential learning in a variety of community settings. Students will complete competency standards in assessment, implementation, and evaluation of

community and population nutrition programs. Prerequisites: Admission to the applied food and nutrition program, BMS 304, AFN 400, and AFN 417.

### **AFN 419 - Clinical Nutrition Practicum (1 to 3 credits)**

This course provides hands-on experiential learning in a variety of clinical settings. Students will complete competency standards in application of the nutrition care process for individuals, including assessment, diagnosis, intervention, and monitoring and evaluation of care. Offered winter semester. Prerequisites: Admission to the applied food and nutrition program, AFN 400, and AFN 417.

### **AFN 460 - Nutrition Education with Vulnerable Populations (3 credits)**

This course will focus on building understanding and empathy for vulnerable populations in order to increase students' effectiveness in the provision of nutrition education to diverse groups. Topics will include behavior change strategies appropriate for various populations and the application of nutrition education delivery. Offered fall semester. Prerequisites: BMS 304 and COM 209.

### **AFN 495 - Applied Food and Nutrition Capstone (3 credits)**

This course will synthesize concepts from the applied food and nutrition core courses and enable students to write and present professional-quality communications. Through literature review, discussion, and research proposal development, emphasis will be placed on integrating knowledge and methods from other health and science-related disciplines with those from dietetics. Offered winter semester. Prerequisites: Senior standing and in the applied food and nutrition program.

### **AHS 100 - Medical Terminology (3 credits)**

This course offers a systematic approach to understanding medical terminology through the analysis and translation of medical terms. The focus is to enable students to practice and use this specialized language in preparation for work in the health care environment.

### **AHS 110 - Introduction to Health Care (3 credits)**

Provides students with an introduction to the U.S. health care system and health-related professions they might enter. Content includes how health care is provided in the U.S., organizations involved in providing health care, and an introduction to the various health professions that students may enter as a career. (2-1-0) Offered every semester.

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## **AHS 180 - Special Topics in Health Professions (1 to 4 credits)**

Course content varies. Refer to schedule of classes to determine course description and prerequisites. Students may repeat this course under different topics.

## **AHS 301 - Introduction to Health Care Research (3 credits)**

Introduces students majoring in the health professions to the basic steps of conducting research, literature searching, critical reading of literature, experimental design, quantitative and qualitative data analysis, and scientific writing. Published literature relevant to the health professions will be analyzed. Students will write a variety of papers and reports. Offered every semester. Prerequisite: STA 215.

## **AHS 321 - Ethical and Legal Responsibilities in Health Care (3 credits)**

This course presents an overview of the ethical and legal issues faced by health care consumers, practitioners, and administrators. Topics include professional and personal health care ethics, professional liability, consent, and medical records confidentiality (HIPAA, fraud, and abuse). Offered every semester.

## **AHS 330 - Health Care: A Global Perspective (3 credits)**

This course examines public health and its links between global health, social and economic development, and the impact on creating healthy societies. The course will provide students with an understanding of the risks that diseases pose to worldwide society and the burden of disease related costs on individual cultures. Part of the Globalization Issue. Offered every semester.

## **AHS 340 - Health Care Management (3 credits)**

An introduction to the basic concepts of health care management, including problem solving, planning, organization, motivation, leadership, and group process. Part of the Health Issue. Offered fall and winter semesters. Prerequisite: Junior standing.

## **AHS 352 - Introduction to Holistic Health Care (3 credits)**

This course offers students the opportunity to critically examine holistic health beliefs and practices and their cultural position in American society. The philosophical and theoretical premises behind these beliefs and practices will be analyzed and compared to Western medicine and to one another. Part of the Health Issue. Offered every semester.

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## **AHS 380 - Special Topics in Allied Health Science (1 to 12 credits)**

Course content varies. Refer to schedule of classes to determine course description and prerequisites. Students may repeat this course under different topics.

## **AHS 480 - Special Topics in Allied Health Sciences (3 credits)**

Lecture, discussion, laboratory, or field experience (or any combination of the preceding) in specific areas of resource management. Prerequisites: Variable.

## **AHS 482 - Transcultural Health: China and U.S. (3 credits)**

Transcultural Health is designed to bring the student into a direct relationship with health care practices and attitudes from various cultural backgrounds. The course is presented as an immersion experience in, and examination of, health care clinics, practices, and classes from an international/domestic health care perspective.

## **AHS 490 - Health Care Internship (3, 6, or 12 credits)**

A structured learning opportunity for students to apply classroom knowledge in a health care setting. This internship is for students with a degree emphasis, other than histotechnology, and may be repeated up to six credits. The histotechnology emphasis requires a total of 24 credits and will also count as Capstone. Prerequisites: Junior standing, completion of 12 credits in the allied health sciences major, 2.5 GPA in major, and approval of internship by allied health sciences internship coordinator.

## **AHS 495 - Issues in Health Professions (3 credits)**

An overview of current issues impacting health care and health care delivery locally, nationally, and internationally. Students will be expected to synthesize materials learned in the health professions major core classes and cognates and to write and present professionally styled presentations. (3-0-0) Prerequisites: (AHS 301 or BMS 301 or PSY 300) and senior standing.

## **AHS 499 - Independent Study (1 to 3 credits)**

Students will complete a reading project or other approved activity building upon declared student interest. Tangible final product must be completed according to criteria developed by the student and the advisor. Prerequisites: One semester of professional curriculum and permission of professional curriculum director.

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## **AHS 580 - Special Topics in Allied Health Sciences (3 credits)**

Lecture, discussion, laboratory, or field experience (or any combination of the preceding) in specific areas of resource management. Prerequisites: Variable.

## **AHS 680 - Special Topics in Health Professions (3 credits)**

Lecture, discussion, laboratory, or field experience (or any combination of the preceding) in specific areas of resource management. Prerequisites: Variable.

## **AHS 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

## **AHS 699 - Independent Study (1 to 3 credits)**

Students will complete a reading project or other approved activity building upon declared student interest. Tangible final product must be completed according to criteria developed by the student and the advisor. Offered every semester. Prerequisites: Good standing after three semesters in one of the AHS professional programs and permission of the professional program director.

## **ANT 204 - Peoples and Cultures of the World (3 credits)**

Introduces the discipline of anthropology by examining the diversity of human cultures that have been described by anthropologists over the last 100 years. The principles of anthropology are explained with examples drawn from nonWestern culture. Comparisons are drawn with our own. Fulfills one of the Foundations - Social and Behavioral Sciences. Fulfills Cultures - Global Perspectives. Offered fall and winter semesters.

## **ANT 206 - Human Origins (3 credits)**

Examines the dynamic interplay between human biology and culture through the study of human evolution. Grounded in the mechanisms of evolution, the class examines the emergence of our species and our relationship to nonhuman primates, among other topics. Fulfills Foundations - Life Sciences. Offered fall and winter semesters.

## **ANT 207 - Language and Culture (3 credits)**

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Explores the interaction between language, communication, and culture, employing cross-cultural analysis to reveal cultural models and to understand how linguistic variation is linked to gender, age, region, ethnicity, and class. Several practical activities are used to apply analyses to anthropological problems. Fulfills one of the Foundations - Social and Behavioral Sciences. Fulfills Cultures - U.S. Diversity. Offered fall semester.

### **ANT 210 - History of Anthropological Theory (3 credits)**

Considers the major historical development and theoretical trends in anthropology since 1860. The approach is both topical and historical. Connections with developments in related disciplines are noted. Offered fall and winter semesters. Prerequisite: ANT 204 or ANT 206.

### **ANT 215 - Origins of Civilization (3 credits)**

This course examines the consequences of decisions made by our ancestors, the successes and failures of past civilizations, so that we may better understand our own behavior. Development of world civilizations is explored using historic, archaeological, and other perspectives that inform us about the past. Fulfills Foundations - Historical Perspectives. Fulfills Cultures - Global Perspectives. Offered fall and winter semesters.

### **ANT 220 - Introduction to Archaeology (4 credits)**

Introduction to the methods and techniques of archaeology, including the methods of excavation, analysis, dating techniques, and data presentation. Course has fieldwork opportunities and draws on examples from local and worldwide research. Fulfills one of the Foundations - Social and Behavioral Sciences. Offered fall and winter semesters.

### **ANT 305 - Methods in Biological Anthropology (3 credits)**

Overview of research methods used in biological anthropology, emphasizing living humans. It includes a discussion of current theoretical arguments within the field of physical anthropology and the techniques used to examine them. The course will introduce students to the process of research design, data analysis, and interpretation. Offered fall semester. Prerequisite: ANT 206.

### **ANT 307 - Field Techniques and Laboratory Methods in Anthropology (1 to 9 credits)**

Training in the application of research methods under field conditions to problems in major areas of anthropology; supervised instruction in anthropological laboratory techniques, including data collection and storage, analysis, and interpretation. Offered spring/summer semester. Prerequisite: Permission of instructor.

### **ANT 308 - Field Experience Abroad (1 to 6 credits)**

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Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only. Credit may vary.

### **ANT 311 - Native Peoples of North America (3 credits)**

A multifaceted examination of North American Indians and a comparison of that culture with the Americans'. Focus on origin, early history, and present disposition of American Indian populations. Fulfills Cultures - U.S. Diversity. Part of the Identity Issue. Offered fall and winter semesters. Prerequisite: Junior standing.

### **ANT 312 - Human Osteology (4 credits)**

The course explores skeletal biology, growth and development, identification, and assessment of pathological and traumatic conditions. The course focuses on standard forms of data acquisition in traditional physical anthropology and for forensic anthropological applications, including bone identification, aging, sexing, stature, siding, biological affinity, pathology, taphonomy, trauma, and collection of metrics. Offered winter semester. Prerequisite: ANT 206.

### **ANT 313 - Primate Behavior and Ecology (3 credits)**

This course is an overview of the behavior of nonhuman primates within an ecological framework. Topics include a survey of living primates, constraints of body size on locomotion and diet, conservation, communication, conflict resolution, and the role of the environment in diet, on reproductive strategies, and in social interaction. Offered fall semester of odd-numbered years.

### **ANT 314 - Bioarchaeology (3 credits)**

Bioarchaeology is the study of human remains from archaeological settings. Its study encompasses the ethical treatment of human remains, reconstruction of patterns of subsistence, disease, activity, status, ethnicity, diet, and demography from the human skeleton to better understand the way that people chose to live in the past. Offered fall semester of even-numbered years. Prerequisite: ANT 206.

### **ANT 315 - Comparative Religions (3 credits)**

A cross-cultural study of contemporary religions. Examines the diversity of religious meanings through the lived experiences of cultures, traditions, and sects around the world. Exposes students to anthropological interpretations of religion through a range of methods, including ethnography. Themes include symbolisms, ritual, death, shamanism, healing, magic, pilgrimage, and interfaith movements. Fulfills Cultures - Global Perspectives. Part of the Identity Issue. Offered fall and winter semesters. Prerequisite: Junior standing.

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## **ANT 317 - Advanced Cross-cultural Linguistics (3 credits)**

Survey and comparison of global linguistic diversity focusing on ways different cultures and languages represent, organize and express, through knowledge and emotion in life, political relations, rituals, and personal experience. Survey includes case studies from around the world with emphasis on languages and dialects other than standard English. Offered winter semester of even-numbered years. Prerequisite: ANT 207 or permission of instructor.

## **ANT 320 - Culture and Disease (3 credits)**

Introduces students to the anthropological study of disease ecology and medical systems cross-culturally. Explores the impact of disease, ecology, and sociocultural behavior throughout human evolution. Investigates the efficacy and nature of non-Western curing procedures and the cultural and psychodynamic features of illness. Part of the Health Issue. Offered fall and winter semesters. Prerequisite: Junior standing.

## **ANT 325 - Archaeology of North America (3 credits)**

A survey of prehistoric developments from Alaska to Central America, including the Mesoamerican civilizations. Offered winter semester of even-numbered years. Prerequisite: ANT 220 or ANT 215 or instruction permission.

## **ANT 330 - Anthropology of Selected World Areas (3 credits)**

Current topics and methodology will be examined within one anthropological subdiscipline from the perspective of a particular geographic area. Focus will be on the fundamental question: What does anthropology contribute in terms of our understanding of people and cultures? Students may repeat provided each repeat is for a different area.

## **ANT 340 - Culture and Environment (3 credits)**

Compares different adaptive strategies of cultures from around the world and seeks understanding of ethical and social values different groups have related to the environment. Attention is focused on how humans relied on cultural mechanisms in the past to adapt and change their physical and natural environment. Fulfills Cultures - Global Perspectives. Part of the Sustainability Issue. Offered fall and winter semesters. Prerequisites: Junior standing, fulfillment of general education Foundations - Writing, and either Historical Perspectives or U.S. Diversity.

## **ANT 345 - Perspectives on Globalization (3 credits)**

The anthropology of globalization examines the emergence of "globalized local cultures." Students employ the ethnographic approach to understand globalization as the intensification of

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interconnectedness, in which anthropologists learn that fundamental problems of deep and universal concern to humans everywhere will need to be addressed at local, national, and global levels. Offered fall semester of even-numbered years. Fulfills Cultures - Global Perspectives. Part of the Globalization Issue. Prerequisite: Junior standing.

### **ANT 350 - Archaeology of Mid-East (3 credits)**

The Middle East is recognized as the birthplace of several major cultural traditions. This course examines the evidence of archaeology that informs us on the origins and settlement of the Middle East from at least one million years ago to the seventh century A.D. from the perspective of cultural ecology. Offered winter semester of odd-numbered years. Prerequisite: ANT 215 or ANT 220 or MES 201 or prior approval of the instructor.

### **ANT 370 - Cross-cultural Perspectives on Gender (3 credits)**

Examines gender as a fundamental organizing theme of culture. Also emphasizes the sociocultural basis for gender differences using a cross-cultural and comparative approach. Discusses how gender relations affect all other aspects of human life. Offered winter semester of even-numbered years. Prerequisite: ANT 204 or ANT 206.

### **ANT 375 - Language, Identity, and Diversity (3 credits)**

Examines how language reflects and constitutes social identity and hierarchy. Language variation, with respect to place, gender, sexuality, class, race, and ethnicity, is explored in U.S. and global contexts from multiple disciplinary perspectives. Students learn to critically analyze their own and others' unique speaking and writing practices and related identities. Fulfills Cultures - U.S. Diversity. Part of the Identity Issue. Offered fall semester. Prerequisite: Junior standing.

### **ANT 380 - Special Topics in Anthropology (3 credits)**

A series of courses providing an in-depth study of a problem in anthropology and the methods of investigating it. Various topics of cross-cultural interest, such as human evolution, peasant cultures, preliterate societies, kinship pattern, and culture and personality will be examined. Offered on sufficient demand.

### **ANT 399 - Independent Readings (1 to 3 credits)**

Independent supervised readings in selected topics. A student may take only one reading course for one to three credits per semester. No more than six hours of ANT 399 and ANT 499 combined may count toward a major or three hours combined toward the minor. Offered every semester. Prerequisites: ANT 204 or ANT 206 and the written consent of the instructor before registration.

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## **ANT 400 - Ethnographic Methods (3 credits)**

Students will examine and evaluate the practice of anthropological ethnography through hands-on exercises, collaborative workshops, discussions on conducting ethnographic field research, ethics, and applications of responsible ethnographic research. Through in-class simulations and assignments, students will develop skills in participant observation techniques, taking ethnographic field notes, conducting interviews, and recording and transcribing discourse. Offered winter semester. Prerequisite: ANT 204 or SOC 101 or CJ 101 or permission of the instructor.

## **ANT 405 - Contemporary Anthropological Theory (3 credits)**

This course surveys contemporary topics in anthropological theory. Included is an overview of current issues, topics and debates in archaeology, physical/biological, sociocultural, and linguistic anthropology. Students will gain an understanding of recent trends in anthropology and the trajectory of the discipline. Connections with developments in related disciplines are noted. Offered fall and winter semesters. Prerequisites: ANT 210 and senior standing in anthropology.

## **ANT 420 - Applied Anthropology (3 credits)**

The course engages students in contemporary anthropological practice. Students explore applied anthropology through anthropological theories, methods and practices for engaging communities and addressing "real world" problems. Topics may include the history of engaged anthropology, public and advocacy anthropology, action/participatory research, and the ethical issues of engagement and social change. Offered fall semester. Prerequisites: ANT 204 and junior standing.

## **ANT 421 - Anthropology of Social Movements (3 credits)**

This course overviews a wide range of processes and practices related to social movements, and anthropology's central role in expanding the definition of collective resistance beyond the scope of formalized protest (and strategic outcomes) to include and examine everyday forms and lived experience of resistance and dissent. Part of the Human Rights Issue. Offered winter semester. Prerequisite: Junior standing.

## **ANT 430 - Issues in Contemporary Anthropology (3 credits)**

This course is an upper-division examination of contemporary issues being explored in the field of anthropology. Topics may include advanced theory, controversies in the discipline, methodological questions and changing approaches to anthropological research. Offered fall semester. Prerequisites: ANT 210 and one of the following ANT 204 or ANT 206 or ANT 215; and junior standing.

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## **ANT 431 - Historical Perspectives in Anthropology (3 credits)**

Students will explore historical, theoretical, and methodological developments from an anthropological perspective, focusing on trends in interpretation of material culture, cultural resources management, experimental archaeology, and the contribution of anthropology to understanding major social issues. Students will critically examine the practice and application of anthropological research from a historic perspective. Offered winter semester of even years. Prerequisites: Two upper-division anthropology courses.

## **ANT 490 - Practicum: Career-Service (1 to 9 credits)**

Agency experience in the community relating practical training and independent study in a specialized area. Limited to 10 credits maximum. Offered every semester. Graded credit/no-credit. Prerequisites: 15 hours of course preparation and permission of instructor.

## **ANT 495 - Practicing Anthropology (Capstone) (3 credits)**

Provides students with a broad and comprehensive perspective on the fundamental assumptions and issues in anthropology. Emphasis on the application of anthropological knowledge to solve social problems. Given the diverse dimensions of current trends in anthropology, students will work to establish their particular interests with the field. Offered fall and winter semesters. Prerequisites: Senior standing in anthropology and ANT 405.

## **ANT 498 - Honors Research in Anthropology (3 credits)**

Original research conducted individually with faculty supervision, based on a formal proposal. Project is the culmination of undergraduate research incorporating anthropological theory, methodology, data collection, and analysis. Research will be presented in a public forum. Syllabus and guidelines for honors research available from faculty. Offered every semester. Prerequisites: Acceptance of formal written proposal and permission of faculty member.

## **ANT 499 - Independent Study and Research (1 to 4 credits)**

Research conducted individually with faculty supervision. Attention given to written and oral presentation of research findings. A student may take only one independent study per term. No more than six hours of ANT 399/ANT 499 may count toward a major or three hours of ANT 399/ANT 499 toward the minor. Offered every semester. Prerequisites: Nine hours in the department and written permission of instructor before registration.

## **ARA 101 - Beginning Arabic I: Language and Culture (4 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

An introduction to the Arabic language and to the cultures of the Arabic-speaking world. Practice in speaking, listening, reading, and writing at the beginning level. Supplemented by multimedia and the Language Resource Center. Offered fall semester.

## **ARA 102 - Beginning Arabic II: Language and Culture (4 credits)**

Continuation of ARA 101. Practice in speaking, listening, reading, and writing at the beginning level. Arabic culture integrated throughout. Supplemented by multimedia and the Language Resource Center. Offered winter semester. Prerequisite: C (not C-) or better in ARA 101 or credit.

## **ARA 180 - Special Topics in Arabic (1 to 4 credits)**

Expectations of students approximate those in other 100-level courses. May be repeated when content differs. Offered on sufficient demand.

## **ARA 201 - Intermediate Arabic I: Language and Culture (4 credits)**

Continuation of ARA 102. Practice in speaking, listening, reading, and writing at the intermediate level. Arabic culture integrated throughout. Supplemented by multimedia and the Language Resource Center. Students who did not complete ARA 102 at GVSU are strongly encouraged to take the free placement test in the Language Resource Center prior to registering. Counts toward the Arabic minor. Offered fall semester. Prerequisite: C (not C-) or better in ARA 102 or credit.

## **ARA 202 - Intermediate Arabic II: Language and Culture (4 credits)**

Continued practice in speaking, listening, reading, and writing at the intermediate level. Review of grammar and expansion of vocabulary. Focus on Arabic culture through authentic texts and multimedia materials. Continuation of ARA 201. Students who did not complete ARA 201 at GVSU are strongly encouraged to take the free placement test in the Language Resource Center prior to registering. Counts toward the Arabic minor and the Middle East studies minor. Fulfills Cultures - Global Perspectives. Offered winter semester. Prerequisite: C (not C-) or better in ARA 201, or credit, or appropriate placement test score.

## **ARA 280 - Special Topics in Arabic (1 to 4 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Course content varies. Expectations of students approximate those in other 200-level courses. May be repeated when content differs. No more than four credits can be applied to the minor or major. Offered on sufficient demand.

## **ARA 285 - Colloquial and Media Arabic (3 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only. Credit may vary.

## **ARA 301 - Arabic Conversation (3 credits)**

This course provides extensive practice in colloquial Arabic, with a focus on every day practical language. The course also provides a brief overview of major dialects and their relationship to Modern Standard Arabic. Students are trained to recognize and use various layers of Arabic in their proper cultural context. Offered winter semester of even-numbered years. Prerequisite: ARA 102 or permission of instructor.

## **ARA 302 - Arabic Composition (3 credits)**

The course is intended to develop skills in writing correct Arabic sentences, paragraphs, and longer texts relating to various topics. Review of Arabic grammar through an analysis of various Arabic texts. Offered winter semester of odd-numbered years. Prerequisite: ARA 102 or permission of instructor.

## **ARA 310 - Media Arabic (3 credits)**

This course provides extensive practice in comprehending Media Arabic, including print and nonprint materials. The course trains students both in the idiom of the news media, but also in the broader media output, including cultural materials, songs, and how news is portrayed in various cultural contexts. Offered fall semester of odd-numbered years. Prerequisite: ARA 102 or permission of instructor.

## **ARA 312 - Contemporary Arabic Culture (3 credits)**

This course explores aspects of contemporary Arabic culture through a variety of Arabic materials, including autobiographies, literature (poetry, fiction, and drama), film, and music. Offered fall semester of even-numbered years. Prerequisite: ARA 102 or permission of instructor.

## **ARA 330 - Arab Identity in Literature and Culture (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

This course examines the complexities of forming, constructing, and shaping Arab identity within a vast Arab world. Such complexity will be examined through written and oral accounts, audio and visual sources, and literary authors from the Arab world. All materials read in English translation. Does not count toward Arabic minor. Part of the Identity Issue. Cross-listed with MES 330. Offered fall and winter semesters. Prerequisite: Junior standing.

### **ARA 380 - Special Topics in Arabic (1 to 4 credits)**

Readings, lectures, and/or discussions in specific topics not normally covered by other courses in the program. Offered on sufficient demand.

### **ARA 386 - Arabic through Culture and Customs (3 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only. Credit may vary.

### **ARA 480 - Special Topics in Arabic (1 to 4 credits)**

Course content varies. Expectations of students approximate those in other 400-level courses. May be repeated when content differs. Offered on sufficient demand.

### **ARC 400 - Archaeological Methods and Research Design (3 credits)**

Provides advanced study of the practical and methodological aspects of research in archaeology. Students will learn how to develop independent projects and embed them in multistage regional research. Prerequisites: ANT 220 and one area course in archaeology (ANT 325, ANT 350, CLA 350).

### **ARC 401 - Archaeological Theory (3 credits)**

The history and evolution of archaeology and its theoretical frameworks are examined in a lecture/seminar/discussion format. The role and implications of theory in archaeological practice are explored from its origins to the present, emphasizing processual, postprocessual, and contemporary theoretical debate, ethics, and professionalism. Prerequisites: ANT 220, junior standing, and one regional archaeology course (ANT 325, ANT 350, CLA 350).

### **ARC 499 - Independent Study in Archaeology (1 to 3 credits)**

Hours, credits, topics, and time to be arranged with individual faculty members with approval of the department.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **ART 101 - Introduction to Art (3 credits)**

Introduction to the visual arts. Examination of creative, social, historical, and aesthetic aspects of selected works of art. Fulfills Foundations - Arts. Offered fall and winter semesters.

## **ART 149 - Introduction to Visual Composition (3 credits)**

Explores two-dimensional composition by applying visual elements and design principles. All work is computer generated. It is designed for any student outside the Department of Visual and Media Arts who requires or seeks a background in composition. Art majors and minors must take ART 150. Offered fall and winter semesters.

## **ART 150 - Foundations: 2-D Design (3 credits)**

Explores the theories and concepts of two-dimensional art forms. Basic visual design principles, their application, and comparison of contemporary and historical examples are presented through lectures and slides and applied to studio problems. Offered fall and winter semesters.

## **ART 151 - Foundations: 3-D Design (3 credits)**

Fundamentals of design with an emphasis upon projects that develop the language of art as applied to three-dimensional forms in space. Offered fall and winter semesters.

## **ART 152 - Foundations: Color and Design (3 credits)**

Fundamentals of design using more complex themes and including an in-depth study of color theory. Offered fall and winter semesters. Prerequisite: ART 150.

## **ART 153 - Foundations: Making and Meaning in Art and Design (3 credits)**

This course entails investigating contemporary practices of art and design, studying how images and objects acquire meaning, experimenting with basic studio processes, and learning to use digital media in combination with traditional media in making art. Fulfills Foundations - Arts. Offered fall and winter semesters.

## **ART 155 - Foundations: Introduction to Drawing I (3 credits)**

A study of fundamental pictorial concepts of drawing. Experimentation with varied technical means and media directed toward both descriptive and expressive ends. Offered fall and winter semesters.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **ART 157 - Foundations: Introduction to Drawing II (3 credits)**

A continuation of techniques and media from Introduction to Drawing I. Offered fall and winter semesters. Prerequisite: ART 155.

## **ART 159 - Drawing Fundamentals (3 credits)**

Drawing course designed for nonart and design majors and minors outside of the Department of Visual and Media Arts. Students will learn how to create observational and expressive drawings using the elements and principles of art, and how to develop ideas for drawing. Art and design majors/minors must take ART 155. Fulfills Foundations - Arts. Offered fall and winter semesters.

## **ART 209 - Graphic Design Basics (3 credits)**

The course is designed for any nongraphic design student who requires or seeks an overview of the graphic design process and its application in visual composition, symbol development, typography, and layouts. Students produce solutions to visual communication problems and learn to articulate and present effectively their design choices. Offered fall and winter semesters.

## **ART 210 - Graphic Design I (3 credits)**

Extension of basic art and design fundamentals into a graphic design context, including computer-generated imagery. Stress is placed on problem solving through typographic imaging and the union of text and image. Offered fall semester. Prerequisite: Admission to graphic design.

## **ART 211 - Graphic Design II (3 credits)**

Graphic design is explored in its broadest applications, including symbology and logo design. Students learn to create visual messages that are aesthetically appealing as well as informative. Offered winter semester. Prerequisite: ART 210.

## **ART 212 - Graphic Design for Illustrators (3 credits)**

An introduction to printing methods, typography, layout, and paper choices as they relate to creating self-promotional materials and illustrations that print successfully. Offered winter semester.

## **ART 215 - Advanced Typography (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

An application of typographic principles to applied communication design projects of increased formal and intellectual complexity. Increased awareness of the emotional properties of typography and the relation to message is emphasized. This course may be repeated once for credit. Offered winter semester. Prerequisite: ART 210.

### **ART 218 - Design History (3 credits)**

The history of design from the Industrial Revolution to the present. Discussions of the politics and ethics of design. Offered fall and winter semester.

### **ART 221 - Survey of Art History I (3 credits)**

A survey of art history from prehistoric times to the Renaissance. Offered fall semester.

### **ART 222 - Survey of Art History II (3 credits)**

A survey of art history from the Renaissance to the present day. Offered winter semester.

### **ART 231 - Integrating the Visual Arts Across Disciplines (3 credits)**

Art-based inquiry as an integrative approach to teaching in PK-6. Connections among art and other content areas emphasized to develop interdisciplinary approaches with a focus on big ideas and their relationships to the world through problem-solving, creative inquiry, and art-based activities. Fulfills Foundations - Arts. Offered fall and winter semesters.

### **ART 245 - Introduction to Jewelry and Metalsmithing (3 credits)**

A study of the fundamentals of metalsmithing: fabrication techniques, surface embellishment, simple stone setting, and finishing placed within a conceptual context. Offered fall and winter semesters.

### **ART 257 - Life Drawing (3 credits)**

A continuation of techniques and media from Introduction to Drawing, with emphasis on the human figure. Offered fall and winter semesters. Prerequisite: ART 157.

### **ART 258 - Intermediate Drawing (3 credits)**

An exploration of pictorial concepts in drawing in a variety of media with the emphasis upon individual expression. Offered winter semester. Prerequisite: ART 157.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **ART 260 - Introduction to Painting (3 credits)**

A painting course designed for art majors and nonart majors. Fundamentals of painting in opaque media with a variety of subjects and styles. Fulfills Foundations - Arts.

## **ART 265 - Introduction to Printmaking (3 credits)**

Experimentation with varied techniques and with different composition ideas related to some fundamental forms of printmaking. Work with wood/linoleum cut, intaglio, and collagraph. Offered fall and winter semesters.

## **ART 270 - Introduction to Sculpture (3 credits)**

A hands-on studio course designed for art majors and nonart majors. Introduction to basic sculpture techniques (mold making, metal working, wood working, and sewing). Creative project topics include lost wax bronze casting, found object assemblage, soft sculpture, and fibers. Critical thinking skills and studio safety will also be covered. Fulfills Foundations - Arts. Offered fall and winter semesters.

## **ART 271 - Digital 3-D Modeling and Design (3 credits)**

A computer-based studio course designed for art majors and nonart majors. Introduction to basic digital fabrication techniques (3-D solid digital modeling and rendering, laser cutting, 3-D printing, and 3-D scanning). Creative project topics include prototypes and inventions, hybrids, digital artifice, and public art proposals. Fulfills Foundations - Arts. Offered fall semester.

## **ART 275 - Introduction to Ceramics (3 credits)**

A ceramics course designed for art majors and nonart majors. All basic ceramics (hand-building) techniques, glazing, and concepts relating to ceramics and pottery. Included will be historical background, some clay geology, clay making, and kiln loading and unloading. All other general studio practices and safety will also be covered. Fulfills Foundations - Arts. Offered fall and winter semesters.

## **ART 280 - Special Topics in Art and Design (3 credits)**

A course built around a special project or media with limited or topical significance and offered on a very limited basis.

## **ART 281 - Introduction to Illustration (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

An overview of the illustration field covering historical and contemporary perspectives, aesthetic sensitivity, and professional practicality. Offered fall semester. Prerequisite: Admission to illustration.

### **ART 307 - Digital Prepress (3 credits)**

This course is an in-depth exploration into the methods of commercial printing and corresponding software packages. This course will aid students in understanding how to manipulate digital technology and conventional printing techniques to their advantage, to increase the quality of their work utilizing this knowledge. Offered fall semester. Prerequisite: ART 211.

### **ART 310 - Graphic Design III (3 credits)**

An advanced studio course covering principles that guide the development of creative solutions for educational and communication design. The student learns to manipulate typography, symbolism, illustration, and photography in a given space, which may take the form of advertisements, newspapers, periodicals, books, annual reports, signs, or direct mail. Offered fall semester. Prerequisite: ART 211.

### **ART 312 - Graphic Design IV - Experience Design (3 credits)**

An advanced course to acquaint students with professional and technological components of creating and publishing interactive and motion programs. Includes an in-depth exploration of website design including interactivity, navigational systems, motion and typography, integrating both design methodologies and information architecture. Offered winter semester. Prerequisite: ART 310.

### **ART 313 - 3-D for Graphic Design (3 credits)**

Introduction to the fundamental development of dimensional construction which refines and integrates many design principles. Imaginative use of materials and surface graphics as well as marketing and production problems are explored. Offered winter semester. Prerequisite: ART 210.

### **ART 322 - Goths to Gothic: Medieval Art (3 credits)**

A thematic examination of the arts and visual culture created between the 6th and 15th centuries in Europe and the broader Mediterranean. Explores diverse media in relation to their political, religious, and social contexts. Also considers 19th century and contemporary reception of medieval art and ideas. Fulfills Cultures - Global Perspectives. Offered fall semester of even-numbered years.

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## **ART 323 - Rethinking Renaissance Art (3 credits)**

Thematic examination of the visual arts produced between 1400 and 1650 focusing on intersections between Europe, Africa, and the Americas. Topics include the artist and society, civic and domestic contexts for the arts, and the representation of self and community. Explores concepts of Renaissance art in later eras. Fulfills Cultures - Global Perspectives. Part of the Globalization Issue. Offered winter semester of odd-numbered years. Prerequisite: Junior standing.

## **ART 327 - Art Since 1945 (3 credits)**

This course highlights important moments of modernist and contemporary aesthetic development from the mid-20th century to the present. Offered winter of even-numbered years. Prerequisite: ART 222 or junior standing.

## **ART 332 - Introduction to Art Education (3 credits)**

An introduction to the field of art education, including the study of its historical, sociological, and theoretical foundations and their effect on its practice in the K-12 classroom. Offered fall semester. Prerequisites: ART 152 and ART 157.

## **ART 333 - Curriculum Development and Practice (3 credits)**

This course, designed for art education majors, provides experience in curriculum and teaching portfolio development, as well as classroom observation to provide the future art teacher with a firm foundation for teaching in the K-12 classroom. Offered winter semester. Prerequisite: ART 332.

## **ART 335 - Digital Creativity (3 credits)**

This course is a hands-on studio course that provides basic skills and an understanding of computer technology in the creative process. Emphasized exploration of digital media concepts and methods for supporting creativity through examination of the themes and issues in contemporary arts and culture. Part of the Information, Innovation, or Technology Issue. Offered fall and winter semesters. Prerequisite: Junior standing.

## **ART 345 - Relevant Skills for the Jeweler (3 credits)**

An overview of the skills needed to function in the retail and wholesale jewelry industry. The course will cover such topics as stone setting, fabrication, assembly of standardized findings, rebuilding, restoring and repairing of various jewelry types. Sales and situational challenges of working with customers will be addressed. Offered fall semester every other year. Prerequisite: ART 245 or permission of instructor.

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

## **ART 346 - Intermediate Jewelry and Metalsmithing I (3 credits)**

The study of casting, related production techniques, mold making, gypsy stone setting, and die forming with continued stress on fabrication techniques and increased emphasis on the exploration of conceptual issues. Offered winter semester. Prerequisite: ART 245.

## **ART 347 - Intermediate Jewelry and Metalsmithing II (3 credits)**

The study of raising (angle and anticlastic), forging, patination, hinges, connections and findings, and introduction to specialized equipment placed with the context of personal exploration and research. Offered fall semester. Prerequisite: ART 245.

## **ART 350 - Learning to See: Visual Training for the Health Care Professional (3 credits)**

Interactive studio art course that trains visual thinking and analysis skills used in health care settings. Designed for the health care professional but open to all. Discussion, drawing, writing, meditation, visual training related to diagnostic thinking. No previous art experience or skill necessary. Part of the Health Issues. Offered fall and winter semesters. Prerequisite: Junior standing.

## **ART 355 - Advanced Drawing I (3 credits)**

Advanced exploration of drawing techniques with emphasis upon personal expression. Offered fall and winter semesters. Prerequisite: ART 258.

## **ART 356 - Advanced Drawing II (3 credits)**

Advanced exploration of drawing techniques with emphasis upon personal expression. Offered fall and winter semesters. Prerequisite: ART 355.

## **ART 361 - Intermediate Painting I (3 credits)**

Intermediate projects using a variety of styles, subjects, and techniques. Offered fall and winter semesters. Prerequisite: ART 260.

## **ART 362 - Intermediate Painting II (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Intermediate projects using a variety of styles, subjects, and techniques. Offered fall and winter semesters. Prerequisite: ART 361.

## **ART 366 - Intermediate Printmaking I (3 credits)**

A continuation of ART 265. Color and scale and combining printmaking media are emphasized. Offered fall and winter semesters. Prerequisite: ART 265.

## **ART 367 - Intermediate Printmaking II (3 credits)**

A continuation of ART 366. Color and scale and combining printmaking media are emphasized. Offered fall and winter semesters. Prerequisite: ART 366.

## **ART 368 - Alternative Photographic Print Processes (3 credits)**

An introduction to photographic-based printmaking processes such as cyanotype, polymer photogravure, and photo-stencil silkscreen. Emphasis is on the technical and aesthetic mastery of these media for the development of the student's creative visual work. Cross-listed with PHO 368. Offered fall semester.

## **ART 371 - Intermediate Sculpture 1: Fabrications (3 credits)**

Emphasis placed on techniques and concepts related to fabrication. Additive processes with wood and metal (wood joinery and construction, metal welding and finishing, surface treatments) are learned in conjunction with their application to projects exploring ideas related to fabricating such as function, invention, movement, narrative, and imagination. Offered winter semester.

## **ART 372 - Intermediate Sculpture 2: Replications (3 credits)**

Emphasis is placed on techniques and concepts related to replication. Molding and casting processes with clay, plaster, rubber, plastic, and metal are learned in conjunction with their application to projects exploring ideas related to multiples, hybrids, and questions of authenticity and originality. Offered fall semester.

## **ART 376 - Intermediate Ceramics 1: Wheel Throwing (3 credits)**

Beginning work on the potter's wheel. Basic throwing techniques, porcelain and white earthenware added to basic stoneware and terracotta. Colored clays, low fire glazing, under and overglazing and extended forming techniques not covered in ART 275 included. Firing theory and practice for gas kilns required. Offered winter semester. Prerequisite: ART 275.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **ART 377 - Intermediate Ceramics 2: Voice/Concept (3 credits)**

Students will work on large-scale sculptures, while pursuing their own ideas. Students will work in small series of ideas and begin to research and explore concepts that are important to them. Students who wish to continue throwing must apply the same practice and research as students pursuing sculptural form. Offered fall and winter semesters. Prerequisite: ART 275.

## **ART 380 - Special Topics in Art and Design (1 to 3 credits)**

A course built around a special project or media with limited or topical significance and offered on a very limited basis. Students must seek special permission of the instructor for entry into any ART 380 course. Offered on sufficient demand.

## **ART 381 - Intermediate Illustration I (3 credits)**

Fundamentals of illustration with an emphasis on digital imaging methods. Offered winter semester. Prerequisite: ART 281.

## **ART 382 - Intermediate Illustration II (3 credits)**

Fundamentals of illustration with an emphasis on realistic representation. Offered fall semester. Prerequisite: ART 381.

## **ART 385 - Figure Painting (3 credits)**

Introduction to painting the figure, with an emphasis on perceptual accuracy. Offered winter semester. Prerequisite: ART 260.

## **ART 386 - Art History Study Abroad (3 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only.

## **ART 387 - Studio Art Abroad (3 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only.

## **ART 391 - Civic Studio (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Visual art methods are used to study, form, and present art in a specific public context. Includes the development of a project site, individual and collaborative work, and service learning. Studio operates "in public" presenting lectures, visual displays, and public gatherings. Part of the Identity Issue. May be repeated once for credit. Offered winter semester. Prerequisite: Junior standing.

### **ART 392 - Curatorial Studio (3 credits)**

Curatorial Studio explores presentational and critical practice and the theoretical discourse specific to such practice within a studio context. This involves the curation (study and creation of visual presentations) in exhibitions or projects. Part of the Information, Innovation, or Technology Issue. Offered fall semester. May be repeated once for credit. Prerequisite: Junior standing.

### **ART 393 - Image Studio (3 credits)**

Image studio explores the creation, use, and presentation of images and the theoretical discourse specific to such practices within a studio context. The studio incorporates uses of current image creation and presentation technologies. May be repeated once for credit. Offered fall semester.

### **ART 394 - Interactive Studio (3 credits)**

Interactive Studio addresses the study and creation of art works in which the audience is involved in an interactive exchange. Media explored include interactive situations, community collaborations, social/political interactions, and current electronic interactive interfaces. May be repeated once for credit. Part of the Information, Innovation, or Technology Issue. Offered winter semester. Prerequisite: Junior standing.

### **ART 395 - Space Studio (3 credits)**

Space Studio addresses the creation of site-specific works based in the primary form and experience of space typically referred to as installations. It includes studio considerations of space, site, installation, public art, presentational practices and the related theoretical discourse within a studio context. May be repeated once for credit. Offered winter semester.

### **ART 396 - Time Studio (3 credits)**

Time Studio explores temporal and presentational practices and the theoretical discourse specific to such practices within a studio context. Time-based works include time and change as central elements. This includes ephemeral and kinetic objects, performance, sound works, and works incorporating moving images. May be repeated once for credit. Offered fall semester.

### **ART 399 - Independent Readings in Art (1 to 4 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

A course giving students with special interests an opportunity to explore texts, periodical, and reference materials under the guidance of an art faculty member. Offered fall and winter semesters. Prerequisite: Permission of the instructor.

## **ART 401 - Senior Seminar (3 credits)**

For studio artists and designers about to enter graduate school or professional design studios. Includes a required three-day field trip to Chicago, information concerning resume preparation, exhibitions, interviewing, portfolios, design agencies, galleries, museums, and analysis of the professional literature through written assignments. Students will learn how the professional art world works. Offered fall semester. Prerequisites: Art major and senior standing.

## **ART 410 - Graphic Design V (3 credits)**

Advanced layout problems involving brochures, annual reports, and corporate identity packages, as well as introduction to mixed media presentations. Stress is on individually conceived and developed projects. Offered fall semester. Prerequisites: ART 312 and passage of Junior Review.

## **ART 413 - Portfolio (3 credits)**

Refinement and development of a body of work constituting a professional portfolio. Offered fall semester. Prerequisite: ART 312 or ART 382.

## **ART 415 - Senior Project: Graphics/Illustration (3 credits)**

Development of a body of work focusing on a specific aspect of graphic design or illustration in which the student wishes to specialize. The work will be shown along with the student's portfolio at the senior show. Offered fall and winter semesters. Prerequisite: ART 410 or ART 483.

## **ART 420 - Asian Art (3 credits)**

This course will survey the visual arts of India, China, and Japan, focusing on the relationship between visual form and cultural ideology. Offered fall semester of odd-numbered years. Prerequisites: ART 221 and ART 222, or junior standing.

## **ART 421 - Surrealism (3 credits)**

This course provides an in-depth investigation of the Surrealism movement, addressing its artistic, historical, political, philosophical, and psychological implications. Offered winter of odd-numbered years. Prerequisite: ART 222 or junior standing.

## **ART 422 - Art and the Worlds of Islam (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Examines the arts and material culture produced in Islamic contexts between the 7th century and the present. Themes include patronage, materials, reception, cultures in contact, and plurality of meaning, as well as colonial and postcolonial circumstances. Also explores the work of contemporary artists in relation to transnational contexts. Fulfills Cultures - Global Perspectives. Part of the Globalization Issue. Offered winter semester of even-numbered years. Prerequisite: Junior standing.

### **ART 423 - Animals in Art (3 credits)**

This class explores representations of animals and their varied functions in the visual arts. Using a thematic approach, the course considers works from prehistory to the present, incorporating imagery from cultural traditions throughout the world. Offered fall semester of even-numbered years. Prerequisite: Junior standing.

### **ART 425 - Depicting a Nation: 19th Century American Art (3 credits)**

A thematic approach to 19th century American arts and visual culture. Considers individual artists, but stresses works and their cultural contexts. Topics include portraiture, westward expansion, and the Civil War, as well as the role of visual culture and concepts of gender, race, ethnic identity, and socioeconomic class. Fulfills Cultures - U.S. Diversity. Offered fall semester of odd-numbered years. Prerequisite: ART 222 or junior standing.

### **ART 447 - Advanced Jewelry and Metalsmithing I (3 credits)**

The focus at this level is on ideas that challenge traditionally held concepts and perceptions in the search of a personal interpretation. Technical and material concerns will be addressed as needed for realization of the work. Work should begin to show a cohesive idea. Offered fall and winter semesters. Prerequisite: ART 347.

### **ART 448 - Advanced Jewelry and Metalsmithing II (3 credits)**

The focus of this course is the demonstration of the use of knowledge of metalsmithing materials, techniques, and design concepts to explore new ground and ask new questions in a search for a personal statement. A body of work exploring a particular idea is required. May be repeated for credit. Offered fall and winter semesters. Prerequisite: ART 447.

### **ART 462 - Advanced Painting I (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

A continuation of ART 361 with advanced and more individual problems. Offered fall and winter semesters. Prerequisite: ART 362.

## **ART 463 - Advanced Painting II (3 credits)**

A continuation of ART 362 with advanced and more individual problems. May be repeated for credit. Offered fall and winter semesters. Prerequisite: ART 462.

## **ART 467 - Advanced Printmaking I (3 credits)**

A continuation of ART 367 with additional emphasis on quality printing, experimental printing, and content issues. Offered fall and winter semesters. Prerequisite: ART 367.

## **ART 468 - Advanced Printmaking II (3 credits)**

A continuation of ART 467 with additional emphasis on quality printing, experimental printing, and content issues. Course may be repeated for credit. Offered fall and winter semesters. Prerequisite: ART 467.

## **ART 472 - Advanced Sculpture 1 (3 credits)**

Builds on previous courses by emphasizing development of individual areas of creative investigation that combine material and conceptual concerns. Focus may be placed on a topic of sculptural relevance not previously covered (installation, public art, new media, etc.). Readings, presentations, and class trips relating to contemporary art complement studio work. Offered fall and winter semesters. Prerequisites: ART 371 and ART 372.

## **ART 473 - Advanced Sculpture 2 (3 credits)**

Continued focus on development of individual areas of creative investigation that combine material and conceptual concerns. Students work toward increasingly independent work and decision-making processes. Expectations for material and idea development are very high. Studio work is complemented with readings, presentations, and class trips relating to contemporary art. May be repeated for credit. Offered fall and winter semesters. Prerequisite: ART 472.

## **ART 477 - Advanced Ceramics 1 (3 credits)**

Students continue to develop their own concepts and methods for making them. They will do background research and develop artist mentors important to their work. The work should take on stronger suggestion of personal voice in this course. Students may pursue mixed media and found object additions for their work. Offered fall and winter semesters. Prerequisite: ART 377.

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## **ART 478 - Advanced Ceramics 2 (3 credits)**

Students continue to define concepts with further individuality and creative solutions to forming, surface resolution, mixed media, combinations, installation and conceptual work. They may begin work for ART 498 if they are ready. Includes further reading and research in their areas of interest. ART 478 may be repeated for credit. Offered fall and winter semesters. Prerequisite: ART 477.

## **ART 479 - Glaze Calculation (3 credits)**

Students will learn ceramic materials that constitute general formulation of glazes at the temperature of stoneware and porcelain. They will mix tests, fire them and come to understand and recognize basic glaze components. Students will make test tiles and sample glaze batches. They will analyze and compare formula variations. Offered fall of odd-numbered years. Prerequisite: ART 376 or ART 377 or ART 477.

## **ART 482 - Advanced Illustration I (3 credits)**

Development of a personal style of illustration supported by an examination of historical trends. Offered winter semester. Prerequisite: ART 382.

## **ART 483 - Advanced Illustration II (3 credits)**

Development of personal styles of illustration supported by an examination of contemporary trends. Offered fall semester. Prerequisite: ART 482.

## **ART 490 - Internship in Art History (1 to 6 credits)**

This course involves placement in a position off campus in which the student gains professional experience in an institution such as an art museum. Internship arrangements follow campus policy and students must receive faculty permission before enrolling in the course. Offered every semester.

## **ART 491 - Internship in Studio Art (1 to 6 credits)**

A special study opportunity that allows for advanced students to work for academic credit in a professional shop, gallery, or studio. Internships are prearranged by the department, are limited in number, and follow prescribed campus internship policy. Offered on sufficient demand. Graded credit/no-credit. Prerequisite: Permission of department.

## **ART 495 - Issues in Art (Capstone) (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

A seminar composed of lectures, discussions, papers, and assigned readings intended to give the student an understanding of his or her own place as a visual artist in the historical, social continuum of our time. Offered fall and winter semesters. Prerequisite: Senior standing in B.A., B.S., or B.F.A. program.

## **ART 498 - Senior Project (6 credits)**

This course is the final work toward the B.F.A. Senior Exhibition and must be taken in the semester in which students hang their degree shows. Students will work closely with their major professor in their emphasis area, and may have an additional course assigned from their Junior Review. Students must seek the advice of their major professor for the selection of works for their exhibition. They may also seek advice of any other faculty members with whom they have worked or from whom they would like additional feedback. Offered fall and winter semesters.

## **ART 499 - Independent Study in Art (1 to 6 credits)**

Advanced and independent work for students who have exhausted a regular course sequence and who wish to pursue a specialized project or medium under the guidance of the faculty. B.A. and B.S. students may not use ART 499 to fulfill their 45-credit major requirement. Offered fall and winter semesters. Prerequisite: Prior arrangement with a specific faculty member.

## **ASL 201 - American Sign Language 1 (3 credits)**

This is the first introductory course for sign vocabulary and grammar, nonverbal grammatical elements, and fingerspelling. Required for students planning to enroll in the American sign language (ASL) interpreting emphasis. Open to all students interested in learning ASL. Offered every semester.

## **ASL 202 - American Sign Language 2 (3 credits)**

Taught as an immersion course in American sign language (ASL), the medium of classroom instruction is ASL. This is the second of the three ASL immersion courses required for students planning to enroll in the American sign language interpreting emphasis. Open to all students interested in learning ASL. Offered each semester. Prerequisite: ASL 201.

## **ASL 203 - American Sign Language 3 (3 credits)**

A culmination of the three-semester introductory sequence of American sign language (ASL). Students will have mastery of basic ASL at the conclusion of this course. Required for students planning to enroll in the American sign language interpreting emphasis. Open to all students interested in learning ASL. Offered each semester. Prerequisite: ASL 202.

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## **ASL 380 - Special Topics in American Sign Language (1 to 9 credits)**

Consideration of selected topics not ordinarily dealt with in other courses. Consult class schedule for specific topics. Offered occasionally.

## **ASL 421 - Deaf History and Culture (3 credits)**

The course gives students opportunities to understand basic concepts of American deaf history, to appreciate the culture of deaf people and to understand social and cultural factors causing diversity in the deaf community and in identity choice. Part of the Identity Issue. Offered fall semester. Prerequisite: Junior standing.

## **ASL 423 - ASL Interpreting Practicum (6 credits)**

This course is the second of two practicum experiences. Practicing sign language interpreters will supervise and teach students refined skills needed to be successful professionals in a variety of work settings. Offered winter semester.

## **ATH 210 - Directed Observation in AT (1 credit)**

A required directed observation experience for students wanting to apply to the athletic training education program at Grand Valley State University. Students will observe in a variety of athletic health care settings including clinical, high school, and collegiate settings followed by in-class discussions related to the observations and important entry-level athletic training topics. Prerequisite: MOV 101.

## **ATH 217 - Modern Principles of Athletic Training (2 credits)**

This course provides students with basic knowledge of the prevention, recognition, and management of conditions commonly experienced in a physically active population. Focus will also be on introducing students to the concept of evidence-based practice as it relates to decision-making.

## **ATH 218 - Modern Principles of Athletic Training Lab (1 credit)**

This course will provide laboratory experiences commonly experienced in athletic health care settings. Students will be introduced to basic preventative measures including taping, wrappings, and equipment fittings; basic injury evaluations; and management techniques to include basic

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splinting and spine-boarding techniques. Offered every semester. Prerequisite: ATH 217 (may be taken concurrently).

## **ATH 506 - Intervention and Referral (2 credits)**

Discussion and literature review of critical issues related to psychosocial intervention and referral. Moral and ethical concerns related to these issues are explored. Prerequisite: Admission into the Master of Athletic Training.

## **ATH 514 - Assessment and Evaluation I (4 credits)**

Provides the necessary background to conduct a thorough clinical evaluation of lower extremity injuries, including related diagnostic testing. Students will formulate an impression of the injury/condition for the purposes of initial treatment and medical referral. Prerequisite: Admission into the Master of Athletic Training.

## **ATH 515 - Assessment and Evaluation II (4 credits)**

Provides the necessary background to conduct a thorough clinical evaluation of upper extremity and head and neck injuries/conditions, including diagnostic testing. Students will formulate an impression of the injury/condition for the purposes of initial treatment and medical referral. Prerequisite: ATH 514.

## **ATH 521 - Athletic Training Clinical I (3 credits)**

The first of four clinical experiences. The course requires students to be on-site at local clinical settings, while also having an in-class component to support and supplement their experiential learning. Emphasis is placed on interprofessional standards, health care administration, wound care, injury assessment, treatment, and equipment fitting and bracing/strapping. Prerequisite: Admission into the Master of Athletic Training.

## **ATH 522 - Athletic Training Clinical II (3 credits)**

The second of four clinical experiences. The course will require students to be on-site at local clinical settings, while also having an in-class component to support and supplement their experiential learning. Emphasis is placed on epidemiology, exercise and its role in fitness and wellness, injury assessment, and treatment. Prerequisite: ATH 521.

## **ATH 523 - Methods of Evidence-Based Practice in Athletic Training (3 credits)**

This course will introduce students pursuing the profession of athletic training to a clinical problem-solving approach common to the health professions. Fundamentals of evidence-based

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practice, including utilizing research and appraising data will be used to answer clinically relevant questions in athletic training. Offered fall semester. Prerequisite: Admission into the Master of Athletic Training.

## **ATH 525 - Prehospital Care of the Injured Patient (4 credits)**

This course will teach appropriate responses to common emergent injuries and illnesses that athletic trainers will be exposed to in the clinical environment; including hands-on experience in the evaluation and treatment of both chronic and traumatic conditions. Prerequisite: Admission into the Master of Athletic Training.

## **ATH 530 - General Medical Conditions in Athletic Training (3 credits)**

A lecture course taking a systems approach to identifying and exploring the many conditions and diseases that athletic trainers may see in clinical practice. Knowledge of physical examination, diagnostic testing, patient monitoring, standard techniques, and procedures are applied to clinical decision-making. Offered winter semester. Prerequisite: Admission into the Master of Athletic Training.

## **ATH 575 - Therapeutic Interventions I (4 credits)**

Concepts and practical applications of therapeutic interventions. A comprehensive examination of therapeutic modalities and rehabilitation techniques used in recovery from common musculoskeletal injuries especially in the early stages of rehabilitation. Students will identify physiological effects of tissue trauma and develop an appropriate plan with special emphasis on modality application. Offered spring/summer semester. Prerequisite: ATH 515.

## **ATH 607 - Pharmacology in Athletic Training (3 credits)**

A lecture course designed to introduce athletic training students to the principles of pharmacology and pharmacological aspects of the major classes of drugs used in the treatment of injury and disease. Moral and ethical concerns related to these issues are explored. Offered fall semester. Prerequisites: BMS 310 or equivalent and admission into the Master of Athletic Training.

## **ATH 626 - Athletic Training Clinical III (4 credits)**

The third of four clinical experiences. The course requires students to be on-site at local or distance clinical settings, while also having an in-class component to support and supplement their experiential learning. Emphasis is placed on injury/illness assessment, therapeutic

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intervention, psychosocial intervention and referral, pharmacology, and professional issues. Prerequisite: ATH 522.

## **ATH 628 - Athletic Training Clinical IV (4 credits)**

The last of four clinical experiences. The course requires students to be on-site at local or distance clinical settings, while also having an in-class component to support and supplement their experiential learning. Emphasis is placed on injury/illness assessment, therapeutic intervention, advanced techniques, and professional issues with certification exam preparation. Prerequisite: ATH 626.

## **ATH 675 - Therapeutic Interventions II (4 credits)**

The second of two courses exploring the concepts and practical applications of therapeutic interventions in athletic training. A comprehensive examination of therapeutic modalities and rehabilitation techniques used for common musculoskeletal injuries. Students will determine a rehabilitation plan consistent with patient-centered and functional outcomes. Emphasis will be on the rehabilitation process. Offered fall semester. Prerequisite: ATH 575.

## **ATH 685 - Advanced Techniques in Athletic Training (2 credits)**

A course that integrates advanced theoretical principles of athletic training into current clinical practice. Students will demonstrate their ability to analyze and synthesize research evidence while addressing various issues within the athletic training profession. Information will be reinforced and supported by current evidence-based practice standards. Offered fall and winter semesters. Prerequisite: ATH 626.

## **ATH 689 - Professional Topics in Athletic Training (3 credits)**

Professional topics in athletic training including leadership, strategic planning, organization and administration, and legislative issues will be discussed to prepare the entry-level athletic trainer to practice effectively in a variety of health care settings. Prerequisite: ATH 626.

## **ATH 693 - Project in Athletic Training (1 to 3 credits)**

Students complete a master's level project that requires them to demonstrate and apply skills learned in the athletic training program. This project may involve conducting a case study, systematic review, or original group research that will be orally presented at its completion. Guided by faculty mentors. Offered fall and winter semesters. Prerequisite: ATH 523.

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## **ATH 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

## **BIO 104 - Biology for the 21st Century (4 credits)**

Introductory course for non-science majors designed to provide a biological literacy for making informed personal, social, and environmental decisions. Topics include cell biology, genetics and biotechnology, form and function of the human body, evolution and ecology. Does not count toward a biology major or minor. Fulfills Foundations - Life Sciences with a lab. Offered every semester.

## **BIO 105 - Environmental Science (3 credits)**

Study of natural ecosystems, their interrelationships, and human impacts and evolution of humans and environmental determinants of their cultures. Land use, resource and energy utilization, population trends and causative factors, air and water pollution, and economic factors influencing decision-making are emphasized. Does not count toward a biology major or minor. (3-0-0) Fulfills Foundations - Life Sciences. Offered every semester.

## **BIO 107 - Great Lakes and Other Water Resources (4 credits)**

A study of our region's water resources, including the Great Lakes, streams, and groundwater, and relationships between people and these systems. Does not count toward a biology major or minor. Designated lecture and laboratory sections are tailored for prospective elementary teachers. Fulfills Foundations - Life Sciences with a lab. (3-0-3) Offered fall semester.

## **BIO 109 - Plants in the World (4 credits)**

A nonmajors course that looks at the ways plants are used by humans as foods, flavorings, fibers, medicines, building materials, etc. Topics include biotechnology, environmental issues, and population issues. Fulfills Foundations - Life Sciences with a lab. (3-0-2) Offered fall and winter semesters.

## **BIO 120 - General Biology I (4 credits)**

Introduction to cell structure and physiology, growth and development, and genetics (3-0-3). Offered every semester. Fulfills Foundations - Life Sciences with a lab. Prerequisites: High school chemistry, CHM 109, or CHM 115 strongly recommended (CHM 109 or CHM 115 may be taken concurrently). For students with a strong science background or interest in science.

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## **BIO 121 - General Biology II (4 credits)**

Students will be introduced to the diversity of living organisms, emphasizing fundamental biological processes operating at the scale of individual organisms. Form and function of organisms will be studied in ecological and evolutionary contexts. Students will explore and apply experimental design and quantitative analysis of data within these contexts (3-0-3). Offered every semester. Prerequisite: MTH 110 or higher (may be taken concurrently).

## **BIO 180 - Special Topics in Biology (1 to 4 credits)**

Readings, lecture, discussions, lab, or field experience (or any combination) on a specific biological topic. Prerequisites: Variable.

## **BIO 205 - Genetics for PK-6 Teachers (3 credits)**

Concepts of heredity for pre-service teachers emphasizing human traits. Includes Mendelian and non-Mendelian genetics, structure and replication of DNA, protein synthesis, and characteristics of cells. Course is for science concentration in PCKET major. Does not fulfill requirements for biology major or minor. Content reflects national and Michigan science standards. (1-0-2) Offered fall and winter semesters. Prerequisite: SCI 225.

## **BIO 210 - Evolutionary Biology (3 credits)**

Principles and mechanisms of the evolution of living organisms. Provides an understanding of evolutionary biology as the foundational underpinning of all of biology. Offered fall and winter semesters. Prerequisites: BIO 120 (or both CMB 155 and CMB 156) and BIO 121.

## **BIO 215 - Ecology (4 credits)**

Ecologists study how nature functions. Students will explore emergent properties of natural systems on scales ranging from individuals to ecosystems, and study the application of ecological principles to environmental problems caused by global climate change and other anthropogenic disturbances. Intended for biology and natural resources management majors. (3-0-3) Offered fall and spring/summer semesters. Prerequisites: BIO 120 (or both CMB 155 and CMB 156) and BIO 121 (BIO 120 may be taken concurrently).

## **BIO 222 - Natural History of Vertebrates (3 credits)**

A study of taxonomy, ecology, life histories, behavior, and distribution of vertebrates, with special emphasis on those of the local region. (2-0-3). Offered fall semester. Prerequisite: BIO 121.

## **BIO 232 - Natural History of Invertebrates (3 credits)**

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Anatomy, physiology, embryology, evolution, and natural history of the major groups of invertebrate animals. Those of the Great Lakes region will be emphasized. (2-0-3) Offered winter semester. Prerequisite: BIO 121.

### **BIO 243 - Plant Identification and Natural History (3 credits)**

Examines the plants of West Michigan with emphasis on identification skills and natural history of the plants and communities in which they occur. Offered spring/summer semester. Prerequisite: BIO 121.

### **BIO 272 - Insect Biology and Diversity (3 credits)**

Anatomy and physiology, life histories, ecology and evolution, and classification of insects. Students will also gain expertise in the collection, curation, and identification of local insects. (2-0-3) Offered fall semester. Prerequisite: BIO 121 (BIO 215 recommended).

### **BIO 280 - Special Topics in Biology (1 to 4 credits)**

Readings, lecture, discussions, lab, or field experience (or any combination) on a specific biological topic. Prerequisites: variable.

### **BIO 302 - Comparative Vertebrate Anatomy (4 credits)**

Phylogeny and anatomy of vertebrates. (2-0-4) Offered winter semester. Prerequisite: BIO 121.

### **BIO 303 - Plant Morphology (4 credits)**

An in-depth study of the morphological evolution of land plants emphasizing key anatomical and reproductive adaptations to the terrestrial environment. Offered winter semester. Prerequisite: BIO 215.

### **BIO 308 - Wildlife Ecology (4 credits)**

This course provides an introduction to wildlife ecology including population ecology as it relates to wildlife management and conservation. Offered winter semester. Prerequisite: BIO 215.

### **BIO 309 - Plants and Human Health (3 credits)**

Examination of plants and fungi that are sources of medicines, herbal remedies, or are a regular part of people's diets and have been found to have specific health benefits. Only one of BIO 309,

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BIO 311, or BIO 329 may be counted toward a biology major or minor. Part of the Health Issue. Offered fall and winter semesters. Prerequisites: Junior standing and completion of the Life Sciences general education category.

## **BIO 311 - Who's Running Your Life: Genes, Evolution and Behavior (3 credits)**

The vast majority of human evolutionary history occurred while we lived in small hunter-gatherer groups. This course will examine if our genetically determined behavior from the past is still affecting us today. Only one of BIO 309, BIO 311, or BIO 329 may be counted toward a biology major or minor. Part of the Identity Issue. Prerequisites: Junior standing and completion of the Life Sciences general education requirement.

## **BIO 313 - Plants and Islands (4 credits)**

Explores the various roles of plants in island systems and their evolutionary histories and adaptations to these unique environments. This course has a required multiday field study in a coastal or international island setting. Offered winter semester. Prerequisites: BIO 121 and permission of instructor. BIO 215 is strongly recommended.

## **BIO 317 - Principles of Animal Nutrition (3 credits)**

The course covers basic principles of animal nutrition with a primary emphasis on agricultural animals and practices. Topics include analysis of foodstuffs, ration formulation, feeding, digestion, comparative anatomy of animal GI tracts, absorption and metabolism of the various food nutrients, measurement of body needs, and characteristics of nutrients. Offered winter semester. Prerequisites: BIO 120 (or both CMB 155 and CMB 156), CHM 115, and CHM 116.

## **BIO 319 - Global Agricultural Sustainability (3 credits)**

The expansion and collapse of societies throughout history has tracked the rise and fall of their agricultural productivity. We will explore how biological principles dictate long-term agricultural productivity and how knowledge of such principles can impact decisions of consumers, farmers, and policy makers. Part of the Sustainability Issue. Prerequisites: Junior standing and completion of the general education Life Science requirement.

## **BIO 323 - Aquatic and Wetland Plants (3 credits)**

Examines the plants and algae of the major aquatic habitats of the Great Lakes region with emphasis on taxonomy and ecology. Offered fall semester. Prerequisite: BIO 121.

## **BIO 325 - Human Sexuality (3 credits)**

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Introduction to the biological dimensions of human sexuality from physiological, ecological, and evolutionary perspectives. Part of the Health Issue. (3-0-0) Offered each semester. Prerequisite: Junior standing.

### **BIO 328 - Biomedical Ethics (3 credits)**

Examination of ethical dilemmas encountered in medicine and biomedical research, with an emphasis on obligations of health care workers to their patients. Biology majors may not use both BIO 328 and BIO 338 as elective credit within the major. Part of the Health Issue. (3-0-0) Offered every semester. Prerequisite: Junior standing.

### **BIO 329 - Evolution of Social Behavior (3 credits)**

Social behavior links to an animal's quest for evolutionary fitness. Social behavior is rooted in genes, and shaped by development, learning, and environment. Through interdisciplinary lenses, we will explore social behavior in diverse vertebrate and invertebrate species, discover behavioral commonalities among species, and learn how scientists study animal behavior. Part of the Identity Issue. Prerequisite: Junior standing. One course in biology or psychology recommended.

### **BIO 333 - Systematic Botany (4 credits)**

Principles and methods of taxonomy of vascular plants. Offered fall semester. Prerequisite: BIO 121.

### **BIO 338 - Environmental Ethics (3 credits)**

Examines philosophical underpinnings of environmental ethics. Explores approaches for understanding sustainability issues, solving ongoing environmental problems, and developing a global environmental ethic. Biology majors may not use both BIO 328 and BIO 338 as elective credit within the major. Part of the Sustainability Issue. Prerequisites: Junior standing and fulfillment of general education Foundations - Writing.

### **BIO 342 - Ornithology (3 credits)**

Identification, classification, anatomy, physiology, behavior, and life histories of birds. (2-0-3) Offered winter and occasional spring/summer semesters. Prerequisite: BIO 121.

### **BIO 352 - Animal Behavior (3 credits)**

Behavior of invertebrates and vertebrates with emphasis on adaptive significance. (2-0-3) Offered winter semester. Prerequisites: Two courses in biology or psychology or permission of instructor.

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## **BIO 355 - Human Genetics (3 credits)**

Principles of genetics with emphasis on human traits and disorders. Genetic counseling, ethical considerations, technological advances, and evolution in human populations are discussed. Will not count toward the biology major without permission. (3-0-0) Offered every semester. Prerequisite: BIO 120 (or both CMB 155 and CMB 156) or BIO 104, or permission of instructor.

## **BIO 357 - Environmental Microbiology (4 credits)**

An introduction to microbiology emphasizing the role of microorganisms in the environment. Surveys microbial lifestyles and the roles of microorganisms in food, water, soil, and industrial microbiology, and in nutrient recycling and energy flow. Will not substitute for BMS 212 and BMS 213. (3-0-3) Offered fall semester. Prerequisite: BIO 120 (or both CMB 155 and CMB 156), or permission of instructor.

## **BIO 362 - Biology and Diversity of Fishes (4 credits)**

Study of the anatomy, morphology, and classification of fishes and their biology, ecology, and evolution. Emphasis on species native to the Great Lakes region. (3-0-3) Offered fall semester. Prerequisite: BIO 215.

## **BIO 370 - Marine Biology (3 credits)**

An exploration into the function, biodiversity and ecology of life in the ocean - the largest of Earth's ecosystems. Marine biology will emphasize principles and processes that underlie and unify vastly different marine communities through ecological and evolutionary perspectives. Offered fall semester. Prerequisites: BIO 121 and BIO 215.

## **BIO 375 - Genetics (3 credits)**

Concepts of inheritance in plants, animals, and micro-organisms; both classical and modern investigative techniques are emphasized in lecture. (3-0-0) Offered fall and winter semesters. Prerequisite: BIO 120 (or both CMB 155 and CMB 156).

## **BIO 376 - Genetics Laboratory (1 credit)**

Laboratory exercises in classical and modern genetics. (0-0-3) Offered fall and winter semesters. Prerequisite: BIO 375 or BIO 355 (either may be taken concurrently).

## **BIO 380 - Special Topics in Biology (1 to 4 credits)**

Readings, lecture, discussions, lab, or field experience (or any combination) on a specific biological topic. Prerequisites: Variable and with permission of instructor.

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## **BIO 383 - Plant-Fungal Interactions (4 credits)**

Overview of diverse plant-fungal symbiotic relationships from mutualistic to parasitic. Topics include the ecology, evolution, morphology, physiology, and development of plant-fungal associations spanning fungal diversity. Students will gain experience identifying fungi and researching plant-fungal interactions. Offered fall semester of even-numbered years.

Prerequisite: BIO 121.

## **BIO 386 - Ecological Restoration and Management (4 credits)**

This course will introduce students to ecological restoration and examines the practical methods and techniques used in ecosystem restoration and management. Cross-listed with NRM 386.

Offered fall semester. Prerequisite: BIO 215.

## **BIO 396 - Laboratory Assistant in Genetics (1 credit)**

This course provides an opportunity for students to assist genetics laboratory instructors while reinforcing their understanding of introductory genetic concepts and relevant experimental techniques. May be repeated, but only one credit may be applied toward the biology major electives requirements. Prerequisites: BIO 376 with a grade of B or better and permission of instructor.

## **BIO 399 - Selected Experiences in Biology (1 to 4 credits)**

Supervised independent laboratory, field, or other scholarly activity in biology. Topic and amount of credit must be arranged with faculty member and approved by department chair before registration. May be elected for up to five credits toward a biology degree. Offered every semester. Prerequisite: Permission of department chair.

## **BIO 402 - Aquatic Insects (3 credits)**

Advanced study of taxonomic diversity and ecology of aquatic insects, with emphasis on the fauna of local lakes and streams. The role of aquatic insects in stream function and bioassessment will be emphasized. Students will gain expertise in the scientific collection, curation, and identification of aquatic insects. (2-0-3) Cross-listed with BIO 502. Offered winter semester. Prerequisites: BIO 121 and BIO 215.

## **BIO 403 - Plant Structure and Function (4 credits)**

Anatomy and physiology of plants, including interrelationships of structure and function in growth, flowering, seed germination, photosynthesis, respiration, water relations, and mineral

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nutrition. (3-0-2) Offered winter semester. Cross-listed with BIO 503. Prerequisites: BIO 120 (or both CMB 155 and CMB 156); and BIO 121; and CHM 231 or CHM 241.

## **BIO 407 - Biology and Society: Study Abroad (1 to 4 credits)**

Biological topics related to biodiversity, sustainability, alternative energy, environmental policy and economics, land use, climate change, historical influences, and cultural/societal attitudes conducted within an international context. The society-based experience is combined with readings, lectures, papers, and discussions.

## **BIO 408 - Wildlife Management (4 credits)**

An examination of techniques used in the management, research, and conservation of wildlife species. Introduces the fundamental concepts of wildlife management, including wildlife habitat requirements, evaluation of habitat suitability, interpretation of data analysis techniques, and applied techniques of habitat and population management. Cross-listed with BIO 508, NRM 408, and NRM 508. Offered fall semester. Prerequisite: BIO 308 or NRM 308.

## **BIO 412 - Mammalogy (4 credits)**

A survey of the class mammalia. Topics will include mammalian evolution, zoogeography, ecology, physiology, natural history, and behavior with emphasis on Michigan mammals. Students will gain practical experience in the techniques of field study, identification, and preservation of mammal specimens. (3-0-3) Cross-listed with BIO 512. Offered fall semester. Prerequisites: BIO 121 and BIO 215.

## **BIO 413 - Freshwater Algae (3 credits)**

Detailed study of the freshwater algae of the Great Lakes region. Topics will include the morphology, ecology, physiology, and evolutionary relationships of the major groups. Methods of collection will also be presented, and considerable emphasis given to identification of the regional flora. (2-0-4) Cross-listed with BIO 513. Offered winter semester. Prerequisites: BIO 121 and BIO 215.

## **BIO 415 - Fire Ecology and Management (3 credits)**

An examination of fire as an ecological and biophysical process, its interactions with and effects on a variety of ecosystem components, and use as a resource management tool. A National Wildfire Coordinating Group Certification (RX - 310 Introduction to Fire Effects) is granted upon successful course completion. Cross-listed with NRM 415, BIO 515, and NRM 515. Offered winter semester. Prerequisite: BIO 215.

## **BIO 416 - Advanced Genetics Laboratory (2 credits)**

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Experiments with both prokaryotic and eukaryotic organisms will involve techniques of gene induction, ELISA, DNA extraction, isolation and cloning, transformation, protein translation and analysis of genes ligated into expression vectors. (0-0-4) Offered winter semester. Prerequisites: BIO 376; BIO 411 or BIO 414 recommended (may be taken concurrently).

## **BIO 417 - International Field Biology (1 to 4 credits)**

One- to three-week trips to international locations to study the fauna, flora, ecology of representative ecosystems, climate, geology, paleobiology, environmental problems, and/or human impacts upon the previously listed. The field-based experience is combined with readings, lectures, papers, and discussions. A maximum of six credits from BIO 417 may be applied to the elective credit requirements for the biology or NRM major. BIO 417 does not satisfy the plant or animal biology requirements, but may be repeated for credit. Offered every semester. Prerequisites: Variable and with permission of instructor.

## **BIO 422 - Embryology (3 credits)**

Development in animals from formation of gametes and fertilization through embryogenesis and birth or hatching to adulthood. Emphasis is on process and molecular control. Standard model organisms are studied in the laboratory component. (3-0-3) Cross-listed with BIO 522. Offered fall semester. Prerequisites: (BIO 121 or BMS 208 or BMS 250) and (BIO 355 or BIO 375), or permission of instructor.

## **BIO 423 - Plant Biotechnology (3 credits)**

Study of plant development and its control by hormones, environment and genome, and introduction to current techniques and topics in plant biotechnology, such as another culture, protoplast preparation and fusion, embryogenesis, organogenesis, genetic transformation, and developmental mutants. (2-0-2) Offered winter semester. Prerequisite: BIO 376.

## **BIO 430 - Advanced Wildland Fire Management (2 credits)**

This course provides students with advanced skills and knowledge related to wildland- and prescribed-fire ecology, behavior, and management. This is advanced training for all personnel seeking to become Wildland Firefighters under National Wildfire Coordinating Group (NWCG) certification standards. NWCG certification S-290 is granted upon successful course completion. Class is credit/no-credit. Cross-listed with NRM 430. Offered winter and spring/summer semesters. Prerequisite: NRM 230.

## **BIO 432 - Comparative Animal Physiology (4 credits)**

Functions of the organ systems of animals, including their regulatory mechanisms. (3-0-3) Offered fall semester. Prerequisites: (BIO 121 or BMS 208); BIO 120 (or both CMB 155 and CMB 156); and CHM 232 or CHM 242.

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## **BIO 433 - Plant Ecology (4 credits)**

Exploration of plant adaptations and environmental processes governing species distribution and demography, community richness and structure, and ecosystem processes. Offered fall semester. Prerequisites: BIO120 (or both CMB 155 and CMB 156), BIO 121, and BIO 215.

## **BIO 440 - Limnology (4 credits)**

Ecology of freshwater ecosystems with emphasis on the physical, chemical, and biological factors affecting their structure and function. (2-0-4) Cross-listed with BIO 540. Offered fall semester. Prerequisite: BIO 215 or permission of instructor.

## **BIO 444 - Herpetology (4 credits)**

An overview of the biology and global diversity of amphibians and reptiles. Topics include amphibian and reptile evolution, morphology, physiology, ecology, behavior, and conservation. Students will gain field experience and learn to identify amphibians and reptiles, with emphasis on Michigan species. Cross-listed with BIO 544. Offered fall semester. Prerequisite: BIO 215.

## **BIO 451 - Stream Ecology (4 credits)**

Examines the structure and function of stream ecosystems, with emphasis on the physical, chemical, and biological factors that influence flowing-water habitats. Laboratory focuses on the methods of stream ecology, including collection and analysis of physical, chemical, and biological data. Field work emphasizes local stream ecosystems. (3-0-4) Offered every second fall semester. Cross-listed with BIO 551. Prerequisites: BIO 121 and BIO 215 or permission of instructor.

## **BIO 452 - Human Evolution (3 credits)**

An examination of the fossil, genetic, and behavioral evidence of human evolution within a Darwinian evolutionary perspective. (3-0-0) Offered fall semester of odd-numbered years. Prerequisites: BIO 120 (or both CMB 155 and CMB 156) and BIO 121; or ANT 206; or permission of instructor.

## **BIO 460 - Terrestrial Ecosystem Ecology (4 credits)**

Investigation of the structure and function of terrestrial ecosystems using a systems approach. Biotic and abiotic processes controlling interactions among biogeochemical cycles in ecosystems will be discussed and examined. Topics will include controls on primary production, evapotranspiration, decomposition, and herbivory, as well as potential for anthropogenic changes in ecosystem processes. (3-0-3) Offered fall and occasional spring/summer semesters. Prerequisite: BIO 215; NRM 281 recommended.

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## **BIO 470 - Conservation Biology (3 credits)**

Theoretical concepts and research applications in the multidisciplinary and applied science of maintaining the planet's biodiversity at the genetic, species, and ecosystem levels. Topics include distribution, functions, and value of biodiversity; causes and consequences of biodiversity loss; conservation solutions; and social, political, legal, ethical, and economic aspects of biodiversity conservation. Cross-listed with BIO 572. Offered fall semester. Prerequisite: BIO 215.

## **BIO 473 - Ecology and Evolution of Plant-Animal Interactions (3 credits)**

An examination of the evolution and ecology of plant-animal interactions, focusing on herbivory, pollination, fruit and seed dispersal in both natural and agroecosystems. Course consists of lectures, presentations, and discussions of the primary literature. Suitable for advanced undergraduate and graduate students. Cross-listed with BIO 573. Offered winter semester of even-numbered years. Prerequisite: BIO 215.

## **BIO 475 - Population Genetics (3 credits)**

This course explores the theory and application of genetic mechanisms of inheritance to evolutionary biology. We will use evolutionary models to understand patterns of genetic variation within and between populations. Cross-listed with BIO 575. Offered fall of even-numbered years. Prerequisites: BIO 210 and (either BIO 355 or BIO 375), or by instructor's permission.

## **BIO 480 - Special Topics in Biology (1 to 4 credits)**

Readings, lecture, discussions, lab, or field experience (or any combination) on a specific biological topic. Prerequisites: Variable.

## **BIO 485 - Molecular Ecology (3 credits)**

This course provides an in-depth exploration of the integrative field of molecular ecology, which uses molecular genetic tools to study ecology and evolution. Concepts/theories are introduced in lecture and through discussion of scientific literature. Hands-on experience with analysis of genetic data is provided in computer laboratories. Cross-listed with BIO 585, CMB 485, and CMB 585. Offered winter semester. Prerequisite: BIO 375.

## **BIO 486 - Restoration Ecology (3 credits)**

This course will introduce students to the science of restoration ecology through an examination of underlying theories and contemporary research in ecosystem restoration. Cross-listed with

BIO 586, NRM 486, and NRM 586. Offered winter semester of even-numbered years.  
Prerequisites: BIO 215 and junior standing; or permission of instructor.

### **BIO 490 - Internship (1 to 6 credits)**

Practical and applied biology carried out as independent study in specialized areas of biology. Such work will be carried out under the supervision of a faculty advisor and a supervisor at the institution where the work is done. May be elected for up to six credits toward the major.  
Prerequisites: Major in biology and permission of the department chair.

### **BIO 495 - Perspectives in Biology (Capstone) (3 credits)**

Through literature review and discussion, students examine fundamental principles that drive biological inquiry, such as, the mechanisms determining phenotype, principles of ecological organization, and evolutionary change. Students complete a synthetic project, explore their own knowledge and skills, and develop effective communication and information literacy skills. (3-0-0) Offered fall and winter semesters. Prerequisite: Senior standing.

### **BIO 499 - Research in Biology (1 to 4 credits)**

Can be elected for up to five credits toward the biology major. Number of credit hours and topic to be arranged with faculty member involved. Offered every semester. Prerequisites: A minimum grade point average of 3.0 in biology and permission of the department.

### **BIO 502 - Aquatic Insects (3 credits)**

Advanced study of taxonomic diversity and ecology of aquatic insects, with emphasis on the fauna of local lakes and streams. The role of aquatic insects in stream function and bioassessment will be emphasized. Students will gain expertise in the scientific collection, curation, and identification of aquatic insects. (2-0-3) Cross-listed with BIO 402. Offered winter semester.

### **BIO 503 - Plant Structure and Function (4 credits)**

Anatomy and physiology of plants, including interrelationships of structure and function in growth, flowering, seed germination, photosynthesis, respiration, water relations, and mineral nutrition. (3-0-2) Offered winter semester. Cross-listed with BIO 403. Prerequisite: Graduate standing.

### **BIO 508 - Wildlife Management (4 credits)**

An examination of techniques used in the management, research, and conservation of wildlife species. Introduces the fundamental concepts of wildlife management, including wildlife habitat

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requirements, evaluation of habitat suitability, interpretation of data analysis techniques, and applied techniques of habitat and population management. Cross-listed with BIO 408, NRM 508, and NRM 408. Offered fall semester. Prerequisite: Graduate standing.

## **BIO 512 - Mammalogy (3 credits)**

A survey of the class mammalia. Topics will include mammalian evolution, zoogeography, ecology, physiology, natural history, and behavior with emphasis on Michigan mammals. Students will gain practical experience in the techniques of field study, identification, and preservation of mammal specimens. (3-0-3) Cross-listed with BIO 412. Offered fall semester. Prerequisite: Graduate standing.

## **BIO 513 - Freshwater Algae (3 credits)**

Detailed study of the freshwater algae of the Great Lakes region. Topics will include the morphology, ecology, physiology, and evolutionary relationships of the major groups. Methods of collection will also be presented, and considerable emphasis given to identification of the regional flora. (2-0-4) Cross-listed with BIO 413. Offered winter semester. Prerequisite: Graduate standing.

## **BIO 515 - Fire Ecology and Management (3 credits)**

An examination of fire as an ecological and biophysical process, its interactions with and effects on a variety of ecosystem components, and use as a resource management tool. A National Wildfire Coordinating Group Certification (RX - 310 Introduction to Fire Effects) is granted upon successful course completion. Cross-listed with BIO 415, NRM 415, and NRM 515. Offered winter semester.

## **BIO 532 - Advanced Aquatic Ecology (3 credits)**

Knowledge of the processes occurring in aquatic ecosystems is required in order to understand their dynamic and vital role in the biosphere. This lecture-discussion course, with special emphasis on freshwater resources, will serve as a forum for learning about recent advances in aquatic ecology and its significance to Earth's ecosystems. Cross-listed with WAT 532. Offered fall semester of odd-numbered years. Prerequisite: Graduate standing in biology or permission of instructor.

## **BIO 540 - Limnology (4 credits)**

Ecology of freshwater ecosystems with emphasis on the physical, chemical, and biological factors affecting their structure and function. (2-0-4) Cross-listed with BIO 440. Offered fall semester. Prerequisite: Graduate standing.

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## **BIO 544 - Herpetology (3 credits)**

An overview of the biology and global diversity of amphibians and reptiles. Topics include amphibian and reptile evolution, morphology, physiology, ecology, behavior, and conservation. Students will gain field experience and learn to identify amphibians and reptiles, with emphasis on Michigan species. Cross-listed with BIO 444. Offered fall semester. Prerequisite: Graduate standing.

## **BIO 551 - Stream Ecology (3 credits)**

Examines the structure and function of stream ecosystems, with emphasis on the physical, chemical, and biological factors that influence flowing-water habitats. Laboratory focuses on the methods of stream ecology, including collection and analysis of physical, chemical, and biological data. Field work emphasizes local stream ecosystems. (2-0-4) Cross-listed with BIO 451. Offered fall semester.

## **BIO 560 - Advanced Community Ecology (3 credits)**

Investigations of theoretical and experimental approaches to understanding the diversity, structure and function of aquatic and terrestrial ecological communities. Coursework consists of lectures and discussion of primary literature as well as an independent student project. Suitable for graduate students in biology, Annis Water Resources Institute, and natural resource management. Offered winter semester of odd-numbered years. Prerequisites: Graduate standing and an undergraduate course in ecology, or permission of the instructor.

## **BIO 570 - Landscape Ecology Theory and Application (3 credits)**

Landscape ecology explores the influence of landscape patterns on ecological processes. Topics include landscape patterns, dynamics, and heterogeneity; issues of scale; and spatial analysis. Students will examine various applications of landscape ecology concepts through discussions of peer-reviewed journal articles, computer-based assignments, and project work. Offered fall semester. Prerequisite: Graduate standing or permission of instructor.

## **BIO 572 - Conservation Biology (3 credits)**

Theoretical concepts and research applications in the multidisciplinary and applied science of maintaining the planet's biodiversity at the genetic, species, and ecosystem levels. Topics include distribution, functions, and value of biodiversity; causes and consequences of biodiversity loss; conservation solutions; and social, political, legal, ethical, and economic aspects of biodiversity conservation. Cross-listed with BIO 470. Offered fall semester. Prerequisite: Graduate standing.

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## **BIO 573 - Ecology and Evolution of Plant-Animal Interactions (3 credits)**

An examination of the evolution and ecology of plant-animal interactions, focusing on herbivory, pollination, fruit and seed dispersal in both natural and agroecosystems. Course consists of lectures, presentations, and discussions of the primary literature. Suitable for advanced undergraduate and graduate students. Cross-listed with BIO 473. Offered winter semester of even-numbered years.

## **BIO 575 - Population Genetics (3 credits)**

This course explores the theory and application of genetic mechanisms of inheritance to evolutionary biology. We will use evolutionary models to understand patterns of genetic variation within and between populations. Cross-listed with BIO 475. Offered fall of even-numbered years.

## **BIO 580 - Special Topics in Biology (1 to 4 credits)**

Readings, lecture, discussions, lab, or field experience (or any combination) on a specific biological topic.

## **BIO 585 - Molecular Ecology (3 credits)**

This course provides an in-depth exploration of the integrative field of molecular ecology which uses molecular genetic tools to study ecology and evolution. Concepts/theories are introduced in lecture and through discussion of scientific literature. Hands-on experience with analysis of genetic data is provided in computer laboratories. Cross-listed with BIO 485, CMB 485, and CMB 585. Offered winter semester. Prerequisite: Graduate standing.

## **BIO 586 - Restoration Ecology (3 credits)**

This course will introduce students to the science of restoration ecology through an examination of underlying theories and contemporary research in ecosystem restoration. Cross-listed with BIO 486, NRM 486, and NRM 586. Offered winter semester of even-numbered years. Prerequisite: Graduate standing.

## **BIO 593 - Advanced Univariate Methods (3 credits)**

This course focuses on experimental design in biology, with an emphasis on interpretation of quantitative approaches, communication of quantitative outputs, and the ultimate structuring of experimentation that results in testable hypotheses using univariate tools, such as regression. Concepts are introduced through discussion of sampling regimes and scientific articles. Offered winter semester. Prerequisite: STA 622 or permission of instructor.

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## **BIO 594 - Advanced Multivariate Methods (3 credits)**

This course focuses on experimental design in biology, with an emphasis on interpretation of quantitative approaches, communication of quantitative outputs, and the ultimate structuring of experimentation that results in testable hypotheses using multivariate tools, such as principal component analysis. Concepts are introduced through discussion of sampling regimes and scientific articles. Offered fall semester. Prerequisite: STA 622 or BIO 593 or permission of instructor.

## **BIO 610 - Scientific Methodology (3 credits)**

Contemporary skills of biological scientists including hypothesis development, experimental control, data management, critical interpretation of data, project organization and monitoring, collaborative work habits, and effective communication. Skills will be built as students' progress through case studies of landmark biological experiments, critiquing the primary literature, and creating their own scientific proposal. Offered fall semester. Prerequisite: Admission to the graduate program in biology.

## **BIO 651 - Emerging Issues in Water Resources (2 credits)**

The most pressing water resource-related issues facing the planet today will be discussed and analyzed. Particular emphasis will be placed on analyzing these problems from a variety of perspectives, including environmental, economic, societal, and political. Cross-listed with WAT 651. Offered fall semester of odd-numbered years. Prerequisite: BIO 440 or BIO 451.

## **BIO 680 - Special Topics in Biology (1 to 3 credits)**

Lecture and/or laboratory courses on topics of current interest to graduate students. Prerequisites: Variable and with permission of instructor.

## **BIO 691 - Graduate Internship (3 to 9 credits)**

Full-time, on-the-job work performed at a sponsoring entity under the supervision of an approved mentor in an area related to biological sciences. A written internship analysis and a public oral presentation are required. The student will defend the internship in front of their graduate committee. Offered every semester. Prerequisites: BIO 610 and successful completion of qualifying exams.

## **BIO 693 - Graduate Project (3 to 9 credits)**

Application of scientific knowledge to a problem in the biological sciences. Projects will be performed under the supervision of an approved mentor from the sponsoring entity. A written report and public oral presentation are required. The student will defend the results in front of

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their graduate committee. Offered every semester. Graded credit/no-credit. Prerequisites: BIO 610, successful completion of qualifying exams, and completion of the Responsible Conduct of Research Training within last three years.

### **BIO 695 - Thesis Research (3 to 9 credits)**

Original research in an area related to the biological sciences. Work will be performed under the supervision of the graduate committee chair and/or mentor. A written thesis or publication and a public oral presentation are required. The student will defend the thesis in front of their graduate committee. Offered every semester. Graded credit/no-credit. Prerequisites: BIO 610, successful completion of qualifying exams, and completion of the Responsible Conduct of Research Training within last three years.

### **BIO 696 - Continuation of Master's Project or Thesis Research (1 credit)**

Continuation of work related to the master's project or thesis phase of the graduate student's program. Registration is required after all respective project or thesis credits are completed and the project or thesis is not completed. Work will be performed under the supervision of the project advisor or thesis committee chair. Offered every semester. Prerequisites: Completion of all required project or thesis credits and completion of the Responsible Conduct of Research Training within last three years.

### **BIO 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

### **BIO 698 - Perspectives in Biology (3 credits)**

This graduate Capstone course provides an integrated examination of the contemporary biological sciences in the context of students' graduate theses, projects, or internship works. The course includes a discussion of scientific ethics, emphasizes the critical evaluation of scientific literature, and further develops students' scientific and professional writing and presentation skills. Offered winter semester. Prerequisites: BIO 610, STA 622, and completion or concurrent enrollment in BIO 691/NRM 691, BIO 693/NRM 693, or BIO 695/NRM 695.

### **BIO 699 - Independent Study (1 to 3 credits)**

Independent study in topics of special interest supervised by a faculty member approved by the student's graduate committee chair. One to three credits. May be elected for up to six credits toward an M.S. in biology or up to three credits toward an M.Ed. Offered each semester. Prerequisites: Permission of instructor, student's committee chair, and department chair.

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## **BMS 100 - Human Health and Disease (3 credits)**

Presents the basic terminology and concepts of medicine and health maintenance for non-science students. Emphasis is on the interaction of technical concepts of health and disease with the political, economic, legal, and ethical aspects of American society. Fulfills Foundations - Life Sciences. Offered fall, winter, and occasionally spring/summer semesters.

## **BMS 105 - Basic Nutrition (3 credits)**

An investigation of the bases of nutrition, from a scientific and social-psychological viewpoint. Problems of malnutrition, food as a social phenomenon, and current controversies in nutrition will be discussed. Offered fall, winter, and occasionally spring/summer semesters.

## **BMS 180 - Special Topics in the Biomedical Sciences (1 to 4 credits)**

Special topics not regularly offered, but of interest to students in the biomedical sciences. Courses will be listed in the class schedule. Offered fall and winter semesters.

## **BMS 202 - Anatomy and Physiology (4 credits)**

An introduction to the human body, its form and function. With the study of each system, correlations between its function and the functions of other systems are emphasized. Lecture and laboratory. Fulfills Foundations - Life Sciences with a lab. (3-0-2) Offered fall and winter semesters.

## **BMS 208 - Human Anatomy (3 credits)**

A lecture course on the gross anatomy of human tissues and organ systems, including pertinent embryology. (3-0-0) Offered each semester. Prerequisite: BIO 120 or (both CMB 155 and CMB 156).

## **BMS 212 - Introductory Microbiology (3 credits)**

An introduction to the fundamental principles and techniques of bacteriology, immunology, and virology. Emphasis on the morphology, genetics, and physiology of microorganisms producing human disease and the human response to these agents. (3-0-0) Offered every semester. Prerequisites: BIO 120 or (both CMB 155 and CMB 156); and one of CHM 116, or CHM 230, or CHM 231.

## **BMS 213 - Laboratory in Microbiology (1 credit)**

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Laboratory investigation into the morphology, isolation techniques, growth, and identification of bacteria. (0-0-4) Offered each semester. Prerequisite: BMS 212 (may be taken concurrently).

## **BMS 223 - Infectious Human Diseases; Prevention and Control (3 credits)**

An introduction to the strategies and tactics, both past and present, for the control and eradication of infectious and chronic diseases of humans. Offered winter semester.

## **BMS 250 - Anatomy and Physiology I (4 credits)**

The first semester of a two-semester anatomy and physiology sequence. Focus is on the basic principles of homeostasis, cells, and tissues. The structure and function of the skeletal, muscular, and nervous systems will also be covered. Not applicable to BMS major. Offered every semester. Prerequisite: BIO 120 or (both CMB 155 and CMB 156).

## **BMS 251 - Anatomy and Physiology II (4 credits)**

This is the second of a two-semester anatomy and physiology sequence. The structure and function of the endocrine, cardiovascular, lymphatic, immune, respiratory, digestive, urinary, and reproductive systems, as well as fluid and electrolyte balance, acid-base balance, and basic metabolism will be covered. Not applicable to the BMS major. Offered every semester. Prerequisite: BMS 250.

## **BMS 280 - Special Topics in Biomedical Sciences (1 to 4 credits)**

Special topics not regularly offered, but of interest to students in the biomedical sciences. Courses will be listed in the class schedule. Offered fall and winter semesters.

## **BMS 290 - Human Physiology (3 credits)**

An integrated study of physiological systems with major consideration given to the mechanisms involved in maintaining homeostasis. Normal function is emphasized, but clinical correlations are included where appropriate. (3-0-0) Offered every semester. Prerequisites: BMS 208 and two semesters of chemistry.

## **BMS 301 - Introduction to Research in the Biomedical Sciences (3 credits)**

Introduces students majoring in any of the science programs to basic steps in carrying out research, literature searching, critical reading of the literature, experimental design, data analysis,

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and scientific writing. Published papers and experiments will be analyzed. Students will write a variety of papers and reports. Offered fall and winter semesters. Prerequisites: STA 215 and sophomore standing.

### **BMS 304 - Community Nutrition (3 credits)**

Course covers the field of community nutrition characteristics, purpose, and job opportunities. It will discuss the following: methods used to assess a group or community's nutritional status; tools to evaluate community intervention programs; cultural diversity found in the community; and implications of such diversity for health professionals. Offered winter semester. Prerequisites: BMS 105 and junior standing.

### **BMS 305 - Clinical Nutrition (3 credits)**

This course has two objectives: to enable students to understand normal digestion, absorption, and metabolism of nutrients at a sophisticated level, and to make them aware of the nutritional needs of diseased patients. Pathophysiology of the gastrointestinal system will be considered. Offered fall and winter semesters. Prerequisites: BMS 290 or BMS 251 and (CHM 232 or CHM 230 or CHM 461).

### **BMS 306 - Advanced Human Nutrition (3 credits)**

An in-depth examination of the biochemical and physiological functions of nutrients and their relationships to health and disease. The digestion, absorption, and transport of nutrients are discussed. The integrated regulation of metabolism at the physiological, cellular, and molecular levels in response to altered nutritional and hormonal status is emphasized. Offered fall and spring/summer semesters. Prerequisites: (BMS 290 or MOV 304) and (CHM 232 or CHM 461).

### **BMS 309 - Laboratory in Human Anatomy (1 credit)**

A laboratory course covering the gross anatomy of the skeletal, muscular, nervous, circulatory, respiratory, digestive, reproductive, urinary, and endocrine systems through the use of human cadavers. (0-0-3) Offered each semester. Prerequisites: B or better in BMS 208 or BMS 251.

### **BMS 310 - Basic Pathophysiology (3 credits)**

Presentation of disease processes in terms of physiologic dysfunction. Pathophysiology emphasizes the disruption of normal steady state relationships and considers the minor, acute, and chronic aspects of disease. This provides a link between the basic medical sciences and their clinical application. Offered every semester. Prerequisite: BMS 290 or BMS 251.

### **BMS 311 - Pharmacological Aspects of Biomedical Sciences (3 credits)**

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This course introduces students to the principles of pharmacology and the pharmacological aspects of the major classes of drugs used in the treatment of disease. Patient care implications associated with the clinical use of the pharmacological agents will be discussed. Offered every semester. Prerequisite: BMS 310.

### **BMS 312 - Bacterial Genetics (3 credits)**

An advanced genetics course using microorganisms to analyze fundamental biological processes: mutation, replication, recombination, and transposition, along with the expression of genes and the processing of their products. (3-0-0) Offered fall semester of even-numbered years. Prerequisite: BMS 212 or BIO 357.

### **BMS 313 - Bacterial Genetics Laboratory (1 credit)**

A selected set of experiments to demonstrate important principles of bacterial genetics, including basic microbial methodology, mutagenesis, and gene transfer. (0-0-4) Offered fall semester of even-numbered years. Prerequisite: BMS 312 (may be taken concurrently).

### **BMS 355 - Anatomy of Joints (2 credits)**

Lecture and laboratory prosection study of the anatomy of synovial joints found in the human limbs, vertebral column, and skull. Emphasis on normal musculoskeletal anatomy. (1-0-2) Offered winter semester. Prerequisites: (Both BMS 208 and BMS 309, or equivalent human anatomy course), or (both BMS 251 and MOV 300).

### **BMS 374 - Physiological Aspects of Death and Dying (3 credits)**

An overview of the physiological processes connected with death and dying. Topics include body mechanisms associated with aging and common causes of death, autopsies, decomposition, modes of body disposition (and how they differ among cultures), and methods of body preservation (e.g., embalming and mummification). Not counted as an elective for biomedical sciences majors. Offered fall and spring/summer semesters upon demand.

### **BMS 375 - The Biology of Aging (3 credits)**

An introductory course in the anatomical and physiological aspects of the normal aging process, designed for students from a broad range of disciplines. Emphasis will be placed on the normal aging process as it occurs in the majority of the population. Offered fall semester. Prerequisites: BMS 208 and BMS 290.

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## **BMS 380 - Special Topics in the Biomedical Sciences (1 to 6 credits)**

Special topics not regularly offered, but of interest to students in the biomedical sciences. Courses will be listed in the class schedule. Offered fall and winter semesters.

## **BMS 391 - Laboratory in Human Physiology (2 credits)**

Laboratory in Human Physiology is designed to investigate the principles that govern functions of the human body. This laboratory will provide hands-on experience in physiologic data collection and analysis. (1-0-2) Offered every semester. Prerequisites: BMS 290 or (BMS 251 and two semesters of chemistry).

## **BMS 392 - Laboratory Assistant in Physiology (1 credit)**

This course provides an opportunity for students to assist human physiology laboratory instructors while reinforcing their understanding of the mechanisms underlying human physiology (may be repeated, but only one credit may be applied toward the biomedical sciences major electives requirements). Offered every semester. Prerequisites: BMS 391 and permission of instructor.

## **BMS 393 - Laboratory Assistant in Human Anatomy (1 credit)**

This course provides an opportunity for students to assist in the cadaver-based anatomy laboratory while reinforcing their understanding of anatomical structures, relationships between structures, and functional roles these structures have in the human body. Offered fall and winter semesters. Prerequisites: BMS 309 and permission of instructor.

## **BMS 394 - Laboratory Assistant in Microbiology (1 credit)**

This course provides an opportunity for students to assist the introductory microbiology laboratory instructors while reinforcing their understanding of the various techniques and concepts discussed in introductory microbiology. Offered every semester. Prerequisites: Completion of BMS 213 and permission of instructor.

## **BMS 399 - Readings in the Biomedical Sciences (1 to 3 credits)**

Independent, supervised readings on selected topics prearranged with a faculty sponsor and approved by the program chairman. May be elected for one to three hours credit toward a major

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in any biomedical sciences program, or with permission for group science or biology majors. Offered fall and winter semesters. Prerequisite: Permit only.

### **BMS 407 - Nutrition in the Life Cycle (3 credits)**

The course will cover nutritional aspects associated with each phase of the human cycle including prepregnancy, pregnancy, infancy, childhood, adolescence and late adulthood. Major pathological conditions that can occur throughout the life cycle will be discussed. Offered winter semester. Prerequisites: (BMS 105 or BMS 305 or BMS 306) and either (BMS 290/BMS 391 or BMS 251).

### **BMS 409 - Endocrinology (3 credits)**

An introduction to the field of endocrinology including general properties of endocrine systems and how hormones regulate physiological processes in the human body. Normal functioning is emphasized, but clinical conditions and comparative endocrinology are included where appropriate. Cross-listed with BMS 509. Offered fall semester. Prerequisite: BMS 290.

### **BMS 410 - Immunology (3 credits)**

An introduction to the immune response, including the properties of antigens, immunoglobulins, the theories of antibody formation, cell-mediated immunity, and hypersensitivity reactions. Offered fall semester. Prerequisites: BMS 212 and (CHM 232 or CHM 461); may be taken concurrently.

### **BMS 412 - Medical Bacteriology (3 credits)**

A study of the host-parasite relationships in bacterial disease. The theoretical basis of isolation and identification of medically important bacteria including anaerobic and newly identified pathogens will be included. Offered winter semester. Prerequisite: BMS 212.

### **BMS 413 - Medical Bacteriology Laboratory (2 credits)**

Isolation and identification of the more common bacterial pathogens with emphasis on current clinical methods and normal flora. (0-0-4) Offered winter semester. Prerequisite: BMS 412 (may be taken concurrently).

### **BMS 415 - Nutrition and Physical Performance (3 credits)**

After a brief introduction to the basic concepts of exercise physiology this course will explore how physical activity may alter nutrient needs, and the mechanisms by which nutrition influences physical performance. Emphasis will also be placed on the practical implementation

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of dietary strategies to optimize exercise performance. Offered winter and spring/summer semesters. Prerequisites: (BMS 251 or BMS 290) and (CHM 232 or CHM 461).

## **BMS 422 - Bacterial Physiology (3 credits)**

An advanced microbiology course covering basic principles of prokaryotic physiology. Microorganisms will serve as a model system for understanding how an organism accomplishes life functions: bacterial growth, nutrition, response, and metabolic processes. Includes how microbial physiology is studied and applications to human physiology, disease, antibiotic production and resistance, and biotechnology. (3-0-0) Offered fall semester of odd-numbered years. Prerequisite: BMS 212 or BIO 357.

## **BMS 423 - Bacterial Physiology Laboratory (2 credits)**

Investigation of the physiology of bacteria. Analysis of bacterial growth, nutrition, responses to the environment, and metabolic processes. Techniques for analysis of bacterial physiology. (0-0-4) Offered fall semester of odd-numbered years. Prerequisite: BMS 422 (may be taken concurrently).

## **BMS 426 - Sensory Systems Neuroscience: Anatomy and Physiology (3 credits)**

Sensory systems neuroscience investigates the five basic human sensory systems: audition, gustation, olfaction, somatosensation and vision. The anatomy and physiology of each sensory system will be covered extensively with an emphasis on signal transduction processes of the senses. Offered winter semester. Prerequisite: BMS 251 or BMS 290.

## **BMS 427 - Neuroanatomy (1 credit)**

Covers the organization of the human nervous system with emphasis on the pathways and nuclei of the central nervous system. Offered fall semester. Prerequisite: BMS 251 or BMS 290.

## **BMS 428 - Neurosciences (3 credits)**

Covers the function of the human nervous system. Emphasis on somatosensory and somatomotor systems and the cranial nerve nuclei involved in disease. Offered spring/summer semester; winter on demand. Prerequisite: BMS 251 or BMS 290.

## **BMS 431 - Medical Virology (3 credits)**

A study of the important principles underlying the field of virology including viral architecture, nomenclature and genetics; mechanisms of entry and spread within the body; host resistance and viral evasion of the immune response; and the epidemiology of important viruses in the world

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today. Cross-listed with BMS 531. Offered winter semester. Prerequisites: (BMS 212 and CHM 241) or their transfer equivalents from other institutions.

### **BMS 432 - Medical Mycology (3 credits)**

An advanced microbiology course that will provide comprehensive instruction on the classification, causative agents, pathogenesis, and treatment of fungal diseases that occur in humans. Emphasis will be placed on the molecular mechanisms of pathogenesis and human immune responses along with the methods of treatment of these problematic infectious agents. Cross-listed with BMS 532. Offered fall semester. Prerequisite: BMS 212.

### **BMS 433 - Medical Parasitology (3 credits)**

A study of host parasite relationships in humans. Significant human parasites and the pathogenesis and epidemiology of parasite infection. (2-0-2) Offered fall semester. Prerequisites: BMS 212 and CHM 241.

### **BMS 450 - Human Histology (4 credits)**

A lecture/laboratory course in normal human light microscopic anatomy. Students will learn the microanatomy of the primary tissue types, organs and organ systems. Includes discussion of relevant pathological conditions. (2-0-4) Offered fall semester. Prerequisite: BMS 208.

### **BMS 460 - Regional Human Anatomy (4 credits)**

A regional approach to the structure of the human body, concentrating on the interrelationships of different anatomical structures in the limbs, thorax, abdomen, pelvis, and head and neck. (2-0-4) Offered winter semester. Prerequisites: BMS 309 and permission of instructor.

### **BMS 480 - Special Topics in the Biomedical Sciences (1 to 4 credits)**

Special topics not regularly offered, but of interest to students in the biomedical sciences. Courses will be listed in the class schedule. Offered fall and winter semesters.

### **BMS 492 - Biomedical Sciences Internship (1 to 4 credits)**

The internship is a work experience at a faculty supervisor-approved location appropriate for the student's chosen field of interest. Internships will be experiences of a minimum 10 hours/week/credit. Only three credit hours of BMS 492 may count toward the major. Graded credit/no-credit. Offered every semester. Prerequisites: BMS 290, BMS 391; and (CHM 232 or CHM 461).

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## **BMS 495 - Concepts in Wellness (Capstone) (3 credits)**

This biomedical sciences course will synthesize the materials students have learned from the biomedical sciences core and cognate courses and enable them to write and present professionally styled communications to an audience of their peers and instructors. (3-0-0) Offered for SWS credit. Offered fall, winter, and occasionally spring/summer semesters. Prerequisites: BMS 208, BMS 212, (BMS 290 or BMS 391), and senior standing.

## **BMS 499 - Research in the Biomedical Sciences (1 to 3 credits)**

Independent, supervised research in special areas of the biomedical sciences prearranged with a faculty sponsor and approved by the program chairman. May be elected for up to three hours credit toward a major in any biomedical sciences program or, with permission, for group science or biology majors. Offered fall and winter semesters.

## **BMS 501 - Graduate Seminar in Biomedical Sciences (1 credit)**

Students will explore a variety of research topics in biomedical science through faculty presentations, attendance at departmental seminars, and presentations of thesis work by second year students. Orientation to unit and campus resources and expectations of the program will also be provided. Offered fall semester. Prerequisite: Admission to the Master of Health Science.

## **BMS 508 - Advanced Human Physiology (3 credits)**

Emphasis on cellular and molecular mechanisms involved in the functioning of the body systems, with emphasis on central nervous system, cardiovascular, renal, and respiratory systems. Study includes the current research literature and current experimental knowledge. Offered fall semester and occasionally winter semester. Prerequisites: BMS 290 and graduate standing.

## **BMS 509 - Endocrinology (3 credits)**

An introduction to the field of endocrinology including general properties of endocrine systems and how hormones regulate physiological processes in the human body. Normal functioning is emphasized, but clinical conditions and comparative endocrinology are included where appropriate. Cross-listed with BMS 409. Offered fall semester. Prerequisite: Graduate standing.

## **BMS 510 - Immunology (3 credits)**

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An introduction to the immune response, including the properties of antigens, immunoglobulins, the theories of antibody formation, cell-mediated immunity, and hypersensitivity reactions. Prerequisites: BMS 212; and (CHM 232 or CHM 461) (may be taken concurrently).

## **BMS 512 - Medical Bacteriology (3 credits)**

A study of the host-parasite relationships in bacterial disease. The theoretical basis of isolation and identification of medically important bacteria including anaerobic and newly identified pathogens will be included. Prerequisites: BMS 212, three semesters of chemistry, and graduate standing.

## **BMS 523 - Epidemiology (3 credits)**

An introduction to the study of the distribution and determinants of disease frequency in people. Offered fall semester. Prerequisites: STA 215 and graduate standing.

## **BMS 531 - Medical Virology (3 credits)**

A study of the important principles underlying the field of virology including viral architecture, nomenclature and genetics; mechanisms of entry and spread within the body; host resistance and viral evasion of the immune response; and the epidemiology of important viruses in the world today. Cross-listed with BMS 431. Offered winter semester.

## **BMS 532 - Medical Mycology (3 credits)**

An advanced microbiology course that will provide comprehensive instruction on the classification, causative agents, pathogenesis, and treatment of fungal diseases that occur in humans. Emphasis will be placed on the molecular mechanisms of pathogenesis and human immune responses along with the methods of treatment of these problematic infectious agents. Cross-listed with BMS 432. Offered fall semester.

## **BMS 538 - Advanced Neuroscience (3 credits)**

This course will cover the normal anatomy and physiology of the human nervous system. Selected disorders of the human nervous system will also be discussed. Offered spring/summer semester. Prerequisite: Acceptance into the physical therapy program.

## **BMS 540 - Molecular Ecology of Infectious Disease (3 credits)**

Molecular ecology of infectious disease provides students with instruction in the core techniques of molecular population genetics, molecular phylogenetics, molecular biology, genomics, and

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bioinformatics in order to answer questions dealing with the ecology and epidemiology of human pathogens. Offered winter semester. Prerequisite: Graduate standing or permission of instructor.

### **BMS 550 - Human Histology (4 credits)**

A lecture/laboratory course in normal human light microscopic anatomy. Students will learn the microanatomy of the primary tissue types, organs, and organ systems. Includes discussion of relevant pathological conditions. Prerequisite: BMS 208 or equivalent.

### **BMS 560 - Regional Human Anatomy (4 credits)**

A regional approach to the structure of the human body, concentrating on the interrelationships of different anatomical structures in the limbs, thorax, abdomen, pelvis, and head and neck. Prerequisites: BMS 208 and BMS 309 or equivalent anatomy courses.

### **BMS 561 - Prosected Regional Anatomy (4 credits)**

A regional approach to the gross anatomy of the human body through the use of prosected cadavers. (3-0-3) Offered fall semester. Prerequisite: Admission to the physical therapy or physician's assistant studies program.

### **BMS 601 - Experimental Design (3 credits)**

Investigation of the steps necessary to select and approach a research problem. Emphasis on the literature search, critical analysis of journal articles, and the preparation of written research proposals. Observation and inductive and deductive reasoning will be discussed. Offered fall semester. Prerequisites: BMS 501 and enrollment in the M.H.S. graduate program.

### **BMS 605 - Core Principles of Gross Anatomy (4 credits)**

A regional approach to the gross anatomy of the human body through the use of prosected cadavers, focusing on the spatial relationships among anatomical structures in the limbs, thorax, abdomen, pelvis, head and neck. Offered fall semester. Prerequisites: BMS 208 and graduate standing.

### **BMS 607 - Infection and Immunity (3 credits)**

An introduction to the human immune response, with particular emphasis on infectious disease. Bacterial, viral, fungal, and parasitic microbiology will be covered, with particular emphasis on virulence factors. The innate and adaptive immune system components and functions will be discussed and integrated into immune responses and pathogen outcomes. Offered fall semester. Prerequisites: BMS 212 or equivalent, and graduate standing.

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## **BMS 608 - Pathologic Physiology (3 credits)**

A study of the disease processes in humans from the standpoint of physiologic dysfunction. Primary emphasis will be on the cardiovascular, renal, respiratory, and central nervous system. Other areas may be considered but in lesser depth. Offered winter semester and occasionally fall semester. Prerequisites: BMS 508 and graduate standing.

## **BMS 655 - Advanced Human Anatomy (3 credits)**

Students will complete comprehensive morphological study of selected regions of the human body. Methods include dissection and histologic, embryologic, or pathologic approaches. Offered on demand. Prerequisites: BMS 460, graduate standing, and registration permit.

## **BMS 679 - Clinical Practicum (3 to 6 credits)**

Experience in a field placement under a qualified supervisor. A final report and a seminar are required. Prerequisites: All other degree requirements must be completed before, or concurrent with, this course.

## **BMS 680 - Special Topics in the Biomedical Sciences (1 to 3 credits)**

Supervised study and research in special areas of the biomedical sciences. Must be prearranged with a faculty sponsor. Study may result in a proposal for independent research in the same area. May be elected for a maximum of three hours credit toward degree requirements. Offered fall and winter semesters. Prerequisites: BMS 601 and a signed contract must be submitted before registration.

## **BMS 693 - Project in Biomedical Sciences (3 credits)**

Definition and solution of a problem within the biomedical sciences. The problem may focus on such topics as the development of instructional processes or materials, evaluation or testing procedures and equipment, or other suitable areas of interest. Prerequisites: Completion of all other degree requirements before, or concurrent with, this course and completion of the Responsible Conduct of Research Training within last three years.

## **BMS 695 - Master's Thesis Research (3 or 6 credits)**

Research in the biomedical sciences directed toward the solution of a problem that has potential implications within the field. Preparation of a formal thesis and presentation of a seminar are required during the final year of the student's program. Six credits total, minimum of three per semester. Prerequisites: Permission of program director and completion of the Responsible Conduct of Research Training within last three years.

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## **BMS 696 - Continuation of Master's Project or Thesis Research (1 credit)**

Continuation of work related to the master's project or thesis phase of the graduate student's program. Registration is required after all respective project or thesis credits are completed and the project or thesis is not completed. Work will be performed under the supervision of the project advisor or thesis committee chair. Offered every semester. Prerequisites: Completion of all required project or thesis credits and completion of the Responsible Conduct of Research Training within last three years.

## **BMS 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

## **BMS 699 - Independent Study (1 to 3 credits)**

Hours, credits, topics, and time to be arranged with individual faculty members with approval of the department.

## **BUS 101 - Introduction to Business (3 credits)**

Introduces the disciplines of business law, marketing, management, finance, accounting, and economics; seeks to synthesize them into a general view of business; and briefly explores business careers. Primarily for freshmen interested in business, it is open to all students except upper-division students in the Seidman College of Business. Offered fall semester.

## **BUS 180 - Special Topics in Business (1 to 3 credits)**

Topics covered will reflect special interests of students and/or instructor. Offered as demand warrants.

## **BUS 201 - Legal Environment for Business (3 credits)**

The legal, regulatory, and ethical environment in which business operates is explored, with emphasis on the regulation of business, international law, environmental law, ethics, the political and social factors influencing case and statutory law, contracts, employment law, and business organizations. Offered every semester.

## **BUS 280 - Special Topics in Business (1 to 3 credits)**

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Readings, lectures, and/or discussions in specific topics not normally covered by other courses in the program.

### **BUS 301 - International Business and Culture (3 credits)**

Explores how business is done in a country or region, and how culture influences business and its environment. Reviews country's history, economics, politics, government, arts, or education. Explores how business practices may differ from U.S. practices. To be taught in that country as part of a study abroad program. Cross-listed with MES 301. Offered spring/summer semester. Prerequisite: Admission to Seidman College of Business or by permit.

### **BUS 380 - Special Topics in Business (1 to 3 credits)**

Topics covered will reflect special interests of the students and/or the instructor. Offered as demand warrants. Prerequisite: Admission to Seidman College of Business or by permit.

### **BUS 399 - Readings in Business (1 to 3 credits)**

Independent, supervised readings on specific, advanced areas of business. Must be prearranged with appropriate faculty members. May be elected for up to three hours credit toward a B.B.A. degree. Open to juniors and seniors only. Offered on sufficient demand. Prerequisite: Admission to Seidman College of Business or by permit.

### **BUS 470 - Applied Business Solutions (1 to 3 credits)**

Faculty directed experiential learning project using an active integration of knowledge, application, and reflection. The projects are in cooperation with corporate or nonprofit partners providing real-world applications that change from class to class. The basis of knowledge to be applied will be obtained through reading, simulation, exercises and instruction. Cross-listed with BUS 570. Offered fall and winter semesters. Prerequisites: MGT 366 or equivalent, junior standing, admission to the Seidman College of Business, and permission of instructor.

### **BUS 490 - Business Internship (1 to 6 credits)**

This course will be used to grant business credit to students who complete internships in business generally rather than in a specific discipline. Graded credit/no-credit. Prerequisites: Junior standing, minimum 2.5 GPA, and admission to Seidman College of Business or by permit.

### **BUS 499 - Independent Research (1 to 3 credits)**

Independent research in the student's area of interest, supervised by a member of the Seidman College of Business faculty and culminating in a written and oral report. Written permission of

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instructor required. Offered each semester. Prerequisite: Admission to Seidman College of Business or by permit.

## **BUS 501 - Self-Management for Leaders (2 credits)**

The course introduces how to apply self-awareness toward the improvement of managerial leadership. Feedback through the application of a 360-degree evaluation tool will offer input to better understand an individual's leadership skills and potential. Principles of strategic thinking, emotional intelligence, and design thinking will help broaden perspective. Offered fall semester. Prerequisite: Admission to Seidman College of Business.

## **BUS 502 - Operational Alignment for Leaders (2.5 credits)**

This course provides frameworks to understand internal operational efficiencies for teams, departments, and organizational success. The course will focus on an understanding of how to optimize operations and generate profitable returns through exposure to operational best practices, managerial accounting, and budgeting. Offered fall semester. Prerequisite: Admission to Seidman College of Business.

## **BUS 503 - Leading and Empowering Teams (2.5 credits)**

This course provides the framework to apply best practices in building, motivating, empowering, and leading effective teams. Focus will be given to principles of leadership and influence, motivation, managing change, negotiations, and business communications. Offered winter semester. Prerequisites: BUS 501 and BUS 502.

## **BUS 504 - Essentials of Enterprise Leadership (3.5 credits)**

Students are provided with an understanding of how organizations are situated in the macro business context. A focus on how the organization beyond the unit level is impacted by broader forces such as economics, marketing, general business, and finance will prepare students to understand the different forces impacting an organization. Offered winter semester. Prerequisite: BUS 503.

## **BUS 505 - Implementing Principles of Strategic Leadership (3.5 credits)**

Examines strategic planning and decision-making frameworks to understand how to best implement strategy and influence the strategic direction of an organization. Provides a consulting experience to apply business knowledge acquired in previous courses to pre-identified strategic problems faced by organizations. Offered winter semester. Prerequisites: BUS 503 and BUS 504.

## **BUS 531 - Legal Environment of Business (2 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Explorations of the legal, regulatory, and ethical environment of business, with emphasis on the regulation of business and the political and social factors influencing case and statutory law. Topics covered include contracts, employment law, international law, environmental law, and business organizations. Equivalent to BUS 201. Offered fall and winter semesters.

## **BUS 570 - Applied Business Solutions (1 to 3 credits)**

Faculty directed experiential learning project using an active integration of knowledge, application, and reflection. The projects are in cooperation with corporate or nonprofit partners providing real-world applications that change from class to class. The basis of knowledge to be applied will be obtained through reading, simulation, exercises and instruction. Cross-listed with BUS 470. Offered fall and winter semesters. Prerequisite: Permission of instructor.

## **BUS 610 - Management Information Systems and Org Processes (3 credits)**

This course will examine common, operational-level organizational processes to understand the nature of such processes and the role of data and management information systems (MIS) in facilitating and integrating organizational processes. In addition, the course will provide an understanding of the strategic role of information systems in organizations and responsibilities of managers to effectively manage their information resources. Offered every semester. Prerequisite: Completion of all M.B.A. background equivalents.

## **BUS 631 - Leadership and Organizational Dynamics (3 credits)**

Leadership gives insight into organizational life from the perspective of the practicing manager in terms of individual, group and inter-group behavior. Course is designed to benefit persons in a variety of organizations. The goal of the course is to explore ways to achieve managerial success by becoming effective at utilizing individuals and groups as organizational resources. Special emphasis is given to assessment of personal strengths and weaknesses when dealing with situations of managerial responsibility. Offered every semester. Prerequisite: Completion of M.B.A. background equivalents.

## **BUS 634 - Sustainability Principles and Practices (1.5 credits)**

This course, which carries 1.5 credit hours, provides an introduction to, and analysis of, the fundamental theories, concepts, principles, and practices of sustainability in the global society in which we live. Students analyze and apply theories to real-world scenarios, including to their current employers and work assignments. Offered winter semester. Prerequisite: Completion of M.B.A. background equivalents.

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## **BUS 656 - Management of Technology (3 credits)**

Teaches technological forecasting, auditing, and strategic planning methodologies. These tools aid managers in developing and maintaining their organizational competitive competencies. Prerequisite: Completion of all M.B.A. background equivalents.

## **BUS 671 - Global Competitiveness (3 credits)**

Explores how firms become global and how they sustain their global position. For many firms, selling in home markets no longer guarantees success. Internationalization forces affect firms' abilities to establish and conduct business in foreign markets. Covers knowledge and skills needed to manage firms operating in foreign business environments, and to work effectively with people of other cultures. Offered fall and winter semesters. Prerequisite: Completion of M.B.A. background equivalents.

## **BUS 677 - Business Ethical Problems and Perspectives (1.5 credits)**

The study of ethical problems commonly encountered in modern global business environments. Students will study the ethical issues of character, leadership, decision-making, organizational governance, and social responsibility. Prerequisite: Completion of M.B.A. background equivalents.

## **BUS 680 - Special Topics in Business (1 to 4 credits)**

Course content varies. Refer to schedule of classes to determine course description and prerequisites. Students may repeat this course under different topics. Prerequisite: Admitted to SCB or permit.

## **BUS 681 - Strategy (3 credits)**

Focuses on the job of the general manager in formulating and implementing short- and long-run business strategy. An integrative course that draws on knowledge and skills acquired in other courses. Offered fall and winter semesters. Prerequisite: Completion of all other core courses or concurrently if taken in final semester.

## **BUS 685 - Study Abroad (3 credits)**

This course helps students prepare for, and complete, a study abroad experience. Students will research the social, cultural, and business environments of their destinations and assess and develop their global leadership skills. The study abroad experience provides firsthand observation of the complexities firms face when conducting business internationally. Offered winter semester. Prerequisite: Admission to the FIMBA or M.B.A. program.

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## **BUS 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

## **BUS 698 - Washington Program (3 credits)**

Special intensive study in Washington, D.C., for one week during the summer. Principle topics are policy development in the executive branch, government regulation, Congress (interest groups) lobbying, and domestic and international economic policy issues. Open to graduate students. Special application forms available in the M.B.A. office. Prerequisite: Completion of M.B.A. background equivalents.

## **BUS 699 - Independent Study (1 to 3 credits)**

Independent research in the student's area of interest, supervised by a member of the Seidman College of Business faculty and culminating in a written and oral report. Written permission of supervising faculty required.

## **CAP 105 - Technology in Public Relations and Advertising (3 credits)**

This course familiarizes students with the technologies currently used in the public relations and advertising professions. Emphasis is on working with technical specialists including graphic designers, photographers, videographers, and website developers. Students learn technology terminology and gain hands-on experience with a variety of technical software and equipment. Offered fall and winter semesters.

## **CAP 115 - Research Basics for Advertising and Public Relations (3 credits)**

This course presents the basic techniques for finding, collecting, evaluating, and using primary data and secondary information relevant to solving communication problems. Explores library resources, search engines, government and commercial websites, corporate documents, and databases. Includes citation formats and presentation methods. Offered fall and winter semesters.

## **CAP 209 - Advertising Basics (3 credits)**

Presents the basics of advertising, including its socioeconomic role, the function and operation of advertising departments and agencies, the creative process, and media characteristics. Does not count as credit toward the advertising and public relations major or minor. Offered fall and winter semesters. Prerequisite: Fulfillment of general education Foundations - Writing.

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## **CAP 210 - Fundamentals of Advertising (3 credits)**

Basic principles of advertising, including its socioeconomic role; the function and operation of client advertising departments and the advertising agency; application of research, budgeting, and the creative process; media characteristics; and media selection. Offered every semester. Prerequisites: CAP 105, CAP 115, and fulfillment of general education Foundations - Writing. Restricted to advertising and public relations majors and minors.

## **CAP 219 - Public Relations Basics (3 credits)**

Covers the basic principles of public relations (PR), its role in society, where public relations is practiced, and specific applications, including identifying publics, campaigns, and evaluation. Does not count as credit toward advertising and public relations major or minor. Offered fall and winter semesters. Prerequisite: Fulfillment of general education Foundations - Writing.

## **CAP 220 - Fundamentals of Public Relations (3 credits)**

Basic principles covering the role of public relations in society, public relations principles and their application, procedures for planning and implementing public relations campaigns, the identification of publics and the strategies for influencing them. Offered every semester. Prerequisites: CAP 105, CAP 115, and fulfillment of general education Foundations - Writing. Restricted to advertising and public relations majors and minors.

## **CAP 305 - Sports Promotion (3 credits)**

Deals with the promotion and sponsorship of sports and the active lifestyle industry, including corporate motivation and involvement. Studies the effect of media on sports through critical analysis. Emphasis is placed on defining and applying communication theory, concepts, and strategies. Offered fall and winter semesters. Prerequisite: Junior standing.

## **CAP 310 - Advertising Management and Cases (3 credits)**

Management and direction of the advertising function as viewed and practiced by the client advertising manager, the advertising agency, and the media. Analysis of actual cases and presentation of findings and recommendations. Offered fall and winter semesters. Prerequisite: CAP 210.

## **CAP 315 - Advertising Copywriting (3 credits)**

Practice in the copywriting process, from conception of ideas to finished copy for product and corporate advertising objectives. Offered fall and winter semesters.

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## **CAP 320 - Public Relations Management and Cases (3 credits)**

The public relations function viewed from the management, consultant, and employee positions through use of text material and case studies. Offered fall and winter semesters. Prerequisite: CAP 220.

## **CAP 321 - Media Relations Writing (3 credits)**

This course prepares public relations students with both knowledge and practice of writing skills used in the public relations profession, with special emphasis on media relations. Students will learn how the news media work in different settings, and how media relations fits into the broader public relations program. Offered fall and winter semesters. Prerequisite: CMJ 256.

## **CAP 325 - Advertising and Public Relations Ethics and Law (3 credits)**

Examination of ethical principles and key categories of law as applied specifically to the advertising and public relations professions. The course includes an overview of classical ethical viewpoints and applications to the contemporary practice. Key legal concepts and cases relevant to advertising and public relations are also discussed. Offered fall and winter semesters. Prerequisites: CAP 210 and CAP 220.

## **CAP 380 - Special Topics in Advertising and Public Relations (3 credits)**

A study of special topics not regularly covered in the curriculum. Expectations of the student in this course approximate those in other 300-level courses. May be repeated for credit when content varies. Offered on sufficient demand. Prerequisite: Sophomore standing.

## **CAP 399 - Independent Study in Advertising/Public Relations (1 to 6 credits)**

Individually designed learning projects. Offered every semester. Prerequisites: Advertising/public relations major, junior standing, and permission of advisor.

## **CAP 413 - Media Planning (3 credits)**

Methods of analyzing and evaluating media, selection of media for target audiences, consideration of budget factors, and preparation of media plans. Offered fall and winter semesters. Prerequisites: CAP 210 and CAP 220 or permission of instructor.

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## **CAP 423 - Writing Corporate Communications (3 credits)**

An advanced writing course on the research, development, and preparation of corporate communications. Uses desktop publishing. Includes brochures, annual reports, employee newsletters, executive speeches, position papers, backgrounders, corporate memos, customer letters, and crisis communications. Offered fall and winter semesters. Prerequisite: CAP 220.

## **CAP 425 - International Advertising and Public Relations (3 credits)**

Addresses the key issues that advertising and public relations practitioners must keep in mind to create effective communication programs for foreign markets: cultural norms and values, political environments, economic policies, legal considerations, and social contexts. Offered winter semester of odd-numbered years. Prerequisite: CAP 210 or CAP 220.

## **CAP 490 - Internship in Advertising/Public Relations (1 to 6 credits)**

Practical work-study involving supervised on-the-job experience in advertising and public relations. Offered every semester. Prerequisites: Advertising/public relations major, junior standing, and permission of advisor.

## **CAP 494 - Advertising and Public Relations Agency Experience (3 credits)**

Experiential learning course applying previous advertising/public relations and other coursework to a communications project for a community organization. Students meet and work on campus with occasional visits to client site as needed. Students work in teams with various roles and responsibilities based on an advertising and public relations agency model. Offered fall and winter semesters. Prerequisite: Permission of instructor.

## **CAP 495 - Advertising and Public Relations Campaign (3 credits)**

Planning and presentation of a response to an advertising/public relations problem or objective of an actual organization. Includes liaison with the client organization throughout the semester and presentation to the client at the conclusion of the semester's work. Offered fall and winter semesters. Prerequisites: (CAP 310 or CAP 320) and senior standing.

## **CBR 485 - Audio Production III (3 credits)**

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Microphone use, mixing, and editing. Final project is an eight-track mix-down. The class uses the facilities of a professional recording studio. Offered fall semester. Prerequisite: CBR 382.

## **CD 501 - Emerging Professional Practice Issues in Clinical Dietetics (2 credits)**

This course will emphasize emerging professional practice issues in clinical dietetics. It will provide the application of ethical practice, critical thinking, and advocacy to current practice dilemmas. The course will stress the responsibilities of dietetic professionals and describe their interaction in an interdisciplinary health care delivery system. Offered winter semester.

Prerequisite: Admission to the clinical dietetics program.

## **CD 505 - Health Care Regulation and Policy in Dietetic Practice (2 credits)**

This thematic course will focus on social determinants and environment of health, health policies and politics in the United States, and the organization, regulation and financing of health services as it relates to the practice of clinical dietetics. Offered winter semester. Prerequisite: Admission to the clinical dietetics program.

## **CD 510 - Nutritional Assessment (3 credits)**

This class provides lecture and laboratory experience in anthropometric, biochemical, and dietary nutrition assessment techniques of individuals and populations. Students will utilize the human performance lab, simulation lab, medical laboratory science lab, and computer lab to augment hybrid lecture and discussion. Offered winter semester. Prerequisite: Admission to the clinical dietetics program.

## **CD 516 - Food and Culinary Science (4 credits)**

This course provides content related to the operation and management of therapeutic food service systems. Experiential and didactic learning will equip the student to better understand the role of palatable food production and service in clinical dietetics. Topics include basic management principles, food regulations, menu analysis, and sensory testing. Prerequisite: Admission to the clinical dietetics program.

## **CD 520 - Supervised Practice: Food Management Systems (3 credits)**

This course provides hands-on experiential learning in a variety of food service delivery systems. Students will rotate through several different food systems during this class including acute care, long-term care, schools, or community feeding programs. Each placement will address

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specifically assigned competencies. Offered winter semester. Prerequisite: Admission to the clinical dietetics program. Corequisite: CD 516.

### **CD 530 - Supervised Practice: Community Nutrition I (3 credits)**

This course provides experiential learning in a variety of community settings such as gleaning and food recycling, community health centers, food hubs and pantries, WIC, health departments, and other community programs with a nutrition component. Offered spring/summer semester. Prerequisite: Admission to the clinical dietetics program.

### **CD 550 - Social Determinants in Food, Culture, and Environmental Justice (3 credits)**

This course is designed to explore the relationships that exist between race, ethnicity and culture as they pertain to environmental and food justice, and the critical role of the food and nutrition professional in mitigating these issues. Cross-listed with CD 450. Offered fall semester. Prerequisite: Admission to the clinical dietetics program.

### **CD 560 - Advanced Nutrition Education, Counseling, and Coaching (3 credits)**

This course will provide a science-based application of learning, motivation and behavioral change theories as they pertain to informal education, counseling, and coaching for the dietetic preprofessional. A variety of communication strategies will be implemented to facilitate healthy nutrition and behavior change. Offered spring/summer semester. Prerequisite: Admission to clinical dietetics program.

### **CD 600 - Advanced Medical Nutritional Therapy I (3 credits)**

This course will apply the nutrition care process to a variety of disease states including pathology of the neurological, gastrointestinal, cardiovascular, hormonal, and renal systems. Offered spring/summer semester. Prerequisite: Admission to the clinical dietetics program.

### **CD 610 - Advanced Medical Nutritional Therapy II (3 credits)**

This course will apply the nutrition care process to a variety of disease states including pathology of the liver, pancreas, and the immune system, terminally ill, artificial feeding across the lifespan, inheritable diseases and epigenetics, burns and wounds, obesity, and special needs of

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the acute and chronically ill pediatric patient. Offered every semester. Prerequisites: Admission to the clinical dietetics program and CD 600.

## **CD 620 - Micronutrient Metabolism and Genetic Considerations in Clinical Dietetics (3 credits)**

This course will present evidence-based research to help understand the complex effects of diet on health. Using a nutritional genomics model, students will learn how nutrients affect gene expression, how nutrients and genes interact through metabolic pathways, and how nutrients affect the process of aging and disease. Offered spring/summer semester. Prerequisites: Admission to the clinical dietetics program and CD 610.

## **CD 625 - Supervised Practice: Clinical Nutrition I (5 credits)**

This course provides hands-on experiential learning in a variety of chronic and acute settings. Students will complete competency standards in large/regional medical centers, community hospitals, dialysis centers, cardiac rehabilitation/heart centers, and skilled nursing facilities. Offered fall semester. Prerequisite: Admission to the clinical dietetics program.

## **CD 630 - Supervised Practice: Community Nutrition II (2 credits)**

This course provides hands-on experiential learning focusing on program planning, implementation, and assessment of diverse age groups and disease states in the community setting. Sixty hours of the 120 total hours of supervised practice rotation may be taken outside of the U.S. Offered fall semester. Prerequisite: Admission to the clinical dietetics program.

## **CD 640 - Supervised Practice: Clinical Nutrition II (5 credits)**

This course provides hands-on experiential learning in a variety of acute and chronic settings. Students will complete competency standards in large/regional medical centers, community hospitals, long-term care centers, pediatric hospitals, and dialysis units. Offered winter semester. Prerequisite: Admission to the clinical dietetics program.

## **CD 650 - Supervised Practice: Area of Specialization (2 credits)**

This course provides in-depth experiential learning in a selected area of clinical dietetics and will provide students with an opportunity to implement a group or individual research project. This 120-hour rotation requires prior approval and may be taken outside of the U.S. Offered winter semester. Prerequisite: Admission to the clinical dietetics program.

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## **CD 689 - Seminar in Clinical Dietetics (1 credit)**

This course will provide an intensive and comprehensive review of didactic material covered in the program. This course is established to meet the mission of the program in preparing students to be master's prepared registered dietitians/nutritionists. Offered winter semester. Prerequisites: Admission to the clinical dietetics program and approval of advisor.

## **CD 690 - Research Methodology in Clinical Dietetics (2 credits)**

This class provides an overview of research methods for undertaking research and program evaluation within food and nutrition organizations and systems. Students will acquire competencies in evaluating the scientific and clinical merit of published research, identify gaps in reviewed literature and use the literature review in crafting a research question. Offered winter and spring/summer semesters. Prerequisites: Admission to the clinical dietetics program and admission by instructor permit.

## **CD 693 - Master's Project (1 credit)**

Group research projects will be performed under the supervision of a faculty member and an approved mentor. A literature review, HSIRB determination, paper, and poster presentation are required. Students enroll in the one-credit course for three consecutive semesters for a total of three credits of CD 693 over three semesters. Offered fall and winter semesters. Prerequisites: Admission to the clinical dietetics program, CD 690 (may be taken concurrently), and completion of the Responsible Conduct of Research Training within the last three years.

## **CD 695 - Thesis Research in Clinical Dietetics (1 to 6 credits)**

Original research in an area of clinical dietetics. Work will be performed under the supervision of the graduate committee chair and/or mentor. A written thesis or publication and a public oral presentation are required. Credits one to six with at least six credits required. Offered each semester. Prerequisites: Admission to the clinical dietetics program, CD 690, and completion of the Responsible Conduct of Research Training within last three years.

## **CD 696 - Continuation of Master's Thesis or Project (1 credit)**

Continuation of work related to the master's project or thesis phase of the graduate student's program. Registration is required after all respective project or thesis credits are completed and the project or thesis is not completed. Work will be performed under the supervision of the project advisor or thesis committee chair. Offered every semester. Prerequisites: Completion of all required project or thesis credits and completion of the Responsible Conduct of Research Training within last three years.

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## **CD 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

## **CHI 101 - Beginning Chinese I: Language and Culture (4 credits)**

An introduction to the Chinese language. Practice in speaking, listening, reading, and writing at the beginning level. Introduction of Chinese culture integrated throughout. Supplemented by multimedia and the Language Resource Center. Offered fall semester.

## **CHI 102 - Beginning Chinese II: Language and Culture (4 credits)**

Continuation of CHI 101. Practice in speaking, listening, reading, and writing at the beginning level. Introduction of Chinese culture integrated throughout. Supplemented by multimedia and the Language Resource Center. Prerequisite: C (not C-) or better in CHI 101, or credit, or appropriate placement test score.

## **CHI 150 - Accelerated Beginning Chinese I and II: Language and Culture (4 credits)**

One semester accelerated review of beginning Chinese for students with prior study. The course covers the same material as CHI 101 and CHI 102. Prerequisite: Minimum of two years of high school Chinese or placement test.

## **CHI 180 - Special Topics in Chinese (1 to 4 credits)**

Course content varies. Expectations of students approximate those in other 100-level courses. May be repeated for credit when content differs. Offered on sufficient demand.

## **CHI 185 - Supplementary Elementary Chinese (3 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only. Credit may vary.

## **CHI 201 - Intermediate Chinese I: Language and Culture (4 credits)**

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Continuation of CHI 102. Practice in speaking, listening, reading, writing at the intermediate level. Chinese culture introduced through authentic texts and multimedia materials. Supplemented by multimedia and the Language Resource Center. Offered fall semester. Prerequisite: C (not C-) or better in CHI 102, or CHI 150, or credit, or appropriate placement test score.

## **CHI 202 - Intermediate Chinese II: Language and Culture (4 credits)**

Continued practice in speaking, listening, reading, and writing at the intermediate level. Chinese culture introduced through authentic texts and multimedia materials. Counts toward the Chinese minor, the East Asian studies minor, and the Chinese studies major. Fulfills Cultures - Global Perspectives. Prerequisite: C (not C-) or better in CHI 201, or credit, or appropriate placement test score.

## **CHI 236 - Popular Chinese Fiction (3 credits)**

This course is an overview of the most influential works of Chinese fiction in translation from pre-modern times to the present, focusing on the cultural messages embedded in them that have had a deep impact on Chinese culture and society today. Fulfills Foundations - Philosophy and Literature. Fulfills Cultures - Global Perspectives. Offered fall semester.

## **CHI 280 - Special Topics in Chinese (1 to 4 credits)**

Course content varies. Expectations of students approximate those in other 200-level courses. May be repeated for credit when content differs. No more than four credits can be applied to the minor or major. Offered on sufficient demand.

## **CHI 285 - Supplementary Intermediate Chinese (3 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only. Credit may vary.

## **CHI 301 - Advanced Intermediate Chinese I (3 credits)**

This is a continuation of CHI 202 - Intermediate Chinese II. In this class, students continue to build vocabulary and sentence structures of Mandarin Chinese. More importantly, students shall become more proficient in the language, both written and spoken. Offered fall semester. Prerequisite: CHI 202.

## **CHI 302 - Advanced Intermediate Chinese II (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

This is a continuation of CHI 301 - Advanced Intermediate Chinese I. In this class, students continue to build vocabulary and sentence structures of Mandarin Chinese. More importantly, students shall become more proficient in the language, both written and spoken. Offered winter semester. Prerequisite: CHI 301.

### **CHI 321 - Ancient Chinese Culture (3 credits)**

Explores the beautiful and rich lifestyle of ancient China through arts, music, and literature in translation. Covers archaic times (12th century B.C.) through post-Han dynasty (fifth century A.D.). Offered fall semester on demand.

### **CHI 322 - Classical Chinese Culture (3 credits)**

Explores the beautiful and rich lifestyle of classical China through art, music, and literature in translation. Covers the Sui-T'ang (sixth century A.D.) through the Ch'ing dynasty (19th century). Offered winter semester on demand.

### **CHI 323 - Late Imperial Chinese Culture (3 credits)**

This course offers an overview of different components of Chinese civilization in the last three imperial dynasties: Yuan (1279-1368), Ming (1368-1644) and Qing (1644-1912). The course materials include fiction, drama, prose, poetry, biography and autobiography, and various forms of traditional arts. Fulfills Cultures - Global Perspectives. Offered winter semester of odd-numbered years.

### **CHI 324 - Contemporary Chinese Culture (3 credits)**

An introduction to contemporary Chinese popular culture. Using a variety of primary source materials, including film, television dramas, reality shows, literature, art, and artifacts, it explores popular culture's relations to social change, public spaces, the state, individual freedom, collective justice, national and social identities, and globalization. Fulfills Cultures - Global Perspectives. Part of the Globalization Issue. Offered winter semester. Prerequisite: Junior standing.

### **CHI 341 - Introduction to Classical Chinese (3 credits)**

The classical Chinese language, also known as literary Chinese, is the doorway into the fascinating world of Chinese culture. It has been the primary form of communication for at least 3,000 years. In this course, we will study the language through readings in early philosophical, historical, and poetic texts. Offered winter semester. Prerequisite: CHI 201.

### **CHI 351 - Practical Chinese (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Learning a language from a textbook is only the beginning of the journey to becoming proficient in that language. This course will explore the practical uses of Mandarin Chinese in such areas as different forms of mass media, advertising, nonfiction reference materials, packaging, entertainment, music, and the Internet. Offered fall semester. Prerequisite: CHI 202.

### **CHI 380 - Special Topics in Chinese (3 credits)**

Readings, lectures, and/or discussions in specific topics not normally covered by other courses in the program. Offered on sufficient demand.

### **CHI 385 - Supplementary Advanced Intermediate Chinese (3 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only.

### **CHI 386 - Chinese Culture and Society - in Taiwan (3 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only.

### **CHI 387 - Chinese Culture and Society - in China (3 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only.

### **CHI 399 - Independent Reading (1 to 4 credits)**

Hours, credits, topics, and time to be arranged with individual faculty members with approval of the department. Offered fall and winter semesters.

### **CHI 480 - Special Topics in Chinese (1 to 4 credits)**

Course content varies. Expectations of students approximate those in other 400-level courses. May be repeated for credit when content varies. Offered on sufficient demand.

### **CHM 100 - Preparatory Chemistry (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Introduction to topics covered in CHM 115, including atomic structure, formation of compounds, mass and mole relationships, chemical equations, stoichiometry, dimensional analysis, and significant figures. Appropriate for students who need additional preparation for CHM 115. Does not count toward a chemistry major or general education requirements. Prerequisites: MTH 110 (may be taken concurrently).

## **CHM 102 - Chemistry and Society (3 credits)**

A survey of some of the many ways in which chemistry is involved with people's day-to-day existence. This course is not applicable for a chemistry major or minor. Fulfills Foundations - Physical Sciences. (3-0-0) Offered fall and winter semesters.

## **CHM 109 - Introductory Chemistry (4 credits)**

An introductory study of general chemistry that presents the basic chemical principles and their applications. Designed for general education and students in programs that require a chemistry background but not the rigor of a full year of general chemistry. Does not count toward a chemistry major. Fulfills Foundations - Physical Sciences with a lab. (3-1-2) Offered every semester.

## **CHM 111 - Introduction to Green Chemistry (3 credits)**

Green chemistry, also known as sustainable chemistry, is the design of chemical products and processes that reduce or eliminate the use or generation of hazardous substances. The course presents basic concepts of green chemistry and engineering. It is not applicable for chemistry majors or minors. Fulfills Foundations - Physical Sciences.

## **CHM 115 - Principles of Chemistry I (4 credits)**

First semester of the two-semester general chemistry sequence for the sciences. Concepts of atomic structure, development of the principles of modern chemistry, connections between atomic/molecular structure, and observed behavior. Students continuing with CHM 116 should take MTH 122, MTH 124 or MTH 125 concurrently with CHM 115. (3-0-3) Fulfills Foundations - Physical Sciences with a lab. Offered every semester. Prerequisites: High school chemistry and MTH 110 (or equivalent by placement or exam).

## **CHM 116 - Principles of Chemistry II (5 credits)**

The second semester in the two-semester general chemistry sequence for the sciences. Builds on the theoretical foundation of CHM 115 to develop the concepts of equilibria, solubility, acids and bases, kinetics, and thermodynamics. (4-0-3) Offered every semester. Prerequisites: CHM 115 and (MTH 122 or MTH 124 or MTH 125 or equivalent by placement or exam).

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## **CHM 180 - Special Topics in Chemistry (1 to 3 credits)**

Special topics for the first year in college chemistry. Offered upon sufficient demand.  
Prerequisite: Permission of chemistry department.

## **CHM 201 - Introduction to Chemical Sciences (3 credits)**

Introduction to chemical sciences emphasizing the descriptive approach. Lectures, demonstrations, discussions, experiments, and assignments illustrate concepts for PK-6 teaching. Classroom visits or curriculum/teaching projects arranged for PK-6 teaching students. Other students write a paper or complete other projects as a course requirement. Fulfills Foundation - Physical Sciences with lab. (3-0-2) Offered fall and winter semesters.

## **CHM 221 - Survey of Analytical Chemistry (4 credits)**

Survey course on classic wet chemical and instrumental methods of analysis with a focus on practical laboratory skills. Topics include gravimetric, titrimetric, and potentiometric techniques. Basic issues concerning UV-Vis and atomic absorption spectroscopy and gas and liquid chromatography are also covered. (3-0-4) Offered every semester. Prerequisite: CHM 116 or one full year of general chemistry.

## **CHM 230 - Introduction to Organic and Biochemistry (4 credits)**

A survey of organic and biochemistry. Topics include the biologically significant classes of organic compounds and their reactions, classes of biological compounds, and the major metabolic pathways. Does not apply to a chemistry major or minor. (3-0-2) Offered fall and winter semesters. Prerequisite: CHM 109 or equivalent.

## **CHM 231 - Introductory Organic Chemistry (4 credits)**

An introduction to organic chemistry. Topics include the classes of organic compounds, reactions, synthesis, and mechanisms. Includes laboratory. (3-1-2) Offered every semester. Prerequisite: CHM 109 or CHM 116.

## **CHM 232 - Biological Chemistry (4 credits)**

An introductory course in biochemistry. Topics include carbohydrates, proteins, lipids, nucleic acids, enzymes, metabolism, and protein synthesis. Includes laboratory. (3-1-2) Offered every semester. Prerequisite: CHM 231.

## **CHM 241 - Organic Chemistry for Life Sciences I (5 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

The first semester of a two-semester sequence of organic chemistry designed to meet the specific needs of life science students. Topics include classes of organic compounds, nomenclature, transformations and reaction mechanisms, stereochemistry, and spectroscopy. This course emphasizes the importance and application of functional group organic chemistry in living systems. (4-0-3) Offered every semester. Prerequisite: CHM 116.

## **CHM 242 - Organic Chemistry for Life Sciences II (4 credits)**

A continuation of CHM 241. Topics include the nomenclature, organic transformations, mechanisms, stereochemistry, spectroscopy, and the chemistry of alcohols, carbonyls, carboxylic acid derivatives, amines, and carbohydrates. This course emphasizes the importance and application of functional group organic chemistry in living systems. (3-0-3) Offered every semester. Prerequisite: CHM 241 or (both CHM 245 and CHM 246).

## **CHM 245 - Principles of Organic Chemistry I (4 credits)**

A comprehensive overview of organic chemistry, focusing on nomenclature, chemical transformations (reactions), reaction energetics, and stereochemistry. In particular, this course will examine the chemistry of hydrocarbons and the use of spectroscopic techniques to determine chemical structures. A mechanistic approach in organic problem solving will be stressed. (4-0-0) Offered fall semester. Prerequisite: CHM 116. Corequisite: CHM 246.

## **CHM 246 - Principles of Organic Chemistry I Lab (1 credit)**

An introduction to laboratory techniques and procedures of synthetic organic chemistry including analysis of organic compounds using modern spectroscopic techniques. (0-0-4) Offered fall semester. Prerequisite: CHM 116. Corequisite: CHM 245.

## **CHM 247 - Principles of Organic Chemistry II (3 credits)**

An examination of the chemistry of alkyl halides, aromatic compounds, aldehydes, ketones, carboxylic acids, and derivatives of carboxylic acids. This course will build on the principles learned in CHM 245, emphasizing reaction energetics, stereochemistry, and spectroscopic analysis of reaction products. A mechanistic approach in organic problem solving will be stressed. (3-0-0) Offered winter semester. Prerequisite: CHM 245. Corequisite: CHM 248.

## **CHM 248 - Principles of Organic Chemistry II Lab (1 credit)**

A continuation of CHM 246, covering laboratory techniques and procedures of synthetic organic chemistry including analysis of organic compounds using modern spectroscopic techniques. (0-0-4) Offered winter semester. Prerequisites: CHM 245 and CHM 246. Corequisite: CHM 247.

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## **CHM 273 - Principles of Inorganic Chemistry (3 credits)**

A one-semester introduction to the basics of inorganic chemistry through the application of descriptive models of atomic and molecular orbital theory. Students will be taken through a progression of structural topics, including molecular and extended solids, with a focus on d-block, and transition metal chemistry. Three hours of lecture per week. Offered fall semester. Prerequisite: CHM 116.

## **CHM 280 - Special Topics in Chemistry (1 to 3 credits)**

Special topics for the second year in college chemistry. Offered upon sufficient demand. Prerequisite: Permission of the chemistry department.

## **CHM 325 - Instrumental Analysis (4 credits)**

The theory and application of advanced analytical instrumentation. Emphasis is given to sample preparation methodology, liquid and gas chromatography, capillary electrophoresis, atomic spectroscopy, mass spectrometry, voltammetry, and writing instruction. The laboratory experience focuses on practical utilization of analytical techniques. Three hours of lecture and three hours of lab per week. Offered winter semester. Prerequisites: CHM 221 or CHM 222; fulfillment of general education Foundations - Writing.

## **CHM 351 - Introduction to Physical Chemistry (3 credits)**

A one-semester survey of the concepts of physical chemistry. Topics include the first and second laws of thermodynamics, free energy and equilibrium, kinetic theory of matter, reaction kinetics and mechanisms, and an introduction to quantum mechanics. Three hours of lecture per week. Offered fall semester. Prerequisites: CHM 116, MTH 201, and (PHY 220 or PHY 230); may be taken concurrently.

## **CHM 352 - Physical Chemistry Laboratory (1 credit)**

Experiments and techniques in physical chemistry. Topics will include thermodynamics, spectroscopy, and kinetics. Three hours of experimental work or other activities per week. Prerequisite: CHM 351 or CHM 356 (either may be taken concurrently).

## **CHM 356 - Physical Chemistry I (3 credits)**

Introduction to the mathematical-physical interpretation of chemical theory. Topics include quantum mechanics, atomic and molecular structure, spectroscopy, and chemical kinetics. (3-1-0) Offered fall semester. Prerequisites: CHM 116, MTH 202, and PHY 230.

## **CHM 358 - Physical Chemistry II (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Study of the mathematical-physical interpretation of chemical theory. Topics include kinetic-molecular theory of gases, thermodynamics, and statistical mechanics. (3-0-0) Offered winter semester. Prerequisites: CHM 356 and PHY 231 (may be taken concurrently).

### **CHM 380 - Special Topics in Chemistry (1 to 3 credits)**

Special topics for the third year in college chemistry. Offered upon sufficient demand. Prerequisite: Permission of chemistry department.

### **CHM 391 - Chemistry Seminar I (1 credit)**

Preparation and presentation of a short seminar based on a paper from the primary chemical literature, and observations of both student and external speakers. Class presentation and discussion of literature search techniques, professional development for chemists, laboratory safety practices, career opportunities, and job search skills. Offered fall and winter semesters. Prerequisites: 18 credits of chemistry (junior standing), chemistry major or minor, or biochemistry major.

### **CHM 399 - Readings in Chemistry (1 to 2 credits)**

Independent supervised reading in selected topics or supervised independent laboratory work in chemistry. The topics, hours, and amount of credit must be arranged with a faculty member and approved by the department chairman before registration. May be taken for a maximum of four credits. Offered on demand.

### **CHM 421 - Green Chemistry for Sustainable Environment (3 credits)**

Practical aspects of environmental and health issues are discussed following the principles of green chemistry. Environmental chemistry methods, application of green chemistry, benign design, and lifecycle analysis, through experimental design secure fundamental understanding of methodologies used in environmental laboratories and applications of green chemistry. Three hours of lecture per week. Offered fall semester. Prerequisite: One of CHM 231, CHM 242, or CHM 247.

### **CHM 427 - Green and Environmental Chemistry Laboratory (3 credits)**

Students are exposed to the methods used in environmental chemistry analysis and the application of green chemistry principles, benign design, life cycle analysis through experimental design, practical aspects of environmental, and human health issues. A solid understanding of methodology used in environmental laboratories and application of green chemistry is attained.

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Offered fall semester. Prerequisites: CHM 221 and either (CHM 241) or both (CHM 245 and CHM 246).

### **CHM 441 - Advanced Topics in Organic Chemistry (3 credits)**

Advanced topics in organic chemistry selected from current examples in the scientific literature including reactions, mechanisms, and synthetic methods. Three hours of lecture per week. Prerequisite: CHM 242 or CHM 247.

### **CHM 442 - Synthetic Polymers: Life Cycle and Emerging Sustainable Technologies (3 credits)**

Synthetic and analytical approaches to polymer and materials development using the principles of green chemistry. Coverage of how chemists incorporate principles of green chemistry and sustainable technologies into their workflow to assess the life cycles of polymers and materials. Three hours of lecture per week. Offered winter semester of even-numbered years. Prerequisite: CHM 242 or CHM 247.

### **CHM 447 - Organic Synthesis and Characterization (3 credits)**

Advanced techniques in organic chemistry, including the synthesis and characterization of organic compounds. One hour of lecture and five hours of lab per week. Offered fall semester. Prerequisites: CHM 242 or (CHM 247 and CHM 248).

### **CHM 457 - Advanced Physical and Instrumental Chemistry Laboratory (3 credits)**

Advanced laboratory experiments in physical and analytical chemistry. Topics include chemical and physical equilibrium, chemical kinetics, spectroscopy and molecular structure, experimental design, and instrumental analysis. One hour of lecture and four hours of lab per week. Offered winter semester. Prerequisites: CHM 221 and CHM 352 (CHM 352 may be taken concurrently).

### **CHM 461 - Biochemistry I (4 credits)**

An introduction to biochemistry for science majors. Topics include the structure and function of biological molecules, bioenergetics, biochemical reaction mechanisms, and intermediary metabolism. Offered fall and winter semesters. Prerequisite: CHM 242 or CHM 247 or CHM 248.

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## **CHM 462 - Techniques in Biochemistry (3 credits)**

Laboratory experiments and lectures covering techniques used in modern biochemical research. (1-0-6) Offered fall and winter semesters. Prerequisites: CHM 461; biochemistry, chemistry, or cell and molecular biology major, or permission of instructor.

## **CHM 463 - Biochemistry II (3 credits)**

A continuation of CHM 461. An in-depth coverage of advanced and recent topics in biochemistry, which may include amino acid, lipid, nucleotide metabolism, nucleic acid structure and function, and the control of biochemical processes at the protein and gene level. Offered winter semester. Prerequisite: CHM 461.

## **CHM 471 - Advanced Inorganic Chemistry (3 credits)**

A graduate-prep lecture course covering topics in inorganic chemistry, including chemical applications of group theory (molecular orbital analysis and symmetry selection rules), advanced topics in transition-metal chemistry, and a survey of organometallic synthesis and mechanisms. Offered fall semester. Prerequisites: (CHM 242 or CHM 248); CHM 273; and (CHM 351 or CHM 356). (CHM 351 or CHM 356, either may be taken concurrently).

## **CHM 475 - Electrochemistry (3 credits)**

This course introduces the basic concepts of electrochemistry. Course content builds upon chemical reactivity to include electron transfer and electromotive force. Topics focus on electroanalytical methods, energy storage electrochemistry, and chemical/electrical energy conversion. Applications to advanced energy systems will also be discussed. Offered winter semester of odd-numbered years. Prerequisites: CHM 115 and one of (PHY 221, PHY 231, or PHY 234); or permission of instructor.

## **CHM 477 - Synthetic Inorganic Chemistry (3 credits)**

A laboratory and lecture course extending student experience from organic chemistry to air-free handling techniques in chemical synthesis, structural analysis, and methods unique to the synthesis and characterization of inorganic and organometallic compounds. (1-0-5) Offered winter semester. Prerequisites: (CHM 273 or CHM 471) and (CHM 242 or CHM 248).

## **CHM 480 - Special Topics in Chemistry (1 to 3 credits)**

Special topics for the fourth year in college chemistry. Offered upon sufficient demand. Prerequisite: Permission of Chemistry Department.

## **CHM 490 - Chemistry Laboratory Internship (1 to 4 credits)**

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Practical on-the-job training and independent study in specialized areas of chemistry. Offered on demand. Prerequisites: Chemistry major with a minimum of 20 hours in chemistry and permission of instructor. Can be taken for a maximum of four credits.

### **CHM 491 - Chemistry Seminar II (1 credit)**

Invited speaker and student presentation of topics from current chemical literature. Student presentations will be based on undergraduate research or a series of articles from the primary literature. Capstone for all chemistry and biochemistry majors. Offered fall and winter semesters. Prerequisites: CHM 391, senior standing, and chemistry or biochemistry major.

### **CHM 499 - Investigation Problems (1 to 5 credits)**

Supervised research in chemistry for junior and senior chemistry majors. Offered every semester. Prerequisite: Permission of instructor. Can be taken for a maximum of seven credits.

### **CHM 580 - Special Topics in Chemistry (1 to 3 credits)**

Special topics appropriate for graduate study in college chemistry. Offered upon sufficient demand.

### **CHM 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

### **CHS 380 - Special Topics in Chinese Studies (1 to 9 credits)**

A study of special topics not regularly covered in the curriculum. Expectations of this course approximate those in other 300-level courses. May be repeated for credit when the content varies.

### **CIS 101 - Thriving in our Digital World (3 credits)**

Computing technology has a profound influence in our society. Students work together to use technology for creative expression, write computer programs to solve problems, use digital tools to make meaning from vast amounts of information and to understand how the Internet supports modern communication. Fulfills Foundations - Mathematical Sciences. Offered fall and winter semesters. Prerequisite: MTH 110.

### **CIS 150 - Introduction to Computing (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Basic principles of computing, including study of the major components of a computer system. Introduction to software packages such as word processors, spreadsheets, databases, and languages. (3-0-0) Offered every semester.

## **CIS 159 - Java Programming for Engineers (1 credit)**

Introduction to object-oriented programming using Java for students with previous programming experience in a procedural language such as C. Topics include classes, objects, arrays, strings, selection and loop statements, I/O, graphical user interfaces (GUI), testing, unit testing tools, and debugging. Offered fall and winter semesters. Prerequisite: EGR 107 or EGR 185.

## **CIS 160 - Learn to Code in Python (3 credits)**

The ability to apply computation to address challenging problems is a critical skill in any discipline. Students will develop programming and computational skills emphasizing problem solving, logical inference, and algorithmic thinking to solve specific problems in the areas of the arts, humanities, health care, and business. Fulfills Foundations - Mathematical Sciences. (3-0-0) Offered every semester. Prerequisite: MTH 110.

## **CIS 161 - Computational Science (3 credits)**

Computational science is the field of study concerned with using computers to analyze, model, simulate, and solve problems in various mathematical and scientific disciplines. Offered winter semester. Prerequisite: MTH 201.

## **CIS 162 - Computer Science I (4 credits)**

Introduction to programming and computer science through lab and lecture. Simple and structured data types and program control structures. Problem analysis, algorithm design, and computer implementation using a high-level language. Offered every semester. Prerequisite: MTH 110.

## **CIS 163 - Computer Science II (4 credits)**

Intermediate object-oriented programming: inheritance, abstract classes, interfaces, and exception handling. Introduction to algorithms and data structures: basic analysis of performance using big O, recursion, searching, sorting, linked lists, stacks, queues, and basics of trees and tree traversal algorithms. (3-0-2) Offered every semester. Prerequisites: Either (MTH 122 or MTH 124 or MTH 201); and a C or better in either (CIS 159 or CIS 162).

## **CIS 180 - Special Topics in Computer Information Systems (1 to 4 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Readings, lectures, discussions, or labs (or any combination) in specific computer science topics at an introductory or elementary level. Offered on demand. Prerequisite: Permission of the instructor.

## **CIS 221 - Excel Concepts and Applications I (1.5 credits)**

Introduces students to fundamental concepts of spreadsheets using Microsoft Excel. It explores the structure of the Excel workbook; creating formulas and using functions; generating charts; and conducting data analysis. Practical business applications and business problem-solving techniques will be an integral part of this course. Offered every semester. Prerequisites: MTH 110, sophomore standing, declared business major or minor or CIS majors, or by permit.

## **CIS 230 - Hardware and Software (3 credits)**

Principles of computer hardware and software will be presented with the theoretical underpinnings, installation, and configuration. This course provides the hardware/software technology background to enable systems development personnel to understand tradeoffs in computer architecture for effective use in a business environment including system architecture for networked systems and operating systems. (3-0-0) Offered every semester. Prerequisite: CIS 150.

## **CIS 231 - Problem Solving Using Spreadsheets (3 credits)**

An introduction to Excel spreadsheets and its use as a tool in problem solving and applications. (3-0-0) Offered fall and winter semesters. Prerequisite: MTH 110 or MTH 115 or MTH 122 or MTH 201.

## **CIS 233 - Concepts of Database Systems (3 credits)**

Introduces key concepts of relational database management systems (DBMS) and database design. Provides hands-on experience in data modeling, database implementation, and the design of graphical user interfaces (GUI) suitable for querying and managing the database. Offered fall and winter semesters. Prerequisite: CIS 150 or CIS 160 or CIS 162.

## **CIS 237 - Introduction to Network Management (3 credits)**

An introduction to practical problems in network management such as reliability, performance, security, wire-line systems, wireless systems, data communications, local and wide-area networking protocols, SNMP protocol, and SNMP-based management. Offered winter semester. Prerequisite: CIS 150.

## **CIS 238 - Internet Media and Programming (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Study of the technology of Internet media, including graphics, video, audio, XML, and other emerging Internet technologies. Examines advanced features of the hardware and software requirements of those media. Also covers the implementation of those technologies through Web interface development. (3-0-0) Offered fall and winter semesters. Prerequisite: CIS 160 or CIS 162.

## **CIS 241 - System-level Programming and Utilities (3 credits)**

Introduction software infrastructure underlying development of computer programs. Topics include Linux utilities, shell scripting, processes, facilities for programming, the C programming language, libraries, structures, pointers, dynamic memory management, and system calls. Offered winter semester. Prerequisite: CIS 163 or CIS 260.

## **CIS 250 - Principles of Information Systems (3 credits)**

An introduction to, and exploration of, core Information Systems principles that prepare students to function more efficiently and effectively as professional workers, managers, decision makers, and organizational leaders. Students explore the challenging and changing role of the IS professional while examining the value Information Systems provide an organization. Offered every semester.

## **CIS 253 - COBOL (4 credits)**

Introduction to the COBOL language; file management techniques; mid-range computer processing; and program design, testing and implementation methodology with emphasis on structured programming. Topics include validation; reporting; file updating; tables; character manipulation; SORT and COPY statements; and the Report Writer feature. (4-0-0) Offered fall and winter semesters. Prerequisite: CIS 162.

## **CIS 258 - Introduction to Cybersecurity (3 credits)**

This course provides an introduction to all aspects of cybersecurity principles and technologies. Fundamental topics include cyber threats and vulnerabilities, information security frameworks, network security, cryptography, system defense, information security policy, legal issues, political issues and security management. The course includes hands-on learning through experiments, case studies, and projects. Offered fall and winter semesters. Prerequisite: CIS 162.

## **CIS 260 - Application Development in Visual Basic (4 credits)**

Builds on a student's knowledge of programming to explore applications designed for PCs and networks. Emphasis is placed on GUI development and accessing data in a legacy environment. Numerous programming assignments give experience using Visual Basic in a programming

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environment, designing interactive forms, and using objects and controls to write applications. (3-0-2) Offered fall and winter semesters. Prerequisite: CIS 162.

## **CIS 263 - Data Structures and Algorithms (3 credits)**

Advanced data structures, including lists, trees, sets, and graphs. Analysis of algorithms. Emphasis on abstract data types, their representations, and role as models in the development of computer algorithms. (3-0-0) Offered fall and winter semesters. Prerequisites: CIS 241 and admitted to major (CS, IS, CE, CBS or IT).

## **CIS 280 - Special Topics in Computer Information Systems (1 to 3 credits)**

Readings, lectures, discussions, or labs (or any combination) in specific computer science topics. Permission of instructor required. Offered on demand.

## **CIS 290 - Professional Responsibilities and Practices (3 credits)**

History of the computing profession. Local and global impacts of computing technology on individuals, organizations and society. Professional ethics and responsibilities. Personal privacy, security and legal issues. Preparation for an internship in the computing field. Offered fall and winter semesters. Prerequisite: Admission to CIS major.

## **CIS 309 - Teaching Computer Science (3 credits)**

Emphasis on the use of the computer as an educational tool, including hardware and software selection, CAI, CMI, review of LOGO and BASIC. Discussion of social and personal issues, including legal, ethical, and economic concerns. (3-0-0) Offered winter semester of even-numbered years. Prerequisites: CIS 163 and ED 205.

## **CIS 310 - Introduction to the Structure and Mechanics of Social Networks (3 credits)**

A study of networks as implemented in typical online social network sites. This course examines a) the basics of representing and analyzing networks, b) the tools for implementing and managing an online social network, and c) the techniques for discovering and exploiting valuable information that resides in networks. Part of the Information, Innovation, or Technology Issue. Offered fall semester. Prerequisites: MTH 110 and junior standing.

## **CIS 320 - Visualization of Data and Information (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

An introduction into the broad field of visualization and provides practical skills in developing engaging visuals (e.g., infographics, mapping, 3-D objects, animations, trees, graphs, illustrations, and document spaces). Design and create visual representations of quantitative and qualitative content using the breadth of visualization software that do not require technical backgrounds. Part of the Information, Innovation, or Technology Issue. Offered winter semester. Prerequisite: Junior standing.

## **CIS 321 - Excel Concepts and Applications II (1.5 credits)**

This course offers the opportunity to master the advanced functionality of Microsoft Excel, and to apply those skills to different business applications such as financial modeling, reporting, and the automation of accounting and financial tasks. Offered every semester. Prerequisite: CIS 221.

## **CIS 330 - Systems Analysis and Design (3 credits)**

Examines the system development and modification process. Emphasizes factors for effective communication with users and interpersonal skill development. Structured and object-oriented analysis and design, use of modeling (CASE) tools, methodological life cycle, and project management standards. (3-0-0) Offered fall and winter semesters. Prerequisites: CIS 162 and (either CIS 250 or MGT 268).

## **CIS 331 - Data Analysis Tools and Techniques (3 credits)**

This course will introduce the student to key technologies used for collecting, cleaning, manipulating, storing, analyzing, visualizing, and extracting useful information from large and diverse data sets. Upon completion of this course, students will be better prepared to assist organizations in facing the challenges of large-scale data analytics. Part of the Information, Innovation, or Technology Issue. (3-0-0) Offered fall semester. Prerequisites: STA 215 and junior standing.

## **CIS 333 - Database Management and Implementation (3 credits)**

Covers information systems design and implementation within a database management system environment. Students will design and construct a physical system using database management system software to implement the logical design. Examination of the system development and modification process. Emphasis on factors for effective communication with users and interpersonal skill development. (3-0-0) Offered every semester. Prerequisites: (CIS 162 or CIS 160) and (CIS 250 or MGT 268). Restrictions: Must be enrolled in Padnos College of Engineering and Computing or in the management major.

## **CIS 335 - Data Mining (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Data mining is the application of computational techniques to the discovery of useful information in large data sets. This course will provide a hands-on study of computational methods for such knowledge discovery. Topics include clustering, classification techniques, and selected data mining software. Offered winter semester. Prerequisites: (CIS 160 or CIS 161 or CIS 162) and STA 215.

### **CIS 337 - Network Systems Management (3 credits)**

Provides information systems students with the knowledge and skills necessary to manage the sophisticated Local Area Networks available today. It approaches the subjects of network design, installation, and management from the corporate view of networking. (2-0-2) Offered fall and winter semesters. Prerequisite: CIS 162.

### **CIS 338 - Wide Area Network Engineering (3 credits)**

Course covers the technologies, equipment and protocols of the Internet. Lectures cover the design principles of WAN transport and routing protocols, Internet addresses, subnetting, and the Internet Protocol/Transmission Control Protocol. A set of laboratory experiments will provide hands-on experience with engineering a wide-area network and extensive work with routing equipment. (2-0-2) Offered fall semester. Prerequisites: (CIS 237, CIS 337, or CIS 457) and admission to CIS major.

### **CIS 339 - Project Planning (3 credits)**

A structured approach to project planning. Topics covered emphasize the knowledge areas of the Project Management Body of Knowledge (PMBOK) that drive project initiation and definition leading to the development of a project schedule and budget. Students will prepare typical project management work products associated with initiating and planning projects. Offered winter semester.

### **CIS 340 - Health Care Information Systems (3 credits)**

Introduces principles of information systems in health care with focus on hospitals and ambulatory care. Individuals with various backgrounds can become familiar with computer applications in medicine and the fundamentals of electronic health records, medical decision-making, and other aspects of health informatics. A major project integrates different aspects of informatics. (3-0-2) Offered fall semester. Prerequisites: CIS 233, CIS 333, CIS 353, or CIS 360.

### **CIS 343 - Structure of Programming Languages (3 credits)**

Language definition structure. Data types and structures. Control structures and data flow. Lexical analysis and parsing. Interpretive languages. Run time considerations. Survey of programming languages. (3-0-0) Offered winter semester. Prerequisite: CIS 241 and admitted to CIS major (CS, IS, CE, CBS, IT).

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## **CIS 349 - Agile Project Management (3 credits)**

This course goes beyond the planning of a project and explores what other factors, when well-managed, lead to project success. Topics include current trends in project management. A major emphasis will be placed on understanding agile project management principles and their relationship to the Project Management Body of Knowledge (PMBOK). Offered winter semester.

## **CIS 350 - Introduction to Software Engineering (3 credits)**

Systems development life cycle from project request through project implementation and evaluation. Systems analysis and design concepts, tools, and techniques are emphasized. Traditional and structured approaches. Project management. (3-0-0) Offered fall and winter semesters. Prerequisite: CIS 163.

## **CIS 351 - Computer Organization and Assembly Language (4 credits)**

Introduction to the logical structure of computers, including combinational and sequential logic, arithmetic, data paths, CPU control, caches, and basic pipelining. Introduction to assembly language including data movement, arithmetic, comparing and branching, bit manipulation, procedure calling, memory access, and implementation of high-level language constructs. (3-0-2) Offered fall and winter semesters. Prerequisites: MTH 225, CIS 241, and (admitted to major: CS, IS, IT, CBS, CE).

## **CIS 353 - Database (3 credits)**

The study and application of established sound principles in the modeling, design, implementation, and manipulation of databases using industrial-strength Database Management Systems (DBMS). Key features and services offered by a typical DBMS are also introduced. Offered fall and winter semesters. Prerequisite: CIS 163.

## **CIS 357 - Mobile Application Development (3 credits)**

Fundamental concepts and technologies underlying mobile application development. All aspects of developing and deploying conventional mobile applications are covered, including mobile user interfaces, location-based services, integration with social media and other cloud-based services. Also covered will be effective use of mobile analytics and privacy concerns. Offered fall semester. Prerequisite: CIS 163 or CIS 260.

## **CIS 358 - Information Assurance (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Introduction to security, privacy, and information assurance. Coverage will include not only security threats, attacks, and defenses, but also issues important to information assurance such as risk management, security planning, and ethical issues. Perspectives of computing professionals as well as computing users from other professions will be discussed. Part of the Information, Innovation, or Technology Issue. Offered winter semester. Prerequisite: Junior standing.

## **CIS 360 - Information Management and Science (3 credits)**

Introduction to information representation, modeling, storage, retrieval, processing, analysis, visualization, and science. Topics may include digital libraries, repositories, collections, metadata, databases, ontologies, vocabularies, dictionaries, and multimedia, as applied to complex and compound content at a large scale. Approaches will be discussed for business, medical, humanities, and scientific contexts. Offered fall semester. Prerequisites: (CIS 160 or CIS 161 or CIS 162) and (STA 215 or STA 312).

## **CIS 365 - Artificial Intelligence (3 credits)**

Introduction to the concepts of artificial intelligence using the LISP programming language. Knowledge representation and problem solving applied to expert systems, natural language understanding, machine learning, and vision. (3-0-0) Offered winter of even-numbered years. Prerequisite: Admission to CIS major.

## **CIS 367 - Computer Graphics (3 credits)**

Principles of computer graphics. I/O devices. Basic graphic primitives and attributes. Transformations: translation, scaling, and rotation. World and screen coordinates, windows and viewports, clipping. Circle drawing. Graphics and text modes. Raster graphics. Filling algorithms. 3-D graphics. Hidden line/surface elimination. (3-0-0) Offered winter semester of odd-numbered years. Prerequisites: CIS 263 and admission to CIS major.

## **CIS 368 - Usability Design and Evaluation (3 credits)**

The usability engineering design cycle. Discount usability evaluation techniques. Graphical user interface development. Technical communication skills. (3-0-0) Offered fall semester. Prerequisite: Admission to CIS major.

## **CIS 371 - Web Application Programming (3 credits)**

The tools and techniques for developing dynamic Web applications. Topics include scripting languages, markup languages, database connectivity, Web standards, and security issues. Offered winter semester. Prerequisites: (CIS 260 or CIS 163) and (CIS 333 or CIS 353).

## **CIS 373 - Pervasive Computing (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

This course introduces students to mobile, ubiquitous, pervasive, and Internet-of-Things (IoT) computing systems and services. Students will develop design skills for pervasive software development using different device platforms. It also provides an overview of future trends and ongoing research in these fast-growing areas. Offered fall and winter semesters. Prerequisites: CIS 162 and CIS 230.

## **CIS 375 - Wireless Networks and Security (3 credits)**

A multidisciplinary, hands-on oriented wireless networks and security course that integrates topics at all layers of wireless networks and mobile systems, starting from wireless physical layer through application layer. The course presents security techniques employed in common wireless systems and emphasizes hands-on learning through experiments, case studies, and design projects. Prerequisite: CIS 337 or CIS 457.

## **CIS 376 - Game Programming Techniques and Algorithms (3 credits)**

Techniques and algorithms often used in the construction of games and simulations. Core game loop and engine design considerations, 2-D and 3-D graphical concepts, game physics, collision detection, path-finding, and simple game artificial intelligence discussed. Offered fall and winter semesters. Prerequisite: CIS 263.

## **CIS 380 - Special Topics in Computer Information Systems (1 to 4 credits)**

Readings, lectures, discussions, or labs (or any combination) in specific computer science topics. Offered on demand. Prerequisite: CIS major standing or permission of the instructor.

## **CIS 399 - Independent Readings (1 to 4 credits)**

Hours, credit, topics, and time to be arranged with individual staff members with approval of the department. Offered fall and winter semesters.

## **CIS 418 - Secure Software Engineering (3 credits)**

This course explores characteristics that make software secure and less vulnerable to attacks. Basic techniques for securing applications such as input validation, output encoding, memory management, race conditions, vulnerability analysis and testing, authentication, access control, and secure database management will be covered in detail. Cross-listed with CIS 518. Prerequisite: CIS 350.

## **CIS 430 - Computer and Cyber Forensics (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Introduction to the fundamental concepts of digital forensics and cybercrime. The course covers the recovery and analysis of digital evidence, addressing both legal and technical issues. Hands on lab activities use primarily open source and commercial forensics toolkits and a variety of hardware to reinforce the concepts discussed in lecture. Offered fall and winter semesters. Prerequisite: CIS 237 or CIS 337 or CIS 457.

## **CIS 437 - Distributed Computing (4 credits)**

Foundations of distributed computing: modern operating systems and computer networks. Comparative discussions of commercially important OSs. Network programming paradigms, network applications, and client/server development. Laboratory exercises in network and client/server programming. (3-0-2) Offered fall and winter semesters. Prerequisites: (CIS 333 or CIS 353), and CIS 337, and admission to CIS major.

## **CIS 443 - Software Development Tools (3 credits)**

Advanced online programming, incorporating contemporary multiplatform computing technologies, application development environments, multi-and/or cross-platform database applications, and application data integration. The course may utilize one or more representative application development environments. Offered winter semester. Prerequisites: (CIS 330 or CIS 350), and (CIS 333 or CIS 353), and admission to CIS major.

## **CIS 450 - IS Project Management (3 credits)**

This course covers factors necessary for successful management of information systems development or enhancement projects. Both technical and behavioral aspects of project management are applied within the context of an information systems development project. (3-0-0) Offered fall semester. Prerequisites: CIS 330, CIS 333, and admission to CIS major.

## **CIS 451 - Computer Architecture (3 credits)**

This course will survey advanced computer architecture techniques such as branch prediction, super-scalar, multiprocessors and multicomputers. It will also compare CPU design options (such as CISC vs. RISC) and discuss the effects of these options on performance. Prerequisites: (CIS 351 or EGR 326) and admission to CIS major or EGR major standing.

## **CIS 452 - Operating Systems Concepts (4 credits)**

Fundamental operating systems concepts: processes and threads, CPU scheduling, coordination and synchronization, deadlock, memory management, input/output devices, file systems, distributed systems, protection and security. Case studies and lab exercises using modern operating systems. Offered fall and winter semesters. Prerequisites: CIS 241; and CIS 351 or (EGR 326 and EGR major standing).

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## **CIS 455 - Applied Cryptography (3 credits)**

Applied modern cryptographic and cryptanalysis techniques. Emphasis on the use of cryptographic mechanisms to secure large systems, and ways in which cryptographic mechanisms can fall vulnerable to cryptanalysis in deployed systems. Topics include symmetric ciphers, asymmetric ciphers, digital signatures, message authentication, cryptographic protocols, cryptanalysis techniques, and public-key infrastructure. Cross-listed with CIS 555. Offered fall semester. Prerequisites: Admission to CIS major; CIS 241; and either CIS 337 or CIS 457.

## **CIS 456 - Reverse Engineering and Malware Analysis (3 credits)**

Software reverse engineering including analysis techniques and disassembly algorithms. Component life cycle and the impact of the security of system components on the security of the whole system. Malware analysis techniques including the application of software reverse engineering to malware analysis, and common methods used to protect malware against reverse engineering. Offered winter semester. Prerequisites: CIS 351 and CIS 258.

## **CIS 457 - Data Communications (4 credits)**

An introduction to data communications techniques, particularly as applied to computer networks. Physical media and devices, data link and network protocols, and other data communications topics will be studied. (3-0-2) Offered fall and winter semesters. Prerequisites: CIS 241 and (CIS major, CIS minor, or EGR major standing).

## **CIS 458 - System Security (3 credits)**

Security of computer systems, including operating system, database, and network security. Coverage includes common attacks and defensive techniques as well as system monitoring and methods to test system security. Theory and applications of various techniques will be explored. (2-0-2) Offered fall semester. Prerequisites: (CIS 337 or CIS 457); and admission to CIS major.

## **CIS 460 - Management of Information Systems (3 credits)**

This course integrates the information needs of the organization with the technology of information systems. Administration and policy are applied to specific areas of information systems management. (3-0-0) Offered fall and winter semesters. Prerequisites: CIS 330, MGT 331, and admission to CIS major.

## **CIS 461 - Compiler Design and Construction (3 credits)**

Basics of compiler construction. Topics include lexical analysis, grammars for programming languages, parsing algorithms, symbol table construction and management, code generation and

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optimization. A term project consists of writing a compiler for a specified language. (3-0-0)  
Offered fall semester of even-numbered years. Prerequisites: CIS 351, CIS 263, and admission to CIS major.

## **CIS 462 - Information Technology Project (3 credits)**

As a Capstone course of the information technology major, the student or a group of students will work collaboratively on a project using the school's laboratory facilities to demonstrate the skills and techniques learned in the program of study such as problem solving, critical thinking, research techniques, and technical writing. Offered fall and winter semesters. Prerequisites: CIS 437, CIS 458, and CIS major standing.

## **CIS 463 - Information Systems Project (3 credits)**

Formal evaluation of a software/hardware package or of a proposed or existing system, or the analysis, design, and implementation of an application system. Formal reports and presentations required. (3-0-0) Offered fall and winter semesters. Prerequisites: CIS 450 and admission to CIS major.

## **CIS 465 - Automata and Theory of Computation (3 credits)**

Introduction to basic mathematical models of computation and the finite representation of infinite objects. Finite automata, regular languages, nondeterminism, pushdown automata, context-free languages, Turing machines and variants, halting problem, time complexity of algorithms, and NP-complete problems. (3-0-0) Cross-listed with MTH 465. Offered fall semester of odd-numbered years. Prerequisites: MTH 325, CIS 162, and admission to CIS major.

## **CIS 467 - Computer Science Project (3 credits)**

Individual or group projects using the department's laboratory facilities. (3-0-0) Offered fall and winter semesters. Prerequisites: CIS 350, (either CIS 452 or CIS 457), and admission to CIS major.

## **CIS 468 - Cybersecurity Project (3 credits)**

As a Capstone course of the cybersecurity major, the student or a group of students will work collaboratively on a project using the school's laboratory facilities to demonstrate the skills and techniques learned in the program of study such as problem solving, critical thinking, research techniques, and technical writing. Offered fall and winter semesters. Prerequisites: CIS 418, CIS 430, CIS 458, and CIS major standing.

## **CIS 480 - Special Topics in Computer Information Systems (1 to 4 credits)**

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Readings, lectures, discussions, or labs (or any combination) in specific computer science topics. Offered on demand. Prerequisites dependent upon topic selected. Permission of the instructor required.

## **CIS 490 - Internship (2 to 5 credits)**

Internship in a computing situation with individual faculty supervision to allow students to apply academic knowledge to actual and professional experience. A minimum of 16 hours of actual fieldwork per week under the supervision of a work supervisor is required. Offered every semester. Prerequisites: CIS 290, junior standing, and permission of instructor.

## **CIS 499 - Independent Study and Research (1 to 4 credits)**

Hours, credit, topics, and time to be arranged with individual staff members with approval of the department. Offered every semester.

## **CIS 500 - Fundamentals of Software Practice (3 credits)**

Focuses on advanced programming concepts, common data structures and collections, concurrency, software modeling, searching and sorting algorithms. Elements of discrete mathematics are integrated through lectures and programming projects. Offered fall semester. Prerequisite: Admission to the CIS program.

## **CIS 501 - Fundamentals of Modern Computer Systems (3 credits)**

Survey of the fundamental systems of computing: computer architectures, operating systems, networks, and databases. Offered winter semester. Prerequisite: Admission to the CIS program.

## **CIS 511 - Networking Fundamentals (1 credit)**

Survey of fundamental concepts of computer networking. Topics include protocols, protocol stacks, addressing, and routing. Focus is on TCP/IP (Transmission Control Protocol/Internet Protocol). Offered every semester. Prerequisite: Admission to the applied computer science program.

## **CIS 512 - Database Fundamentals (1 credit)**

Survey of fundamental concepts of relational databases. Topics include relationships, tables, primary and foreign keys, and query languages. Focus is on SQL (Structured Query Language). Offered every semester. Prerequisite: Admission to the applied computer science program.

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## **CIS 518 - Secure Software Engineering (3 credits)**

This course explores characteristics that make software secure and less vulnerable to attacks. Basic techniques for securing applications such as input validation, output encoding, memory management, race conditions, vulnerability analysis and testing, authentication, access control, and secure database management will be covered in detail. Cross-listed with CIS 418.

Prerequisite: CIS 500.

## **CIS 555 - Applied Cryptography (3 credits)**

Applied modern cryptographic and cryptanalysis techniques. Emphasis on the use of cryptographic mechanisms to secure large systems, as well as ways in which cryptographic mechanisms can fall vulnerable to cryptanalysis in deployed systems. Topics include symmetric ciphers, asymmetric ciphers, digital signatures, message authentication, cryptographic protocols, cryptanalysis techniques, and public-key infrastructure. Cross-listed with CIS 455. Offered fall semester. Prerequisites: Admission to one of the M.S. programs in CIS (CIS, cybersecurity, data science and analytics, and health informatics and bioinformatics), CIS 500, and CIS 501.

## **CIS 611 - Introduction to Software Engineering (3 credits)**

Examination of traditional and alternative software development life cycles and their associated systems analysis techniques. Models for data, process, and control are related both to information required by various life cycle models and to the development of traditional and object-oriented software. (3-0-0) Offered winter semester. Prerequisite: Admission to CIS program or permission of instructor.

## **CIS 612 - Requirements Specification (3 credits)**

Both the process and the product aspects of requirements specification are examined; the concepts are applicable to systems and to software. The advantages and limitations of several requirements specification techniques are presented. (3-0-0) Offered fall semester.

## **CIS 613 - Software Testing (3 credits)**

Discussion of the major techniques of software testing: software technical reviews, software testing techniques, proofs of correctness, and simulation/prototyping. Concludes with guidelines on organizational implications of software verification and validation activities. (3-0-0) Offered winter semester.

## **CIS 615 - Information Security Principles (3 credits)**

This course presents the principles of information security, and how to integrate these principles into the systems life cycle. Coverage includes a broad overview of information security concepts,

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requirements, threats, vulnerabilities, and countermeasures, with an emphasis on designing for security, risk management, and security policies. Offered fall semester. Prerequisite: Admission to M.S.-CIS program.

## **CIS 616 - Data Security and Privacy (3 credits)**

This course covers advanced concepts and techniques to secure data and preserve privacy in a distributed multiuser environment. Topics include applied cryptography, network security, operating system security, and privacy preserving techniques. Offered fall and winter semesters. Prerequisite: CIS 501.

## **CIS 617 - Digital Forensics and Investigations (3 credits)**

An introduction to the application of digital forensics principles and practices to collect, examine, analyze and preserve digital evidence in support of cyber forensics investigations in various computing systems. This course is a blended mix of lecture and hands-on exercises to reinforce the concepts discussed in the lecture. Offered every semester. Prerequisite: CIS 501.

## **CIS 619 - Data Analytics for Cybersecurity (3 credits)**

This course addresses the needs for data mining and machine learning techniques for detecting and preventing cyber threats. The course surveys cybersecurity problems, machine learning and data mining solutions. It will cover the theory and practice of using data mining algorithms in the context of cybersecurity to detect intelligent adversaries. Offered every semester. Prerequisite: CIS 616.

## **CIS 622 - Software Design Methodologies (3 credits)**

Focuses on concepts, notations, and guiding principles for object-oriented design. Other design methods (such as structured design and data-oriented design) are discussed and compared to object-oriented design. (3-0-0) Offered winter semester. Prerequisite: CIS 500.

## **CIS 623 - Graphical User Interface Design (3 credits)**

Topics include basic concepts, models, and methods in graphical user interface (GUI) design, as well as underlying software architectures. In addition, students will gain practical experience with a typical GUI building tool. (3-0-0) Offered fall semester. Prerequisite: CIS 500.

## **CIS 635 - Knowledge Discovery and Data Mining (3 credits)**

A survey of computational methods for knowledge discovery in bioinformatics and medicine. Topics covered are dynamic programming (sequence alignment, BLAST search engine), Hidden Markov Models (phylogenetic trees, structure prediction), clustering and discriminations models

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for micro-array analysis (Gene Expression Data), selected data mining software, and working with biological databases. Offered winter semester. Prerequisite: CIS 500.

## **CIS 641 - Systems Analysis and Design (3 credits)**

Models and techniques for the major phases of software development, with emphasis on requirements specification, design, testing, and software maintenance. Description of the roles of project management, quality assurance, and configuration management. (3-0-0) Offered fall semester. Prerequisite: Admission to CIS program or permission of instructor.

## **CIS 642 - IS Project Management (3 credits)**

Planning, organizing, staffing, controlling, and directing information systems projects. Major emphasis on project planning, techniques and tools for monitoring and controlling projects, and teamwork and leadership issues. A term project that involves the development of a project plan for a nontrivial IS project using project management tools is required. Offered winter semester. Prerequisite: CIS 611 or CIS 641.

## **CIS 643 - Information Systems Policy and Strategy (3 credits)**

Operational, strategic, and tactical facets of the planning cycle, with an emphasis on strategic planning, including hardware and software considerations, system migration, capacity and contingency planning, project selection and prioritization, and outsourcing, culminating in the creation of a strategic information systems plan. (3-0-0) Offered fall semester. Prerequisite: CIS 642.

## **CIS 654 - Computer Networking (3 credits)**

Data communications and computer networking concepts, Internet architecture and protocols. Selected examples of client/server applications to introduce the functional requirements of Internet working. Basic cryptography and its applications, introduction to network security (firewalls, IPsec, VPN and SSL). (3-0-0) Offered winter semester. Prerequisites: CIS 500 and CIS 501.

## **CIS 656 - Distributed Systems (3 credits)**

Fundamental principles of distributed systems: systems and software architectures, virtualization, code migration, threading, RPC, message-oriented middleware, multicast, distributed naming systems, DHTs, clock synchronization, logical clocks, consistency and replication, overview of distributed Web technologies, fault tolerance and security considerations. Exposure to current research topics in distributed systems, and hands-on experience building distributed systems. Offered fall semester. Prerequisites: CIS 500 and CIS 501.

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## **CIS 657 - Mobile Application Development (3 credits)**

Fundamental concepts and technologies underlying mobile application development. Important aspects of developing and deploying conventional mobile applications are covered, such as mobile user interfaces, location-based services, integration with social media and other Web-based services. Effective use of mobile analytics and privacy concerns will also be covered. Offered spring/summer semester. Prerequisites: CIS 500 and 501.

## **CIS 658 - Web Architectures (3 credits)**

Current and emerging Web-based technologies, protocols, system architectures, development frameworks, and languages. Offered winter semester. Prerequisites: CIS 500 and CIS 501.

## **CIS 660 - Information Management and Science (3 credits)**

An introduction to information modeling, retrieval, analysis, visualization, and science as applied to large-scale content. Information access and utilization within the context of commonly used management and analysis methodologies. Offered winter semester. Prerequisite: CIS 500 or CIS 661.

## **CIS 661 - Introduction to Health and Bioinformatics (3 credits)**

A survey of fundamental concepts of medical and bioinformatics methods and techniques involved in the integration of computer systems in medical centers and life science industries. Introduction to biomedical information systems; data representation, modeling, management and mining; systems evaluation; project management practices for biomedical decision-making. Legal and ethical considerations. Offered fall and winter semesters.

## **CIS 665 - Clinical Information Systems (3 credits)**

Introduction to Clinical Information Systems (CLIS) important to the health care delivery process. The course covers the entire range from laboratory systems to electronic health records. Other topics covered are CLIS and health informatics, components and examples of CLIS, telemedicine, public health information systems, and modern developments. Offered fall semester. Prerequisite: CIS 500, or CIS 661, or PNH 630.

## **CIS 671 - Information Visualization (3 credits)**

Concepts of information visualization, principles in vision and perception, algorithms for building information spaces, and principles of user interface design. Case studies demonstrate information visualization used to solve specific retrieval and decision problems for biological data. Evolution of visual user interfaces and visualization tools, visual information retrieval, and

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knowledge representation. Offered winter semester. Prerequisite: CIS 500 or CIS 661 or equivalent.

## **CIS 672 - Computer Systems Architecture (3 credits)**

Provides a general understanding of computer architecture and the logical organization of modern digital computers. CPU organization and input/output subsystem organizations are emphasized. The relationship between the computer architecture and the operating system is studied. (3-0-0) Offered on demand. Prerequisite: CIS 500.

## **CIS 673 - Principles of Database Design (3 credits)**

Techniques and tools used in the design of applications that utilize database management systems. Detailed treatment of conceptual modeling, logical and physical design, and query languages. Services provided by database management systems to the level of detail needed by application designers. Introduces students to the scope of the database field. (3-0-0) Offered fall semester. Prerequisites: CIS 500 and CIS 501.

## **CIS 675 - Compiler Construction (3 credits)**

A study of language translation and interpretation. Existing tools such as lexical analyzer generators and parser generators to facilitate compilation are introduced. A substantial programming project is required that consists of writing a small compiler. (3-0-0) Offered on demand. Prerequisite: CIS 500.

## **CIS 676 - Database Management Systems (3 credits)**

This course covers the concepts, algorithms, and techniques used by typical relational database engines. Topics include performance measures, data storage and organization, query optimization, and concurrency. These concepts are also extended to cover parallel, distributed, and post-relational databases. Offered winter semester. Prerequisite: CIS 673.

## **CIS 677 - High-performance Computing (3 credits)**

Introduction to parallel and high-performance computing. Coverage includes modern scalable parallel and distributed architectures, design and analysis of algorithms, communication and synchronization issues, software development environments, and performance evaluation. Case studies include applications in bioinformatics, evolutionary computing, data mining of biological and clinical databases, and knowledge-based systems. Offered fall semester. Prerequisite: CIS 500 or CIS 661 or equivalent.

## **CIS 678 - Machine Learning (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Broad introduction to machine learning computer programs that improve their performance with experience. Topics include decision trees, neural networks, statistical methods, genetic algorithms, Bayesian learning methods, explanation-based goal regression, reinforcement learning, and learning frameworks. Includes an applied machine learning component that provides exposure to established algorithms and machine learning programs. Offered winter semester. Prerequisite: CIS 500 or CIS 661 or equivalent.

## **CIS 679 - Special Topics in Database Management (3 credits)**

This course covers emerging trends in database management systems in order to help students identify topics for research during and beyond the course. Specific contents and level of emphasis of each topic will be determined by the interests and expertise of faculty and students. Offered fall semester. Prerequisite: CIS 676.

## **CIS 680 - Special Topics in Computer Information Systems (3 credits)**

Discussion of current advances in computer information systems theory, methodologies, and support systems. (3-0-0) Offered on demand.

## **CIS 685 - Computing Practicum (1 credit)**

Field-based experience designed to provide professional experience for graduate students (especially full-time international students). Each practicum must be with approval by the graduate program chair, or the director of the School of Computing and Information Systems. Offered every semester.

## **CIS 690 - Thesis Research Preparation (3 credits)**

Faculty-supervised study and research on a suitable topic in computer information systems. Offered every semester. Prerequisite: Consent of thesis advisor.

## **CIS 691 - Medical and Bioinformatics Capstone (3 credits)**

An integrative Capstone that synthesizes topics covered in medical/bioinformatics. Promotes advanced writing and broad perspectives of issues in contemporary information systems. Students will demonstrate ability to integrate concepts to a practical situation by leading discussions and presenting a paper on a current topic. Offered winter semester. Prerequisite: Completion of directed courses in medical and bioinformatics.

## **CIS 692 - Master's Capstone (3 credits)**

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An integrative Capstone course that promotes synthesis of topics in at least two content areas. Seminar for students having completed all courses in two content areas. Students will demonstrate ability to apply concepts to a practical situation by leading a critical discussion and presenting a paper on a current topic. Offered fall and winter semesters. Prerequisite: Completion of technical thread.

### **CIS 693 - Master's Project (3 credits)**

Individual student project involving the development or evaluation of a complex computing application or system. Offered every semester. Prerequisites: Program director approval and the completion of the Responsible Conduct of Research Training within last three years.

### **CIS 695 - Master's Thesis (3 credits)**

Continuation of faculty supervised study and research on topic identified in CIS 690. Offered every semester. Prerequisites: Consent of Thesis Committee and completion of the Responsible Conduct of Research Training within last three years.

### **CIS 696 - Continuation of Master's Project or Thesis Research (1 credit)**

Continuation of work related to the master's project or thesis phase of the graduate student's program. Registration is required after all respective project or thesis credits are completed and the project or thesis is not completed. Work will be performed under the supervision of the project advisor or thesis committee chair. Offered every semester. Prerequisites: Completion of all required project or thesis credits and completion of the Responsible Conduct of Research Training within last three years.

### **CIS 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

### **CIS 699 - Directed Readings in Computer Science (1 to 3 credits)**

Independent supervised reading on selected topics in computer information systems or software engineering. Credits and topics must be prearranged with a faculty member and approved by the department. Offered every semester. Prerequisite: Consent of course advisor.

### **CJ 100 - Careers in Criminal Justice (1 credit)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

An introduction to criminal justice as a career. The major fields of criminal justice and the typical responsibilities of a criminal justice practitioner are introduced through the use of readings, discussions, and presentations. Offered every semester.

## **CJ 101 - Justice and Society (3 credits)**

This introduction to the study of crime and justice includes theories and methodologies from a variety of social science disciplines. The course also provides an introduction to the study of social control and to the origins of crime at individual, structural, and cultural levels. Fulfills one of the Foundations - Social and Behavioral Sciences. Offered fall and winter semesters.

## **CJ 201 - Criminology (3 credits)**

An analysis of crime, criminal behavior, punishment, and the theories of deviancy from historical perspectives. Offered fall and winter semesters. Prerequisite: CJ 101 (may be taken concurrently).

## **CJ 300 - Research Methods in Criminal Justice (3 credits)**

This course involves an examination of basic investigatory methods in criminal justice. Focus is on the logic and theory of criminological research, the formulation and testing of hypotheses, research design, sampling, modes of data production, and the ethics of conducting research in criminology and criminal justice. Offered fall and winter semesters. Prerequisites: STA 215, criminal justice or legal studies major standing, and junior standing.

## **CJ 302 - Criminal Law (3 credits)**

The sources, specific and general elements, and limitations of modern criminal laws, and the role of criminal law in the definition and control of deviant behavior in contemporary society. Offered fall and winter semesters.

## **CJ 305 - Constitutional Rights and Civil Liberties (3 credits)**

Survey of the nature and extent of protection of civil liberties and civil rights of the accused under the U.S. Constitution through examination of landmark Supreme Court decisions. Offered fall and winter semesters.

## **CJ 311 - Criminal Investigation (3 credits)**

Modern police field investigative techniques in collection and preservation of physical evidence and interrogation and preparation of formal statements of witnesses and suspects. Offered fall and winter semesters.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **CJ 312 - Police Process (3 credits)**

Functions of law enforcement and the roles of the police in contemporary society. Study of the police from several perspectives: historical, sociological, psychological, organizational, and political. Issues, research, and trends pertinent to law enforcement organizations. Offered fall and winter semesters. Prerequisite: CJ 201.

## **CJ 315 - Principles of Security (3 credits)**

An in-depth analysis of the historical perspectives, current status components, and opportunities in private security. Special emphasis is placed on technology, internal and external threats, and fire prevention and safety. Offered fall semester.

## **CJ 320 - Crimes Against Women (3 credits)**

An in-depth study of crimes committed almost exclusively against women. Such crimes include sexual harassment, rape, and certain types of murder. The course is taught within the framework of feminist theory and research. Cross-listed with WGS 320. Offered fall semester.

## **CJ 325 - Criminal Justice and Human Rights (3 credits)**

A comparative study of criminal justice in relation to past, current, and emerging human rights claims, violations, protections and enforcement locally, regionally, nationally, and internationally. Part of the Human Rights Issue. Offered winter semester. Prerequisite: Junior standing.

## **CJ 330 - Correctional Process (3 credits)**

An examination and discussion of the American correctional process with emphasis on correctional institutions, inmate social system, institutional, and community programs and procedures, probation, parole, and contemporary issues. Offered fall and winter semesters. Prerequisite: CJ 201.

## **CJ 335 - Digital Crime, Media and Culture (3 credits)**

Examination of digital communication and media in relation to crime and victimization as it intersects with the United States and international criminal justice systems. Investigation of the use of digital spaces and media in relation to cultures of privacy, fraud, trafficking, emancipation, terror and perceptions of expanding and retracting democracy. Part of the Globalization Issue. Cross-listed with DS 335. Offered every semester. Prerequisite: Junior standing.

## **CJ 340 - Courts Process (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

An examination of the federal, state, and juvenile court systems in the United States, emphasizing comparison of civil and criminal court systems; the roles and responsibilities of the legal actors; the dynamics of courthouse justice from pretrial through post-conviction processes; and historical and contemporary challenges to judicial branch authority. Offered fall and winter semesters. Prerequisite: CJ 201.

### **CJ 350 - Juvenile Justice Process (3 credits)**

An analysis of the historical and philosophical foundations of the juvenile justice process and system. Special attention is given to legal and administrative issues, reforms, and controversies. Offered fall and winter semesters. Prerequisite: CJ 201.

### **CJ 355 - Youth Culture and Crime (3 credits)**

The study of the emergence of youth subcultures over the course of the 20th century and its relationship to issues of crime and delinquency. Special attention will be given to the social and cultural context of youth, including the family, neighborhood, media drugs, gangs, guns, race, class, and gender roles. Offered fall and winter semesters.

### **CJ 360 - Inside-Out Prison Exchange Program (3 credits)**

An analysis of contemporary issues in criminal justice and corrections. Class is held inside a prison and allows for interaction between GVSU students and inmates in order for them to study and learn together. Special focus is placed on topics relevant to offending and corrections. Offered fall semester. Prerequisites: Criminal justice major or minor standing, CJ 330, GPA of 2.8 or above, instructor permission.

### **CJ 370 - Environmental Crime and Justice (3 credits)**

This course examines environmental crime, the laws designed to prevent and/or mitigate it, enforcement of those laws, and the relationship between race, class, and exposure to environmental harm around the world. Offered winter semester. Prerequisite: Junior standing.

### **CJ 380 - Special Topics in Criminal Justice and Legal Studies (1 to 3 credits)**

Focuses on topics not ordinarily dealt with in other courses. Topics will be determined by faculty interest and student request. While the course can be repeated, no more than six credits can be applied to a criminal justice or legal studies major. Offered on sufficient demand.

### **CJ 399 - Independent Readings in Criminal Justice (1 to 3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Independent supervised readings on selected topics not dealt with in-depth in another course. Offered every semester. Graded credit/no credit. Prerequisites: Junior or senior standing and permission of instructor.

## **CJ 400 - Qualitative Methods (3 credits)**

This course examines qualitative methods focusing primarily on participant observation, asking questions, writing field notes, and the transformation of these primary field data into written ethnographic documents. Students will also explore unstructured and semistructured interviewing, direct observation, open-ended survey questions, and sampling from preexisting texts. Offered fall and winter semesters. Prerequisites: CJ 300 and junior standing.

## **CJ 405 - Terrorism (3 credits)**

A survey of modern domestic and international terrorism. Examines the structure and dynamics of terrorist groups, types of terrorist violence, and justification of violence. Analyses of geographical regions, religion, ideology, technology, counter measures, media, and mass destruction. Offered fall and winter semesters. Prerequisite: Junior standing.

## **CJ 408 - White-Collar and Corporate Crime (3 credits)**

An overview of the types, causes and implications of white-collar and corporate crime, and examines the political, physical and financial harm caused by wayward corporations, corporate officials and employees. Emphasis is placed on ethical and legal decision-making and regulatory monitoring and control of white-collar and corporate activity. Offered winter semester of even-numbered years. Prerequisite: Junior standing.

## **CJ 415 - Law Enforcement Physical Education, Defensive Tactics and Firearms (3 credits)**

A required course for Michigan Law Enforcement Certification. Ninety hours to ensure that basic state requirements are met in physical education, defensive tactics, and firearms. Offered spring/summer semester. Restricted enrollment.

## **CJ 416 - Special Operations and Training (3 credits)**

The skills and knowledge essential for the law enforcement officer to function effectively and professionally in the community. The course includes a wide range of subjects including police communications, domestic complaints, and human relations. Required for law enforcement certification. Offered spring/summer semester. Restricted enrollment.

## **CJ 417 - Criminal Investigations II (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

An advanced class in techniques and theories of all aspects of the discovery and preservation of evidence to ensure the legal admissibility of such evidence under Michigan law. Required for law enforcement certification. Offered spring/summer semester. Restricted enrollment.

## **CJ 418 - Patrol and Traffic Administration and Procedure (3 credits)**

Designed to analyze the necessity for and the theory of regulatory laws to protect life and property and to promote theories of safety. Required for law enforcement certification. Offered spring/summer semester. Restricted enrollment.

## **CJ 419 - Michigan Criminal Law (3 credits)**

A study of the basic criminal statutes of Michigan. Promotes knowledge of the regulations to control criminal behavior and deviance from the norms of society. Required for law enforcement certification. Offered spring/summer semester. Restricted enrollment.

## **CJ 420 - Juvenile Correctional Counseling (3 credits)**

This class is designed to provide education and practice strategies for establishing rapport, gathering information, conducting assessment, modifying delinquent youths emotional state and maladaptive behaviors, assessing suicide risk, and making referrals. Specific techniques in addition to understanding specific counseling paradigms used with resistant and delinquent youth will be explored. Offered winter semester. Prerequisite: Junior standing.

## **CJ 442 - Victimology (3 credits)**

Examines patterns, current practice and trends concerning crime victims, including the role of victims in crime, their treatment by the criminal justice system, victims blaming arguments, victims' decisions to report crimes and help prosecute offenders, victim assistance programs, victim compensation and restitution, and victim empowerment. Offered fall semester of even-numbered years. Prerequisite: Junior standing.

## **CJ 464 - Security Management (3 credits)**

An in-depth analysis of critical issues in the administration and supervision of private security organizations with an emphasis on the related legal issues. Offered winter semester. Prerequisite: Junior standing.

## **CJ 482 - Culture, Crime and Justice (3 credits)**

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An exploration of the relationships between culture, crime, and justice that seeks to increase students' cultural competence in relation to the administration of justice and the justice professions. Offered fall semester. Prerequisites: CJ 201 and junior standing.

### **CJ 490 - Criminal Justice Internship (1 to 9 credits)**

Internship in local agencies with individual faculty supervision to apply academic knowledge to actual and professional experience. May be repeated for up to nine credits. Offered each semester. Prerequisites: Junior standing and permission of internship coordinator.

### **CJ 492 - Social Justice Issues in the American Criminal Justice System (3 credits)**

This course examines contemporary social justice issues and their intersection with the American criminal justice system. Cross-listed with CJ 592. Prerequisite: Senior standing.

### **CJ 495 - Issues in Criminal Justice (Capstone) (3 credits)**

A Capstone course that will entail readings and discussion on contemporary criminal justice issues, ethics, and trends resulting in a senior paper/project. Offered fall and winter semesters. Prerequisites: CJ 201 and senior standing.

### **CJ 499 - Independent Study and Research (1 to 3 credits)**

An independent research project of an interdisciplinary nature based on knowledge acquired in other courses, the internship experience, or courses taken in the program. The research will be in the area of the student's interest. Offered every semester. Graded credit/no-credit. Prerequisites: Permission of the instructor and senior standing.

### **CJ 592 - Social Justice Issues in the American Criminal Justice System (3 credits)**

This course examines contemporary social justice issues and their intersection with the American criminal justice system. Cross-listed with CJ 492. Prerequisite: Admission to GVSU graduate program or permission of MCJ graduate director.

### **CJ 600 - Qualitative Methodology (3 credits)**

This course examines qualitative methods focusing primarily on participant observation, asking questions, writing field notes, and the transformation of these primary field data into written ethnographic documents. Students will also explore unstructured and semistructured interviewing, direct observation, open-ended survey questions, and sampling from pre-existing

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texts. Cross-listed with SW 691. Offered fall and winter semesters. Prerequisite: Admission to GVSU graduate program or permission of the MCJ graduate program coordinator.

### **CJ 601 - Criminal Justice Leadership (3 credits)**

Addresses visionary leadership applied to the administration of criminal justice. Includes an orientation to criminal justice graduate studies. Offered fall semester. Prerequisite: Admission to GVSU graduate program or permission of MCJ graduate program coordinator.

### **CJ 604 - Criminal Justice Policy and Program Evaluation (3 credits)**

Survey of policy and program evaluation methods. Well-known criminal justice policy and program evaluation studies will be critiqued. Policy formulated models and strategies will be studied and applied to crime control and other criminal justice problems. Offered winter semester of odd-numbered years. Prerequisite: Admission to a GVSU graduate program or permission of the MCJ graduate director.

### **CJ 606 - Research Methodology and Data Analysis (3 credits)**

This course examines basic and advanced concepts of quantitative research methodology and data analysis. Students will become familiar with research and data analysis techniques necessary for review of criminal justice issues. Students will learn to critically evaluate research, and understand how to create professional, empirical, and evaluation research proposals. Offered winter semester. Prerequisite: Admission to a CCPS graduate program.

### **CJ 607 - Criminology (3 credits)**

This course focuses on defining crime, tracing the evolution of criminological theories, and identifying the role that theory plays in the operation of the criminal justice system. Offered fall semester of odd-numbered years. Prerequisite: Admission to a GVSU graduate program or permission of MCJ graduate program coordinator.

### **CJ 609 - Criminal Justice Systems (3 credits)**

This course provides an in-depth study of system development, management philosophies, and current issues within all the major criminal justice systems' components, including policing, courts, and corrections in the United States. Offered fall semester of odd-number years. Prerequisites: Admission to GVSU graduate program or permission of MCJ program graduate director.

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## **CJ 610 - Race, Gender, and Class in the Criminal Justice System (3 credits)**

This course will examine the intersections of race, gender, and class in the criminal justice system. Emphasis will be placed on offending, victimization, and analysis regarding patterns of crime as related to race, gender, and class. Offered fall semester of even-numbered years. Prerequisite: Admission to the Master of criminal justice graduate program at GVSU or permission of MCJ graduate director.

## **CJ 619 - Legal Issues in Criminal Justice (3 credits)**

Critical analysis of legal issues within the criminal justice system. Students will analyze the impact of constitutional, statutory, case, and/or administrative law at all levels of the criminal justice system, and consider important legal and ethical issues related to the system within personal, professional, and policy contexts. Prerequisite: Admission to a GVSU graduate program or permission of the MCJ graduate program coordinator.

## **CJ 620 - Policing and Society (3 credits)**

In-depth study of past and present policing, organizational and law enforcement system development, and current issues surrounding policing in the 21st century. Offered winter semester of odd-numbered years. Prerequisite: Admission to a GVSU graduate program or permission of MCJ graduate program coordinator.

## **CJ 621 - Corrections and Punishment (3 credits)**

In-depth study of past and present philosophies and systems of punishment and corrections, as well as management philosophies and current issues surrounding corrections and punishment in the United States. Offered fall semester of even-numbered years. Prerequisite: Admission to a GVSU graduate program or permission of MCJ graduate program coordinator.

## **CJ 622 - Juvenile Justice Systems and Issues (3 credits)**

In-depth study of juvenile justice organizations, organizational and system development, management philosophies and current issues of most concern to regional and national juvenile justice executives. Offered fall semester of odd-numbered years. Prerequisite: Admission to a GVSU graduate program or permission of MCJ graduate program coordinator.

## **CJ 640 - Graduate Internship (3 credits)**

A supervised criminal justice or private security agency administrative internship. This course is required of students who have no work experience in criminal justice or private security. Those who have prior work experience may earn internship credit with advisor approval. Credit/no-

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credit. Offered every semester. Prerequisites: Admission to criminal justice graduate program and permission of instructor.

## **CJ 642 - Victimology (3 credits)**

Examines patterns, current practices and trends concerning crime victims, including the role of victims of crime, their treatment by the criminal justice system, victim blaming arguments, victims' decisions to report crimes and help prosecute offenders, victim assistance programs, victim compensation and restitution, and victim empowerment. Offered fall semester of even-numbered years. Prerequisite: Admission to a GVSU graduate program or permission of MCJ graduate program coordinator.

## **CJ 650 - Master's Capstone in Criminal Justice (3 credits)**

A graduate level seminar that will integrate learning from the core master's degree coursework. This course will synthesize material pertaining to criminal justice systems theories, criminology, empirical research, and program creation and implementation. The culminating outcome of the class will be a master's level research paper and presentation. Offered winter semester. Prerequisites: Admission to the MCJ program, with completion of 18 credits, including all MCJ core classes.

## **CJ 680 - Special Topics in Criminal Justice and Legal Studies (1 to 4 credits)**

A seminar for the study of important topics not ordinarily covered in other courses. Course may be taken more than once when topic is different. Offered on sufficient demand. Prerequisite: Admission to criminal justice graduate program or permission of graduate director.

## **CJ 691 - Issues in Research and Writing (3 credits)**

This course will focus on different writing strategies/styles necessary to advance graduate students in their academic and professional careers. This course focuses on preparing graduate students for their thesis or project. Offered winter semester. Prerequisite: Admission to a GVSU graduate program or permission of MCJ graduate director.

## **CJ 693 - Criminal Justice Project (3 credits)**

In accordance with program policies and procedures, students will design an original project to work with an agency to address a criminal justice issue or write a comprehensive overview of a body of scholarship addressing a criminal justice related issue. Formal presentation of finished product required. Prerequisites: Admission to MCJ graduate program, completion of 18 credits of graduate coursework, approved committee, permission of MCJ graduate program coordinator, and completion of the Responsible Conduct of Research Training within last three years.

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## **CJ 695 - Criminal Justice Thesis (1 to 6 credits)**

Preparation of an extensive research and writing assignment under faculty supervision. Involves working with a thesis committee and formal defense of the thesis. Offered every semester. Prerequisites: Admission to MCJ graduate program, completion of 18 credits of graduate coursework, permission of MCJ graduate program coordinator, and completion of the Responsible Conduct of Research Training within last three years.

## **CJ 696 - Continuation of Master's Project or Thesis Research (1 credit)**

Continuation of work related to the master's project or thesis phase of the graduate student's program. Registration is required after all respective project or thesis credits are completed and the project or thesis is not completed. Work will be performed under the supervision of the project advisor or thesis committee chair. Offered every semester. Prerequisites: Completion of all required project or thesis credits and completion of the Responsible Conduct of Research Training within last three years.

## **CJ 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

## **CJ 699 - Directed Readings (1 to 3 credits)**

A library research or readings project, program proposal, research proposal, or other activity requiring extensive readings that enhance the student's knowledge. Offered every semester. Prerequisite: Admission to a GVSU graduate program or permission of MCJ graduate program coordinator.

## **CLA 101 - Greek and Roman Mythology (3 credits)**

An introduction to the gods and heroes of ancient Greek and Roman myths in their cultural and historical contexts, as well as their modern influence. Fulfills Foundations - Philosophy and Literature. Offered fall semester.

## **CLA 121 - Greek Civilization (3 credits)**

An introduction to major cultural accomplishments of ancient Greece. Emphasis on Greek literature, art, philosophy, and political institutions both in their historical contexts and as achievements of continuing importance in the contemporary world. Topics may vary. Fulfills Foundations - Historical Perspectives. Offered fall semester.

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## **CLA 131 - Roman Civilization (3 credits)**

An introduction to major accomplishments of ancient Rome. The course examines significant aspects of Roman political, social and cultural life, both in their primary context and in terms of their relevance to society today. Topics may vary. Fulfills Foundation - Historical Perspectives. Offered winter semester.

## **CLA 195 - Introduction to Ancient Greece and Rome (1 credit)**

Introduction to the study of the breadth and variety of ancient Greek and Roman culture, including languages and literatures, art and archaeology, religious and philosophical traditions, and social and legal forms - from the Bronze Age through the late Roman Empire and early Christianity. Offered fall semester.

## **CLA 201 - Classical Literature (3 credits)**

Great works from the ancient world in translation, selected from Homeric epics, plays of Aeschylus, Sophocles, Euripides, and Aristophanes, and from such other classic works as Virgil's Aeneid, the Bible, and Eastern epics such as Gilgamesh. Fulfills Foundations - Philosophy and Literature. Offered winter semester. Prerequisite: Fulfillment of general education Foundations - Writing.

## **CLA 231 - Health and Science in Antiquity (3 credits)**

An introduction to ancient Greek and Roman medical and other scientific practices in their cultural and historical contexts, as well as their modern influence. Topics include the human body and its relationship to its environment, theories of causality, and early astronomy. Fulfills Foundations - Philosophy and Literature. Offered winter semester.

## **CLA 250 - Classical Art and Archaeology (3 credits)**

Survey of the art and archaeology of the classical world from the Bronze Age through the dissolution of the Roman Empire. Emphasis on the development of the characteristic forms of classical art, the aesthetic and historical contexts of specific works, and the techniques of classical archaeology that have revealed them. Fulfills Foundations - Arts. Offered winter semester. Prerequisite: Fulfillment of general education Foundations - Writing.

## **CLA 280 - Special Topics in Classics (3 credits)**

Readings, lectures, and/or discussions in specific topics not normally covered by other courses in the program.

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## **CLA 301 - Re-imagining the Classics (3 credits)**

Study of classical authors, genres, ideas, or aspects of visual culture and the ways they have been understood, adapted, and transformed in new cultural environments of later periods. The course may consider genres such as epic, lyric, or comedy; mythology or the history of ideas; styles of architecture or painting. Part of the Globalization Issue. Offered fall semester. Prerequisite: Junior standing.

## **CLA 302 - The Stages of Greek and Roman Drama (3 credits)**

Readings of Greek and Roman tragedies and comedies by playwrights such as Sophocles, Euripides, Aristophanes, and Plautus (in English translation) will be augmented by considerations of cultural contexts, both ancient and modern global, and staging or adaptation. The dramas engage issues from competing perspectives on violence, gender, class, and justice. Part of the Globalization Issue. Offered winter semester. Prerequisites: Junior standing and fulfillment of general education Foundations - Writing.

## **CLA 311 - Ancient Great Philosophers (3 credits)**

A study of one or several ancient great philosophers, such as the pre-Socratics, Plato, Aristotle, Lucretius. Focus will be on the philosophers' writings, but attention also will be given to context and tradition. Cross-listed with PHI 311. May be repeated for credit if content differs. Offered fall and winter semesters. Prerequisite: Prior work in philosophy or classics, or permission of the instructor.

## **CLA 315 - Ancient Religion (3 credits)**

A study of the religious beliefs and practices of the ancient world, emphasizing the religious traditions of Greece, Rome, Egypt, and the Near East. Topics include views of the afterlife, temples and sanctuaries, religion in daily life, "mystery" religions, and the rise of the monotheistic religions of Judaism and Christianity. Offered fall semester. Prerequisite: Fulfillment of general education Foundations - Writing.

## **CLA 325 - Body, Gender, Sexuality in Antiquity (3 credits)**

Introduction to views about the body, gender, and sexuality in ancient Greece and Rome. Special attention is given to ancient texts that inform feminist and queer theory. Topics include ancient medicine and modern dietetics, the figure of Antigone in feminist and postcolonial literature, Greek homosexuality, Victorian Hellenism, and American law. Part of the Identity Issue. Cross-listed with WGS 325. Offered fall semester. Prerequisite: Junior standing.

## **CLA 350 - Issues in Classical Archaeology (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Advanced study of current issues in classical archaeology, based on multidisciplinary approaches to topics such as ethnicity, cult, technology, economy, provincial identities and imperial propaganda. Particular attention to synthesis of archaeological, art-historical, literary, and anthropological models and interpretive methods. May be repeated for credit when content varies. Offered fall semester in odd-numbered years. Prerequisite: CLA 250 or (HNR 221 and HNR 222).

### **CLA 365 - Stoicism, Identity and the Happy Life (3 credits)**

This course will address, through the life and thought of prominent Stoics, both the evolution of self and the development of an individual's identity from the Stoic perspective. Through readings, writing, and journaling, students will explore the significance and relevance of key Stoic ideas about identity. Part of the Identity Issue. Offered fall semester of even-numbered years. Prerequisite: Junior standing.

### **CLA 367 - Thinking Like a (Roman) Lawyer (3 credits)**

Many legal concepts we take for granted come directly from Roman law, the influence of which continues to be felt worldwide today. This course introduces legal reasoning and analysis through a discussion-based, case-by-case approach focusing on primary sources in translation. Especially valuable for prelaw students. Part of the Human Rights Issue. Offered fall semester of odd-numbered years. Prerequisites: Junior standing and fulfillment of general education Foundations - Writing.

### **CLA 380 - Special Topics in Classics (3 credits)**

The study of special topics or areas in classics and the classical tradition not offered in the regular curriculum. May be repeated for credit when content varies.

### **CLA 385 - Study Abroad: Classical Civilization (1 to 6 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only. Credit may vary.

### **CLA 395 - Research Methods in Classics (2 credits)**

Explores research methods in classics, focusing both on the multidisciplinary nature of classics and the primary methodologies employed across the discipline. Examines the ways that research questions are shaped, and the types of evidence used to address those questions, in classics and in the humanities more broadly. Offered fall semester.

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## **CLA 399 - Independent Study in Classics (1 to 3 credits)**

Hours, credits, topics, and time to be arranged with individual faculty members with approval of the department.

## **CLA 415 - Museum Studies (3 credits)**

Examines the history of museums; the organization, operation and multiple functions of museums; their contributions to public life; and the political, legal, ethical, and other contemporary debates concerning the roles of museums as cultural institutions. Also introduces practical skills such as collections management, exhibition design, and public outreach and education. Cross-listed with HST 415. Offered fall semester. Prerequisite: Junior standing.

## **CLA 495 - Notions of the Classics (Capstone) (3 credits)**

A critical examination of the concepts of "the classics" and "classicism" as a context for the contemporary field of classics, emphasizing the shifting range of the terms and the different ways both they and the classical world have been and can be understood, adapted, and transformed. Required for majors. Offered winter semester. Prerequisites: Senior standing and CLA 395.

## **CLA 499 - Independent Study and Research (1 to 3 credits)**

Supervised individual research in an area of interest to the student; culminates in a research paper. Prerequisites: Junior standing and the permission of the instructor supervising the research.

## **CMB 140 - Living Foods: Ferment Them Yourself! (4 credits)**

An introduction to fermentation as food preparation. For thousands of years, people have used fermentation to preserve food. The history, food preservation and safety aspects, and the science of fermentation related to food and health are covered. The laboratory includes hands-on fermentations such as breads, yogurt, kefir, sauerkraut, and kombucha. Fulfills Foundations - Life Sciences with a lab. Offered winter semester.

## **CMB 150 - Biotechnology and Society (4 credits)**

An introduction to biotechnology, focuses on its application in, and impacts on, our society. Scientific, ethical, economic, legal, social and historical aspects of biotechnology will be covered. Class discussions and laboratory investigations of current topics, including cloning, agricultural biotechnology, genetically modified foods, stem cells, and medical biotechnology highlight the course. Fulfills Foundations - Life Sciences with a lab. Offered every semester.

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## **CMB 155 - Introduction to Cell and Molecular Biology (3 credits)**

An introduction to the science behind our current models of molecular, cellular, and developmental biology including genetics. Students will learn foundational concepts necessary for the life sciences and develop their skills in scientific reasoning. Fulfills Foundations - Life Sciences. Offered fall and winter semesters.

## **CMB 156 - Discoveries in Cell and Molecular Biology: A Research-based Laboratory Course (1 credit)**

This course is designed to provide students with a realistic research experience that prepares them for advanced research opportunities later in their academic careers. Students will complete one to three extended laboratory investigations throughout the semester. Students will design and execute experiments, analyze and synthesize data, and communicate their findings. Offered fall and winter semesters. Prerequisite: BIO 120 or CMB 155 (may be taken concurrently).

## **CMB 250 - Introduction to Biotechnology (4 credits)**

Introduction to basic principles, methodologies and applications of cell and molecular biology and biotechnology. Fundamentals of microbial growth, isolation, and manipulation; DNA cloning and recombination, hybridization, transformation and electrophoresis; protein expression and analysis will be covered. Reading and discussions will address the relationship of biotechnology with ethical and policy considerations. Offered fall and winter semesters. Prerequisites: BIO 120 or (CMB 155 and CMB 156); and CHM 116.

## **CMB 321 - Designing Our Future: Babies, Food, Medicine, and Biotechnology (3 credits)**

Issues course which introduces the concepts and theories of biotechnology, and includes an in-depth exploration of a biotechnology issue, such as designer babies, GMO food, and personalized medicine, within a group setting. Student groups will create a white paper and lead a discussion on the biotechnology issue of their choice. Part of the Information, Innovation, or Technology Issue. Offered fall semester. Prerequisite: Junior standing.

## **CMB 350 - Foundations of Brewing (3 credits)**

Introduction to history, culture, theory and practice of brewing. Students design and brew a beer of choice. Implications of beer consumption on social, psychological and biological health are emphasized. Effects of human migration, technological advances, economics, culture and globalization on beer production are also addressed. Part of the Health Issue. Offered fall and winter semesters. Prerequisite: Junior standing.

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## **CMB 380 - Special Topics in Cell and Molecular Biology (1 to 4 credits)**

Course content varies. Refer to schedule of classes to determine course description and prerequisites. Students may repeat this course under different topics.

## **CMB 405 - Cell and Molecular Biology (4 credits)**

Investigation of the structure and phenomena of cells at the macromolecular and cellular levels. (4-0-0) Offered each semester. Prerequisites: (BIO 375 or BIO 355), BIO 376, and (CHM 232 or CHM 242 or CHM 247 may be taken concurrently).

## **CMB 406 - Cell and Molecular Biology Laboratory (2 credits)**

A unified experimental approach to cell and molecular biology with emphasis on instrumentation and student initiative. Offered fall and winter semesters. Prerequisite: CMB 405 (may be taken concurrently).

## **CMB 409 - Responsible Conduct of Research (1 credit)**

Consists of modules covering the principles and rules for best practice in research using lectures, discussions, case studies, and interactive exercises. Provides students with professional and ethical reasoning skills needed for success in their research and scholarly inquiry. Cross-listed with CMB 509. Offered fall and winter semesters.

## **CMB 411 - Genetics of Development and Cancer (3 credits)**

An advanced genetics course, covering genetic mechanisms of normal and abnormal development, cancer production, and aging. Current research techniques will be highlighted. (3-0-0) Offered winter semester. Prerequisites: (BIO 375 and BIO 376) or (BIO 355 and CHM 232).

## **CMB 414 - Molecular Biology of the Gene (3 credits)**

Explores how genes are expressed and regulated so that tasks such as differentiation, development, homeostasis, and communication are accomplished, and how this is affected by evolution and biotechnology. (3-0-0) Offered fall semester. Prerequisites: BIO 375 and BIO 376.

## **CMB 426 - Research Applications in Nucleic Acids (4 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Investigation of an original problem in molecular biology using advanced molecular laboratory techniques found in most molecular academic and biotechnology laboratories. Introduction to computer DNA sequence analysis and bioinformatics. Offered fall and winter semesters.

Prerequisite: CMB 406.

## **CMB 440 - Research Applications in Drosophila Genomics (3 credits)**

Collaborative research investigation of a contemporary genomics problem using the model organism *Drosophila*. Students participate in an inquiry-based genomics research project which includes manipulation of large data sets (such as improving sequence data from various *Drosophila* species) and computer-aided analysis of sequence data (annotating the DNA sequence). Offered winter semester. Prerequisite: CMB 250 or BIO 355 or BIO 376.

## **CMB 451 - Bioinformatics: Tools and Techniques for Life Scientists (3 credits)**

In the age of genomics, bioinformatics has become an integral component of all life sciences. This course will focus on practical applications of bioinformatics resources and tools for solving problems in life sciences. Major topics include biological databases, sequence analysis, molecular phylogeny, microarray data analysis, proteomics and genomics. Cross-listed with CMB 551. Offered fall semester. Prerequisites: Junior standing, and either (CMB 250 or BIO 375), or permission of instructor.

## **CMB 452 - Computer Modeling and Drug Design (3 credits)**

Computational modeling plays a crucial role in developing quantitative models of biological systems and facilitates discovery of new therapeutics. This course covers three aspects of computational structural biology leading to rational drug design: protein structure analysis and prediction, molecular simulations, and methods of target- and ligand-based drug discovery. Cross-listed with CMB 552. Offered winter semester. Prerequisites: BIO 120 (or CMB 155 and CMB 156); (CHM 241 or CHM 245 or (CHM 231 and CHM 232)); PHY 220 or PHY 230; or permission of the instructor.

## **CMB 460 - Genomics and Molecular Diagnostics (3 credits)**

Provides principles and applications of genomics and molecular tools for disease diagnostics. Topics include molecular and computational tools of genomics, genome structure, diagnosis of disease, gene expression and biological networks. Cross-listed with CMB 560. Offered fall semester. Prerequisites: BIO 120 or (CMB 155 and CMB 156) and (either BIO 355 or BIO 375) or permission of instructor.

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## **CMB 480 - Special Topics in Cell and Molecular Biology (1 to 9 credits)**

The study of special topics or areas in cell and molecular biology not offered in the regular curriculum. May be repeated for credit when content varies.

## **CMB 485 - Molecular Ecology (3 credits)**

This course provides an in-depth exploration of the integrative field of molecular ecology which uses molecular genetic tools to study ecology and evolution. Concepts/theories are introduced in lecture and through discussion of scientific literature. Hands-on experience with analysis of genetic data is provided in computer laboratories. Cross-listed with CMB 585, BIO 485, and BIO 585. Offered winter semester. Prerequisite: BIO 375.

## **CMB 490 - Internship (1 to 6 credits)**

A practical research experience in cell and molecular biology set in an external environment. Work is directed by a mentor at the internship site and supervised by a faculty advisor. Sixty hours of work per semester is required for each credit earned. May be repeated for up to six credits. Offered every semester. Prerequisite: Permission of the department chair.

## **CMB 495 - Perspectives in Cell and Molecular Biology (3 credits)**

Students will integrate the principles learned from the CMB core and the practical experiences of their own research by critically reading and reporting from the primary literature and by discussing current issues in cellular and molecular biology. The focus of these discussion themes will change each semester. Offered winter semester. Prerequisites: CMB 499, BIO 499, BMS 499 or CHM 499.

## **CMB 499 - Research in Cell and Molecular Biology (1 to 3 credits)**

Independent research in areas related to cell and molecular biology of special interest to the student. Research will be supervised by a CMB faculty member. Can be elected for up to six credits toward the CMB degree. Amount of credit and topic to be arranged with the supervising faculty member. Offered every semester. Prerequisites: Permission of the program director and instructor.

## **CMB 501 - Scientific Communication for the Life Sciences and Professional Science Master's (3 credits)**

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Students will discuss and practice extensively some of the most important communication skills for scientists, including preparing and delivering oral presentations and posters, writing scientific articles, participating in a scientific discussion, peer review, proper use of source materials and making the most of a scientific conference. Prerequisite: Admission to a GVSU graduate program.

### **CMB 505 - Advanced Cell Biology (3 credits)**

Focus on current research in several areas of study, including membrane transport, signal transduction, energetics, motility, protein synthesis and transport, cell division, and evolution of eukaryotic cells. Offered winter semester. Prerequisite: Admission to a graduate program in the life sciences.

### **CMB 506 - Advanced Molecular Biology (3 credits)**

Theory, history, techniques, and current research in selected areas of molecular biology. Topics include DNA replication, repair and recombination; control of gene expression; signal transduction; isolation, cloning, and sequencing of DNA. Offered fall semester. Prerequisite: Admission to a graduate school in the life sciences.

### **CMB 509 - Responsible Conduct of Research (1 credit)**

Consists of modules covering the principles and rules for best practice in research using lectures, discussions, case studies, and interactive exercises. Provides students with professional and ethical reasoning skills needed for success in their research and scholarly inquiry. Fulfills Responsible Conduct of Research Training requirements mandated by the NIH and NSF. Cross-listed with CMB 409. Offered fall and winter semesters.

### **CMB 520 - Laboratory Techniques in Cell and Molecular Biology (3 credits)**

A practical introduction to common techniques used in a cell and molecular biology lab. Students will develop several key laboratory skills necessary for further coursework and careers in cell and molecular biology through exercises and project-based practical work. Offered fall semester. Prerequisite: Admission to a graduate school in the life sciences.

### **CMB 551 - Bioinformatics: Tools and Techniques for Life Scientists (3 credits)**

In the age of genomics, bioinformatics became an integral component of all life sciences. This course will focus on practical applications of bioinformatics resources and tools for solving problems in life sciences, primarily biology. Major topics include biological databases, sequence

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analysis, molecular phylogeny, microarray data analysis, proteomics, and genomics. Cross-listed with CMB 451. Offered fall semester. Prerequisite: Admission to a GVSU graduate program.

### **CMB 552 - Computer Modeling and Drug Design (3 credits)**

Computational modeling plays a crucial role in developing quantitative models of biological systems and facilitates discovery of new therapeutics. This course covers three aspects of computational structural biology leading to rational drug design: protein structure analysis and prediction, molecular simulations, and methods of target- and ligand-based drug discovery. Cross-listed with CMB 452. Offered winter semester. Prerequisite: Graduate standing or permission of instructor.

### **CMB 560 - Genomics and Molecular Diagnostics (3 credits)**

Provides principles and applications of genomics and molecular tools for disease diagnostics. Topics include molecular and computational tools of genomics, genome structure, diagnosis of disease, gene expression and biological networks. Cross-listed with CMB 460. Offered fall semester.

### **CMB 580 - Special Topics in Cell and Molecular Biology (1 to 4 credits)**

Readings, lecture, discussions, seminars, or lab experience (or any combination) on a specific topic related to cell and molecular biology. Offered on sufficient demand. Prerequisites: Variable; depends on topics.

### **CMB 585 - Molecular Ecology (3 credits)**

This course provides an in-depth exploration of the integrative field of molecular ecology which uses molecular genetic tools to study ecology and evolution. Concepts/theories are introduced in lecture and through discussion of scientific literature. Hands-on experience with analysis of genetic data is provided in computer laboratories. Cross-listed with CMB 485, BIO 485, and BIO 585. Offered winter semester. Prerequisite: Graduate standing.

### **CMB 610 - Foundations of Biotechnology (3 credits)**

Introduction to the methods and strategies used for the manipulation of biological systems to produce food, drugs, and other products. Topics include experimental systems, gene and protein analysis, genetic engineering, recombinant DNA technology, transgenic organisms, gene therapy, and plant biotechnology. Offered winter semester. Prerequisite: Admission to a professional science master's program.

### **CMB 620 - Cell Culture and Bioprocessing (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Theory and practice of eukaryotic and prokaryotic cell culture methodology, including the use of fermenters and bioreactors. The application of culture methods and bioprocessing for use in biotechnology will be stressed. Offered winter semester. Prerequisite: CMB 520 or equivalent.

### **CMB 626 - Advanced Research Applications in Nucleic Acids (4 credits)**

Theory and techniques involved in manipulating DNA and RNA. Students will investigate an original problem using advanced molecular laboratory techniques practiced in most molecular academic and biotechnology laboratories. Offered winter semester. Prerequisite: CMB 520.

### **CMB 680 - Special Topics in Cell and Molecular Biology (1 to 4 credits)**

Lectures and/or laboratory course on topics of current interest related to cell and molecular biology. Prerequisites: Variable; depends on topic.

### **CMB 695 - Thesis Research (1 to 9 credits)**

Under the guidance of a research mentor, students perform research that will lead to a publicly disseminated thesis. The thesis topic is determined by the student in consultation with the chair of the CMB Student Graduate Committee. The topic must be approved by the CMB Student Graduate Committee. Offered on demand. Prerequisites: Graduate standing in the research emphasis of the cell and molecular biology M.S., approval of the CMB graduate program coordinator, and completion of the Responsible Conduct of Research Training within last three years.

### **CMB 696 - Continuation of Master's Project or Thesis Research (1 credit)**

Continuation of work related to the master's project or thesis phase of the graduate student's program. Registration is required after all respective project or thesis credits are completed and the project or thesis is not completed. Work will be performed under the supervision of the project advisor or thesis committee chair. Offered every semester. Prerequisites: Completion of all required project or thesis credits and completion of the Responsible Conduct of Research Training within last three years.

### **CMB 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

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## **CMB 699 - Grad Research in Cell and Molecular Biology (1 to 6 credits)**

Independent graduate research in an area of cell and molecular biology of special interest to the student. Research will be supervised by CMB faculty. Can be elected for up to six credits toward the M.S. in CMB. Amount of credit and topic to be arranged with the supervising faculty member. Offered every semester. Prerequisite: Permit required.

## **CMJ 184 - Introduction to Multimedia Production (3 credits)**

Introduces students to the three key areas of multimedia production - audio production, photography and digital imaging, and video production. Emphasis is on key concepts and hands-on practice. Offered every semester.

## **CMJ 236 - News in Society (3 credits)**

News as a social phenomenon. Who decides what news is and how it is perceived, collected, stored, selected, displayed, and distributed? Analysis, criticism, and some projects. Offered fall and winter semesters.

## **CMJ 256 - News Reporting (3 credits)**

Development of skills in reporting, writing, and copy-editing for multimedia presentation. Work on developing and organizing public affairs news stories, finding information, interviewing, and writing to meet deadlines. Offered every semester. Prerequisite: Fulfillment of general education Foundations - Writing.

## **CMJ 260 - Multimedia Journalism Workshop (3 credits)**

This course is designed to provide fundamental theories and lab experience to produce multimedia news stories that combine different media formats: text, hypertext, audio, and photo. Students will learn concepts and skills necessary for developing news judgment, and gathering and production of news in changing media environments. Offered fall and winter semesters. Prerequisite: CMJ 256.

## **CMJ 265 - Introduction to Radio (3 credits)**

A survey course covering multiple aspects of radio broadcasting. Emphasis on writing, performance, production, and general operations. Requires up to two hours per week lab work at on-campus student radio station. Offered fall and winter semesters.

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## **CMJ 284 - Broadcast News (3 credits)**

News writing and producing for television news. Focus is on script format, broadcast writing style, developing sources, accuracy, field production, and editing. Projects include interviewing techniques, script writing, and producing television news stories. Offered winter semester.

Prerequisites: CMJ 256 or permission of instructor.

## **CMJ 290 - Media History (3 credits)**

In this course students will study historical aspects of print, broadcast and digital media with an emphasis on media used in the 20th and 21st centuries. Students will use archival materials and research historical events and publications through the original writings of the time. Fulfills Cultures - U.S. Diversity. Offered fall and winter semesters.

## **CMJ 310 - Advanced Reporting Techniques (3 credits)**

This class covers numerical and quantitative concepts and skills for news reporting and writing. Students will also learn computer-assisted research and analysis techniques using software programs for news stories based on public databases, records, and information. Offered fall and winter semesters. Prerequisite: CMJ 256 or permission of instructor.

## **CMJ 316 - News Design and Layout (3 credits)**

Students will learn the fundamentals of print and digital design, Web and mobile coding, and data visualization as they pertain to journalistic practice. Students complete individual training modules on software, learn about current industry practice and propose and execute a final project that involves journalistic reporting and technical production. Offered fall and winter semesters. Prerequisite: CMJ 256 or permission of instructor.

## **CMJ 325 - Issues in Journalism (3 credits)**

A seminar on two troublesome areas in contemporary journalism, spanning all media of mass communication: changes in journalism wrought by technology and techniques, and the rights and responsibilities of the press, involving ethical and legal issues. Offered fall semester of even-numbered years. Prerequisite: Junior standing.

## **CMJ 364 - Feature Journalism (3 credits)**

Practice in feature-length articles on factual subjects. Primary emphasis is on the intersection of human-interest and public affairs reporting; the impact of government policy on people. The goal is the writing and presentation of knowledgeable and readable material for print and digital outlets. Prerequisite: CMJ 256 or permission of instructor.

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## **CMJ 365 - Advanced Editing (3 credits)**

Focuses on the style and delivery components of the editing process. Methods for technical delivery of the written product, including headlines, text, photos, and captions; story and page design and packaging; working with photos and art; color considerations; and generating infographics to accompany stories. Offered winter semester. Prerequisite: CMJ 316 or permission of instructor.

## **CMJ 366 - Arts and Entertainment Journalism (3 credits)**

A workshop in writing about the arts. The focus is on presenting information about artifacts, exhibits, and performance across multimedia. Film, video, theatre, music, dance, painting, sculpture, and other arts will be subjects, depending on the particular emphasis of the semester and the interests of the students. Offered fall semester of odd-numbered years. Prerequisite: CMJ 256 or permission of instructor.

## **CMJ 380 - Special Topics in Multimedia Journalism (1 to 9 credits)**

Course content varies. Refer to schedule of classes to determine course description and prerequisites. Students may repeat this course under different topics.

## **CMJ 384 - Producing for Broadcasting (3 credits)**

This course explores how television and radio shows are produced with a focus on contemporary industry production and business practices. Students will develop original show concepts and pitch for review and feedback. Features practical application of real-world methods as well as problem solving, leadership, teamwork and communication. Offered fall and winter semesters. Prerequisite: CMJ 284.

## **CMJ 385 - Advanced Radio (3 credits)**

A study of long-form audio programming for radio and podcast. Students learn to write, record, and deliver documentary-style news, public service, and public affairs programming for radio and podcast. Students also study the history of long form audio and write and create pieces of dramatic production. Offered winter semester. Prerequisites: CMJ 265 or CMJ 284, or permission of instructor.

## **CMJ 390 - Technical Writing (3 credits)**

The interpretation, rewriting, and editing of specialized material for professional and general readers. Students read professional journals in a scientific or technical field. Practice in analyzing, organizing and presenting multimedia information to a variety of audiences for

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different purposes. Assignments may include writing definitions, abstracts, and instruction guides. Offered winter semester. Prerequisite: CMJ 256 or permission of instructor.

### **CMJ 399 - Independent Study (1 to 6 credits)**

An experience of an essentially scholarly and/or creative nature undertaken by a student under the supervision of one or more faculty members. Initiated by the student who has a special interest in a subject that is not available in the current curriculum. The student and the faculty sponsor agree on the scope of the study, its components, and methods of evaluation. Offered every semester.

### **CMJ 460 - Multimedia Reporting (3 credits)**

Focus on intermediate and advanced reporting on multimedia platforms. Students will apply multimedia production skills and report news for a variety of online formats, blending text, photos, audio, video, and graphics. This course will also cover hands-on training and key theoretical and professional issues of journalism arising from new technologies. Offered fall and winter semesters. Prerequisites: CMJ 184 and CMJ 260.

### **CMJ 481 - Investigative Reporting (3 credits)**

Discusses the techniques as well as the problems and pitfalls of journalistic investigation. Develops skills in investigation and reporting through the use of classroom examples and individual and team assignments. Emphasis on real-life situations and submission of articles for publication on and off campus. Offered winter semester. Prerequisite: CMJ 316 or permission of instructor.

### **CMJ 484 - TV News Workshop (3 credits)**

Intensive involvement in the TV news process, building on concepts and skills developed in Broadcast News I and II. Researching, shooting, reporting, and editing stories for weekly campus cable TV newscast. Students serve as reporters, anchors, and producers. May be repeated once for credit. Offered fall and winter semesters. Prerequisite: CMJ 384.

### **CMJ 490 - Internship (1 to 6 credits)**

A supervised work experience in an area of a student's potential career interest. Initiated by the student, who plans the work experience with the advisor, the faculty sponsor chosen to supervise the internship, and the supervisor at the worksite. Credit is awarded only when the student, the faculty sponsor, and the work supervisor have completed evaluations of the internship. Offered every semester. Graded credit/no-credit. Prerequisite: Permission of internship coordinator.

### **CMJ 495 - Multimedia Journalism Capstone (3 credits)**

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This course addresses reporting on multimedia platforms, with a focus on the key theoretical and professional issues arising from new technologies, media formats, and digital platforms. As a Capstone course, it will also prepare students for the workplace through discussions of industry trends on the job market and portfolio creation. Offered fall and winter semesters. Prerequisites: CMJ 260, CMJ 310, and CMJ 325.

## **COM 101 - Concepts of Communication (3 credits)**

An introduction to concepts and principles that are fundamental to understanding the dynamics and consequences of communication. School of Communications majors must take COM 101 within the first three semesters of declaring their major. Offered every semester.

## **COM 201 - Speech (3 credits)**

Focuses on oral communication. The student will examine practical programs in speech preparation, delivery, informative and persuasive strategies, and listening and responding to messages of others. Most of what a student gains from this course will come not only from reading a text but also from in-class projects, simulation exercises, and skills training. Offered every semester.

## **COM 202 - Critical Interpretation (3 credits)**

Practice in the art of reading and listening with understanding. Stresses interpretation as an activity common to the writer, speaker, reader, and listener. Fulfills Foundations - Philosophy and Literature. Offered fall and winter semesters.

## **COM 203 - Argument and Analysis (3 credits)**

Being able, in speaking or writing, to present arguments for a position and to analyze the arguments of others are skills that are basic to almost any human activity. In this course, participants will practice the skills of argument and analysis in discussing the nature of argument itself. Offered fall semester.

## **COM 209 - Health Communication Systems (3 credits)**

A general systems approach applied to understanding the interplay of individuals, institutions, audiences, purposes, and tasks relevant to the health communication professional. Offered fall and winter semesters. Prerequisite: Sophomore standing.

## **COM 210 - Nonverbal Communication (3 credits)**

Introduction to sending and receiving nonverbal messages. Theory and skill development in thinking visually: in voice and articulation, body action, artifacts, time, space, and distance, and

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in listening. Emphasis on interpersonal, professional, and cross-culture applications. Offered fall and winter semesters.

## **COM 215 - Story Making (3 credits)**

How to create a story, scene, or image in your mind and render it in a variety of modes: oral story, written story, one-shot image told verbally, short script, previsualization for media, previsualization for dance, etc. Course includes discussion of the nature of narrative. Offered fall and winter semesters. Prerequisite: Fulfillment of general education Foundations - Writing.

## **COM 220 - Media Literacy (3 credits)**

Introductory course in the critical study of media. Students develop the ability to access, analyze, evaluate, and critique mediated communication in a variety of forms. Particular attention to how images, sounds, and words are combined to create meaning, and the economic determinants of the media in the United States. Offered every semester.

## **COM 275 - Foundations of Communication Research (3 credits)**

Examination of issues and topics associated with communication research conducted by scholars and practitioners. Introduction to research areas in the discipline, library research strategies, the ethics of research, qualitative and quantitative research methodologies. Prerequisite: COM 101.

## **COM 295 - Communication Theory (3 credits)**

A critical survey of major theories of human communication. Analysis and application of concepts from representative primary sources to understand what they presuppose, say and imply about the nature of communication. Offered every semester. Prerequisite: COM 101.

## **COM 301 - Interpersonal Communication (3 credits)**

Introduces students to theory, research, and practical issues involved in interpersonal communication, including topics such as language, nonverbal expression, face-to-face interaction, self-identity, and communication ethics. Stresses how everyday talk with one another is a cornerstone of ethics and human civilization. Offered spring/summer semester.

## **COM 302 - Small Group Communication (3 credits)**

The study of the committee, task force, panel, and class. Weekly practice in decision-making, conflict resolution, and socialization through class discussion groups. Offered on sufficient demand.

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## **COM 303 - Debate (3 credits)**

Instruction in techniques of argumentation and debate. Research methodology, logical analysis and argumentation, rhetorical strategies, and technique of public presentation. Intercollegiate competition will not be a part of this class. Offered on sufficient demand. Prerequisite: COM 201.

## **COM 320 - Vision and Culture (3 credits)**

A historical survey of the evolving modes and techniques of vision, visibility, and representation in art, science, and mass media in order to examine how those modes of vision have both reflected and influenced our ways of knowing ourselves and the world. Offered fall of even-numbered years.

## **COM 371 - Media and Society (3 credits)**

Examines the communications environment of societies and current issues affecting media. May be repeated for credit when content differs. Offered every semester.

## **COM 372 - Global Communications (3 credits)**

A global focus on the relationship between media and society. The nature of global media in a world community. Varieties of media technologies, contents, and effects. How media encourage cross-cultural unity or increase tensions within and between nations. Offered fall semester.

## **COM 375 - Communication Research (3 credits)**

Examination of empirical methodologies used in the evaluation of audiences, media, and products. Special attention given to the integration of empirically derived information in the communication process. Offered fall and winter semesters. Prerequisites: COM 275 and STA 215.

## **COM 376 - Communications Policy and Law (3 credits)**

A survey of key policies and recent developments in communication law that shape media industries (print, broadcast, cable, telephone, and the Internet) and communication practices in media environments. In this context, theories of policymaking, regulation, and the public interest are examined. Offered fall semester.

## **COM 378 - Intercultural Communication (3 credits)**

This course introduces a range of theories to examine the intersection of communication, culture, and identity. Students explore the challenges of intercultural interactions in the context of

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globalization. Topics include communication and culture; influence of culture on perceptions; national and cultural identity; intercultural conflict; and cross-cultural adaptation. Offered fall semester.

### **COM 380 - Special Topics in Communications (1 to 6 credits)**

A study of special topics not regularly covered in the curriculum. Expectations of the student in this course approximate those in other 300-level courses. May be repeated for credit when content varies. Offered on sufficient demand. Prerequisite: Sophomore standing.

### **COM 399 - Independent Study (1 to 6 credits)**

An experience of an essentially scholarly and/or creative nature undertaken by a student under the supervision of one or more faculty members. Initiated by the student who has a special interest in a subject that is not available in the current curriculum. The student and the faculty sponsor agree on the scope of the study, its components, and methods of evaluation. Offered every semester.

### **COM 410 - Senior Seminar in Health Communication (3 credits)**

This course serves as a bridge between the student's academic and professional careers. The course helps students synthesize their communication education into a view of the dominant themes, issues, and trends of the health communication field. Offered winter semester. Prerequisites: COM 209 and senior standing.

### **COM 438 - Communication Ethics (3 credits)**

An upper-division course for the study of communications ethics. Students explore how language and innocence are mutually exclusive, examine how rhetoric, ideology, and information bear upon social and personal evil, and consider ethics issues relating specifically to communicative media. Focus is directed to the assessment and development of ethical sense-making. Part of the Identity Issue. Offered winter semester. Prerequisite: Junior standing.

### **COM 477 - History of Communications Technologies (3 credits)**

Introduces students to historical impacts communication technologies have had in shaping and sustaining civilization and modernity. Examines communicative media as extensions of the human habitat, and critically considers their social and personal consequences. At least half of

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the course focuses on media prior to the telegraph. Offered winter semester. Prerequisite: COM 101.

## **COM 490 - Internship (1 to 6 credits)**

A supervised work experience in an area of a student's potential career interest. Initiated by the student, who plans the work experience with the advisor, the faculty sponsor chosen to supervise the internship, and the supervisor at the worksite. Credit is awarded only when the student, the faculty sponsor, and the work supervisor have completed evaluations of the internship. Offered every semester.

## **COM 495 - Issues in Communication (Capstone) (3 credits)**

Selected communications theories are examined in the context of contemporary issues/questions. Seminar-style analysis and application of concepts based on readings selected to support discussions about one or more current critical issues in communication. Topics vary with instructor/semester. Offered every semester. Prerequisites: Senior standing and School of Communications major.

## **COM 498 - Senior Thesis/Project (1 to 6 credits)**

The senior thesis/project demonstrates depth and sophistication in the major. Offered fall and winter semesters.

## **COM 600 - Systems Theory and Communication (3 credits)**

An advanced theory class that takes a systems theory approach to understanding human communication and professional communication problems and issues. Prerequisite: Admission to the Master of Science in communications.

## **COM 610 - Secondary Information and Analysis (3 credits)**

Examines available sources of information, how they are accessed, and how to interpret and analyze findings. Attention is also given to data retrieval, storage and analysis, creating files analysis of trends, and aggregating and collapsing information. Prerequisite: Prerequisite: Admission to the Master of Science in communications.

## **COM 620 - Empirical Methods in Communication (3 credits)**

The primary approaches to communication research with special emphasis on content analysis, survey research, focus groups, discourse analysis, projective techniques, sampling techniques,

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and proposal and report writing. Prerequisite: Prerequisite: Admission to the Master of Science in communications.

### **COM 624 - Public Health Communication (3 credits)**

Examines the fundamentals of public health communication, the role that it plays in health care delivery, disease prevention, and health promotion. Explores public health challenges and identifies strategies to confront them. Applies research-based models and theories of health assessment and promotion at individual, organizational, agency, governmental, and public levels. Offered each semester. Prerequisite: Admission to the Master of Public Health program or the Master of Science in communication.

### **COM 634 - Ethics in Professional Communication (3 credits)**

An examination of ethical issues and problems in professional communication. Special attention is given to understanding the connections between the communication industry and society, government, economics, and the law. Prerequisite: Admission to the Master of Science in communications.

### **COM 641 - Emerging Communication Technologies (3 credits)**

A graduate seminar exploring the nature of technological mediation, focusing upon the social and psychological impact of emerging communication technologies. Prerequisite: Admission to the Master of Science in communications.

### **COM 642 - Communication Law (3 credits)**

An examination of the law as it relates to communication. An appraisal of current thinking in communication law and future trends. Prerequisite: Admission to the Master of Science in communications.

### **COM 643 - Small Group Communication and Leadership (3 credits)**

Examines the life cycle and communication structure of the problem-solving group or task force. Emphasis on the emergence of roles and leadership as a result of the communication within the group. Also, communicative and behavioral patterns associated with leadership. Prerequisite: Admission to the Master of Science in communications.

### **COM 660 - Communication Management and Cases (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

The conceptualization of communication problems, definition of terms, determination of information needs, conceptualization/operationalization of primary research where needed, and implementation of findings into the decision-making process. Prerequisites: COM 660 and the Responsible Conduct of Research Training within the last three years.

## **COM 680 - Special Topics in Communications (3 credits)**

A study of special topics not regularly covered in the curriculum. Prerequisite: Admission into the Master of Science in communications.

## **COM 693 - Master's Project (3 credits)**

Master's project completed in consultation with the student's advisor and committee. Prerequisites: COM 660 and completion of the Responsible Conduct of Research Training within last three years.

## **COM 695 - Master's Thesis (3 credits)**

Master's thesis completed in consultation with the student's advisor and committee. Prerequisites: COM 660 and completion of the Responsible Conduct of Research Training within last three years.

## **COM 696 - Continuation of Master's Project or Thesis Research (1 credit)**

Continuation of work related to the master's project or thesis phase of the graduate student's program. Registration is required after all respective project or thesis credits are completed and the project or thesis is not completed. Work will be performed under the supervision of the project advisor or thesis committee chair. Offered every semester. Prerequisites: Completion of all required project or thesis credits and completion of the Responsible Conduct of Research Training within last three years.

## **COM 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

## **COM 699 - Independent Study (1 to 4 credits)**

Initiated by the student who has a special interest in a subject not available in the current curriculum. The student and the faculty sponsor agree on the scope of the study, its components, and methods of evaluation. Prerequisite: Admission into the Master of Science in communications program.

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## **CSD 100 - Introduction to Communication Disorders (3 credits)**

An introduction to a variety of communication disorders. A review of two professions, speech-language pathology and audiology, an overview of the sciences associated with communication, and an introduction to how various disorders affect communication. Offered every semester.

## **CSD 200 - Introduction to Hearing Science (3 credits)**

An exploration of the physiologic and psychological aspects of human hearing including acoustics of sound and psychoacoustics. Offered fall and winter semesters.

## **CSD 220 - Communication Development (3 credits)**

Course of speech and language development in children who are typically developing, explored from infancy to late adolescence with cultural implications discussed. Includes semantic, syntactic, morphological, phonological, pragmatic and phonetic aspects of communication. Emphasis placed on language, preliteracy and speech in toddlers and preschoolers, and school-age language and literacy. Offered fall and winter semesters.

## **CSD 302 - Anatomy and Physiology of the Speech and Hearing Mechanism (3 credits)**

This course provides study of structure and function of the respiratory, phonatory, auditory, articulatory, and nervous systems and their contribution to speech, language, and hearing. Offered every semester.

## **CSD 304 - Phonetics (3 credits)**

This course will examine the use of the International Phonetic Alphabet symbols and phonetic theory in analyzing, categorizing, and transcribing the sounds of the world's languages, focusing on American English, its various dialects, and speech sound disorders. Offered fall semester. Prerequisite: Admission to the CSD major.

## **CSD 306 - Speech Science (3 credits)**

This course is the study of speech sound production, focusing on the speech mechanism, the nervous system and their role in the production and perception of human speech. An overview of acoustics and the basic acoustics of speech are presented. Offered fall and winter semesters.

## **CSD 309 - Basic Audiology (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

An introduction to the identification and diagnosis of hearing impairment, with an emphasis on instrumentation and interpretation in clinical situations. Course covers an overview of the profession of audiology and test procedures related to specific practice settings. Offered every semester. Prerequisite: CSD 200.

## **CSD 401 - Neurological Foundations of Communication Disorders (3 credits)**

This course details the neurological foundations of communication disorders and includes an in-depth study of neuroanatomy as it pertains to the field of speech-language pathology. Offered winter semester.

## **CSD 404 - Audiologic Rehabilitation (3 credits)**

Introduction to audiologic rehabilitation across age groups, including speech/language development of individuals with hearing impairment, auditory perception, auditory training, speech reading, and psychosocial and education issues. The nature and accessibility of personal and educational amplification systems and assistive listening devices, counseling, and deaf culture are discussed. Prerequisites: CSD 305 and CSD 309.

## **DAN 175 - Freshman Company (1 credit)**

Rehearsal and performance of faculty or visiting-artist choreographed projects, production coursework, and technical crew assignments. May include touring, performance at school functions, and participation in off-campus events, annual concerts, or other programs. Must be taken twice by dance majors. Offered fall and winter semesters. Prerequisite: Restricted to dance majors and minors.

## **DAN 200 - Introduction to Dance (3 credits)**

An introduction to dance as an art form. This course is designed for the liberal arts student interested in learning to appreciate, understand, discuss, and write about dance. Fulfills Foundations - Arts. Offered fall and winter semesters.

## **DAN 211 - Choreography and Improvisation (3 credits)**

Study and investigation of choreography and improvisation. Course will focus on developing choreographic principles, devices and inspirations through structured exercises in human movement. Improvisational practices that enhance and further develop choreographic ideas will also be studied. Offered winter semester. Prerequisite: Restricted to dance majors and minors.

## **DAN 231 - Ballet Partnering (1 credit)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Sequential training in partnering technique, stressing the importance of strength and timing. Study of various performance styles as well as the relationship and harmony between male and female dancers. May be repeated for credit, up to a maximum of five credit hours. Offered fall semester. Prerequisite: Permission of the instructor.

## **DAN 241 - Ballet Technique 2 (2 credits)**

Sequential training in the technique and vocabulary of classical ballet with an emphasis on placement, alignment, coordination, flexibility, and movement quality. May be repeated for credit. Offered fall and winter semesters. Prerequisite: Restricted to dance majors and minors.

## **DAN 245 - Dance History: Evolving Traditions (3 credits)**

The interdisciplinary nature of dance as a cross-cultural phenomenon, tracing dance practices around the world including the early history of Western concert dance through writings and video from a variety of methodological backgrounds, including those from a historical, sociological, critical, aesthetic, and ethnological viewpoint. Course offered fall semester. Prerequisite: Restricted to dance majors and minors.

## **DAN 251 - Modern Technique 2 (2 credits)**

Sequential training in classical and postmodern dance techniques with an emphasis on breath, coordination, flexibility, movement dynamics, and musicality. May be repeated for credit. Offered fall and winter semesters. Prerequisite: Restricted to dance majors and minors.

## **DAN 262 - Pointe (1 credit)**

Sequential training in the principles of pointe technique and performance styles, emphasizing placement and strength of the feet and legs. May be repeated for credit, up to a maximum of five credit hours. Offered fall and winter semesters. Prerequisites: Audition and permission of the instructor.

## **DAN 271 - Men's Technique (1 credit)**

Sequential training in male ballet technique with concentration on turns, beats, and big jumps. May be repeated for credit, up to a maximum of five credit hours. Offered fall and winter semesters. Prerequisite: Permission of the instructor.

## **DAN 275 - Dance Company (1 credit)**

Rehearsal and performance of faculty or visiting artist-choreographed projects. May include touring, school functions, off-campus events, annual concerts, or other programs. Dance Company roles requiring pointe are restricted to DAN 262 students or students wearing pointe

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shoes in Ballet Technique at least twice a week. Dance majors must take twice. Offered fall and winter semesters. Prerequisites: Restricted to dance majors and DAN 175 with a C or better. Corequisites: One of DAN 231, DAN 241, DAN 251, DAN 262, DAN 271, DAN 281, DAN 341, DAN 351, DAN 381, DAN 441, DAN 451, or DAN 481.

## **DAN 281 - Jazz Technique 2 (2 credits)**

Sequential training in jazz technique drawn from a variety of sources both classical and contemporary. Dancers will be expected to improve speed, stamina, strength, flexibility, and rhythm. May be repeated for credit. Offered fall and winter semesters. Prerequisite: Restricted to dance majors and minors.

## **DAN 311 - Choreography and Production (3 credits)**

Advanced study and investigation of choreography. Course will focus on developing choreographic principles, devices and inspirations through structured exercises in human movement. Technical theatre production practices that enhance and further develop choreographic ideas will also be studied. Offered winter semester. Prerequisites: Restricted to dance majors and minors and DAN 211 with a C or better.

## **DAN 333 - Dance Costuming (2 credits)**

Study of the principles of costume design as it applies to body form and dance performance. Offered winter semester. Prerequisite: Restricted to dance majors and minors.

## **DAN 341 - Ballet Technique 3 (2 credits)**

Sequential training in the technique and vocabulary of classical ballet with an emphasis on placement, alignment, coordination, flexibility, and movement quality. May be repeated for credit. Offered fall and winter semesters. Prerequisites: Restricted to dance majors and minors, DAN 241 with a C or better, and permission of the instructor.

## **DAN 345 - Dance History: Expanding Performance (3 credits)**

The interdisciplinary nature of dance as a cross-cultural phenomenon, investigating developments in concert dance in the modern era; writings and video from a variety of methodological backgrounds, including those from a historical, sociological, critical, aesthetic, and ethnological viewpoint. Offered fall semester. Prerequisites: Restricted to dance majors and minors and DAN 245 with a C or better.

## **DAN 351 - Modern Technique 3 (2 credits)**

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Sequential training in classical and postmodern dance techniques with an emphasis on breath, coordination, flexibility, movement dynamics, and musicality. May be repeated for credit. Offered fall and winter semesters. Prerequisites: Restricted to dance majors and minors and DAN 251 with a C or better and permission of the instructor.

### **DAN 380 - Special Topics in Dance (1 to 4 credits)**

The opportunity to develop certain advanced skills or study material not regularly offered as part of the dance curriculum. Offered on sufficient demand. Prerequisite: Permission of instructor.

### **DAN 381 - Jazz Technique 3 (2 credits)**

Sequential training in jazz technique drawn from a variety of sources both classical and contemporary. Dancers will be expected to improve speed, stamina, strength, flexibility, and rhythm. May be repeated for credit. Offered fall and winter semesters. Prerequisites: Restricted to dance majors and minors and DAN 281 with a C or better, and permission of the instructor.

### **DAN 393 - Dance Conditioning (3 credits)**

An intensive practicum in conditioning for dance focusing on flexibility, coordination, strength, and endurance. Offered fall semester, every fourth year. Prerequisite: Restricted to dance majors and minors.

### **DAN 394 - Dance on Camera (3 credits)**

An intensive practicum in effective practices and principles of choreography for the camera, specifically focusing on camera techniques, video-editing software, and developing choreography viewed through the lens of a video camera. Course offered fall semester, every fourth year. Prerequisite: Restricted to dance majors and minors.

### **DAN 420 - Dance Pedagogy (3 credits)**

An intensive study of the theory and practice of dance teaching in arts education. Students will gain an understanding of current research and theories of dance education through readings, videos, and observations as a basis for developing a personal pedagogy. Offered winter semester. Prerequisites: Restricted to dance majors and minors and permission of instructor.

### **DAN 441 - Ballet Technique 4 (2 credits)**

Sequential training in the technique and vocabulary of classical ballet with an emphasis on placement, alignment, coordination, flexibility, and movement quality. May be repeated for credit. Offered fall and winter semesters. Prerequisites: Restricted to dance majors and minors, DAN 241 and DAN 341 with a C or better, and permission of the instructor.

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## **DAN 451 - Modern Technique 4 (2 credits)**

Sequential training in classical and postmodern dance techniques with an emphasis on breath, coordination, flexibility, movement dynamics, and musicality. May be repeated for credit. Offered fall and winter semesters. Prerequisites: Restricted to dance majors and minors, DAN 251 and DAN 351 with a C or better, and permission of the instructor.

## **DAN 481 - Jazz Technique 4 (2 credits)**

Sequential training in jazz technique drawn from a variety of sources both classical and contemporary. Dancers will be expected to improve speed, stamina, strength, flexibility, and rhythm. May be repeated for credit. Offered fall and winter semesters. Prerequisites: Restricted to dance majors and minors, DAN 281 and DAN 381 with a C or better, and permission of the instructor.

## **DAN 495 - Senior Project (3 credits)**

Proposal and creation of an individualized student Capstone project and a professional portfolio. Offered on demand. Prerequisite: Permission of the instructor.

## **DAN 499 - Dance Independent Study and Research in Dance (1 to 4 credits)**

Advanced independent study in problems of dance and dance education. To be arranged with the instructor. Offered fall and winter semesters as needed. Prerequisite: Permission of the instructor.

## **DS 201 - Digital Identities and Communities (3 credits)**

Students will reflect on their participation in digital cultures and communities to examine the structure and function of digital environments. They will explore how digital platforms inform and are informed by self-understanding, identity performance, community membership, and material experiences. Fulfills one of the Foundations - Social and Behavioral Sciences. Offered fall and winter semesters.

## **DS 202 - Digital Data and Design (3 credits)**

Students will gain a fundamental understanding of how digital data is collected, analyzed, and visualized/represented on various platforms. They will learn to locate and assess sources of data, and effectively and ethically represent those data, using relevant communication tools. Offered fall and winter semesters.

## **DS 310 - Digital Preservation and Archiving (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Explores challenges in digitization and managing digital content over time. Analyzes the methods librarians, archivists, curators, and other information professionals use to preserve and make digital content accessible. Emphasizes the changing nature of digital content, digital loss and persistence, and how technology helps and hinders archiving and accessibility.

### **DS 314 - Digital Literacies (3 credits)**

Increasingly, literary production and consumption are occurring in digital spaces using digital tools. This course will foster students' abilities to critically interpret literary texts using digital tools. Students will study literary authorship, readership, and analysis from the inception of the printing press to the present. Part of the Information, Innovation, or Technology Issue. Course is cross-listed with ENG 314. Offered winter and spring/summer semesters. Prerequisite: Junior standing.

### **DS 330 - Game Culture (3 credits)**

An examination of digital games, design, and players, and their role in society and culture. The course investigates purposes of games, such as entertainment, education, defense, marketing, health, urban planning, and emergency management. Students explore game theory and how games shape and are shaped by culture, society, and exigency.

### **DS 335 - Digital Crime, Media and Culture (3 credits)**

Examination of digital communication and media in relation to crime and victimization as it intersects with the United States and international criminal justice systems. Investigation of the use of digital spaces and media in relation to cultures of privacy, fraud, trafficking, emancipation, terror and perceptions of expanding and retracting democracy. Part of the Globalization Issue. Cross-listed with CJ 335. Offered every semester. Prerequisite: Junior standing.

### **DS 340 - Identity and Representation in Digital Culture (3 credits)**

Students will examine the default norms of digital communication (e.g. whiteness, heterosexuality, binary gender) and explore intersectional identities online (e.g. race, class, gender, sexuality, nationality, ability status). The course will investigate dominant and marginalized communities' use of digital spaces and media, considering the ethics of online communication, research, and participation. Part of the Identity Issue. Prerequisite: Junior standing.

### **DS 350 - Social Media in Culture (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

An examination of social media's role in shaping individuals and communities. Students evaluate how social media platforms express political, social, and cultural power. Students analyze how social media expands and limits conversations on issues concerning race, gender, sexuality, and diaspora. Part of the Information, Innovation, or Technology Issue. Prerequisite: Junior standing.

### **DS 360 - Ethics of Digital Culture (3 credits)**

This course will investigate the ethical concepts emerging alongside digital innovation. Students will explore topics including social media, issues of privacy and security, cyber warfare, virtual representation, and Internet access, plagiarism, and sustainability.

### **DS 380 - Special Topics in Digital Studies (1 to 3 credits)**

Readings, lectures, and/or discussions in specific topics not normally covered by other courses in the program.

### **DS 399 - Independent Study in Digital Studies (1 to 3 credits)**

Hours, credits, topics, and time to be arranged with individual faculty members with the approval of the department.

### **DS 490 - Internship in Digital Studies (3 credits)**

Internship experience in digital studies with individual faculty supervision focusing on either digital cultures or tools and production. Allows students the opportunity to apply theoretical digital studies knowledge to professional contexts. Course will include biweekly classroom discussion of assigned readings and workplace experiences. Offered every semester. Prerequisite: Director of digital studies permit required.

### **DS 495 - Digital Studies Capstone (3 credits)**

A culminating course in which students demonstrate their conceptual understanding and creative abilities as they relate to digital studies (DS). Each student completes digital project(s) for peer critique. Students critically reflect on their trajectory through the DS curriculum and explain how it relates to their future goals. Offered winter semester. Prerequisites: DS 201, DS 202, at least one course from the digital tools/production module, and one course from the digital culture module.

### **EAS 180 - Special Topics in East Asian Studies (1 to 4 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

A study of special topics not regularly covered in the curriculum. Expectations of this course approximate those in other 100-level courses. May be repeated for credit when the content varies.

### **EAS 201 - East Asia in the Contemporary World (3 credits)**

Prepares students for encountering East Asia in various ways. Introduces East Asian cultures, political and economic systems, international relationships, recent developments, traditional customs and behavior patterns, differences between regions, and historical roots of some contemporary situations. Fulfills Foundations - Historical Perspectives. Fulfills Cultures - Global Perspectives. Offered fall and winter semesters.

### **EAS 280 - Special Topics in East Asian Studies (1 to 4 credits)**

A study of special topics not regularly covered in the curriculum. Expectations of this course approximate those in other 200-level courses. May be repeated for credit when the content varies.

### **EAS 301 - Masterpieces of East Asian Literature (3 credits)**

Explores the literary masterpieces of China and Japan. Students will sample representative genres, such as poetry, dramas, novels, and short stories, from various periods that introduce the East Asian ways of thinking and living, namely, Confucian, Taoist, Buddhist, and Shinto. Offered winter semester of even-numbered years. Prerequisite: EAS 201 or junior standing.

### **EAS 333 - Study Abroad - East Asian Studies (1 to 6 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only. Credits may vary. Offered as needed. Prerequisites: Specific to course and instructor.

### **EAS 351 - Asian American Experiences (3 credits)**

This course examines the heterogeneous communities and experiences of Asian Americans. Students explore Asian American citizenship, belonging, and community formation. This course investigates how racialized and/or sexualized representations of Asian Americans in popular culture shape their engagement with the broader American culture. Part of the Identity Issue. Offered fall and winter semesters. Prerequisite: Junior standing.

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## **EAS 380 - Special Topics in East Asian Studies (1 to 4 credits)**

A study of special topics not regularly covered in the curriculum. Expectations of this course approximate those in other 300-level courses. May be repeated for credit when the content varies.

## **EAS 399 - Independent Studies (1 to 3 credits)**

Before registering, students must arrange for supervision by an East Asian Studies faculty member and submit a contract (available from the EAS coordinator) specifying the topic and scope of the study. Ordinarily, no more than three credits of EAS 399 may count toward the minor. Instructor approval required prior to registration. Offered every semester.

## **EAS 480 - Special Topics in East Asian Studies (1 to 4 credits)**

A study of special topics not regularly covered in the curriculum. Expectations of this course approximate those in other 400-level courses. May be repeated for credit when the content varies.

## **ECO 100 - Current Economic Issues (3 credits)**

Examination of current social issues from an economic perspective, such as drugs, rent control, environmental pollution, poverty, crime, and the distribution of medical care. Recommended for students interested in current issues. Students with any economics course at ECO 200 and above cannot take this course for credit. Fulfills Foundations - Social and Behavioral Sciences. Offered fall and winter semesters.

## **ECO 200 - Business Economics (3 credits)**

Analysis of business issues, including: demand and market pricing strategies, supply and production costs, profit maximization of firms in different markets, monetary and fiscal policy, and business cycles. Cannot be taken for credit if credit was obtained for either ECO 210 or ECO 211. Suitable only for students with strong analytical skills. Offered every semester. Prerequisite: MTH 110 or MTH 122 or MTH 201; sophomore standing recommended.

## **ECO 210 - Introductory Macroeconomics (3 credits)**

Introduction to the study of the national and global economies. Topics include the effects of government taxation and budget deficits on economic growth; ways to alleviate unemployment, inflation and international trade imbalances, and the importance of expectations and decision-

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making in an uncertain world. Fulfills Foundations - Social and Behavioral Sciences. Offered every semester. Prerequisite: MTH 110 or MTH 122 or MTH 201; sophomore standing recommended.

## **ECO 211 - Introductory Microeconomics (3 credits)**

Focuses on the interactions among households, producers, and governments in market economies. Applies fundamental methods of economic analysis to topics such as household spending and saving patterns; producer pricing, profits, and organization; wages and income distribution; investment decisions; health care and insurance; government taxes, spending, and regulation of markets. Fulfills Foundation - Social and Behavioral Sciences. Offered every semester. Prerequisite: MTH 110 or MTH 122 or MTH 201; sophomore standing recommended.

## **ECO 300 - Data Analytics for Economics and Business (3 credits)**

An introduction to empirical methods in economics and business. Uses spreadsheets and econometric software to manage data and apply visual and statistical analyses using economics and business data. Offered winter semester of even numbered years. Prerequisites: Fulfillment of general education Foundations - Writing, STA 215, either (ECO 200 or ECO 210 or ECO 211), and admission to Seidman College of Business or by permit.

## **ECO 312 - Applied Microeconomics (3 credits)**

Applies microeconomic analysis to business, personal, and public decisions. Topics include business cost and output decisions; consumer demand; pricing and allocation of goods, services, labor, and other resources in competitive markets; strategic pricing across markets; impact of government policies, services, taxes, and regulations on market operations. Offered every year. Prerequisites: Either (ECO 211 or ECO 200) and admission to Seidman College of Business or by permit.

## **ECO 313 - Business Cycles and Growth (3 credits)**

Topics include analysis of economic fluctuations and their impact on corporations and consumers; different explanations for business cycles; monetary and fiscal policy for stabilizing economic fluctuations; effects of public debt, investment, employment, and trade policy on economic growth. Offered every year. Prerequisites: Either (ECO 210 or ECO 200) and admission to Seidman College of Business or by permit.

## **ECO 330 - Sports Economics (3 credits)**

Examination of economic issues pertaining to professional and collegiate sports, including analysis of industrial organization and antitrust issues, labor relations, discrimination, and the

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impact of franchises on local economies. Part of the Information, Innovation, or Technology Issue. Offered winter semester. Prerequisites: Junior standing, completion of Foundations - Social and Behavioral Sciences, and admission to Seidman College of Business or by permit.

### **ECO 336 - Urban and Real Estate Economics (3 credits)**

Applies economic models and methods for understanding urban real estate markets. Topics include urbanization and urban growth; determinants of land rents and urban spatial structure; characteristics and determinants of real estate markets; location choice; transportation, poverty, crime, and education in cities; relationship between real estate markets and business cycles. Offered winter semester. Prerequisites: Either (ECO 211 or ECO 200) and admission to Seidman College of Business or by permit.

### **ECO 343 - Health Economics (3 credits)**

Application of microeconomic tools to health and medical care issues. Topics include demand for health care, economic choices of medical care providers, insurance markets, economic justification for government involvement in the medical care system, various proposals for health care reform in the U.S. and different health care systems in the world. Part of the Health Issue. Offered fall semester. Prerequisites: Junior standing, either (ECO 211 or ECO 200), and admission to Seidman College of Business or by permit.

### **ECO 345 - Environmental and Resource Economics (3 credits)**

Develops a systematic economic framework to analyze market and government allocations of natural and environmental resources. Topics include relationships between population growth, land development, and environmental quality; regulatory versus market oriented environmental policies; supplies and prices of mineral and energy resources; harvest and protection of forests and fisheries. Part of the Sustainability Issue. Offered each year. Prerequisites: Junior standing, either (ECO 200 or ECO 211), and admission to Seidman College of Business or by permit.

### **ECO 349 - Emerging Markets Issues (3 credits)**

Important problems in emerging markets throughout the world, such as: policies to stimulate growth via international trade; foreign aid and multinational investment in transitional economics; the use of natural resources and agriculture in economic development; and the relationship of economic development to education, health and migration. Fulfills Cultures - Global Perspectives. Part of the Globalization Issue. Offered every other year. Prerequisites: Junior standing, either (ECO 200 or ECO 210), and admission to Seidman College of Business or by permit.

### **ECO 350 - Economics of Gender (3 credits)**

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Analysis of gender differences in employment and earnings. Topics include allocation of time between the household and the labor market, employment and family structure, theories of discrimination, antipoverty programs, comparable worth, parental leave, and affirmative action. Historical trends and cross-cultural comparisons are discussed along with current U.S. conditions. Part of the Identity Issue. Prerequisites: Junior standing and admission to Seidman College of Business or by permit.

## **ECO 355 - Markets, Strategy, and Government Policy (3 credits)**

Analysis of firms' market strategies and an introduction to government policy regarding market behavior. Topics include models of market structure, game theory, regulation, and anti-trust policy. Offered once a year. Prerequisites: Either (ECO 211 or ECO 200) and admission to Seidman College of Business or by permit.

## **ECO 360 - The Economics of Work and Family (3 credits)**

Economic analysis of families and family members, employment and earnings. Topics include allocation of time between the household and the labor market, employment and family structure, theories of discrimination, anti-poverty programs, and labor market policies related to gender and family structure. Offered every other year. Prerequisites: Either (ECO 211 or ECO 200) and admission to Seidman College of Business or by permit.

## **ECO 365 - Comparative Economic Systems (3 credits)**

Relative to such economic goals as economic freedom, full employment, growth, efficiency, consumer welfare, equitable distribution of income and security, how well do alternative economic systems perform? This course studies contemporary, evolving capitalist, socialist, and mixed systems in different countries. Part of the Globalization Issue. Offered every other year. Prerequisites: Junior standing, either (ECO 210 or ECO 200), and admission to Seidman College of Business or by permit.

## **ECO 369 - International Economic Issues (3 credits)**

Selected topics in both international trade and international finance. Includes preferential trading arrangements such as NAFTA and the European Union, analysis of barriers to trade and arguments for and against protectionism, the influence of exchange rates on capital flows, and the relationship between international trade and economic growth. Fulfills Cultures - Global Perspectives. Offered every year. Prerequisites: Either (ECO 200 or ECO 210) and admission to Seidman College of Business or by permit.

## **ECO 380 - Special Topics in Economics (1 to 3 credits)**

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Studies of selected authors, concepts, movements, periods, theories or countries. Topics and prerequisites will be listed in the class schedule. Prerequisite: Admission to Seidman College of Business or by permit.

## **ECO 385 - GIS in Urban and Regional Analysis (3 credits)**

Focus on applications of Geographic Information Systems (GIS) techniques in urban and regional analysis. Using a hands-on approach, students will explore how to use GIS techniques and large data sets to analyze economic, demographic and social change in the knowledge-based economy. Part of the Information, Innovation, or Technology Issue. Cross-listed with GPY 385. Offered fall semester. Prerequisites: Junior standing and admission to Seidman College of Business or by permit.

## **ECO 400 - Econometrics and Forecasting (3 credits)**

Gives students a working knowledge of sources of economic and business data, empirical model building, and economic interpretation of statistical results. Topics include regression analysis, designing models, forecasting and hypothesis testing. Emphasis on business and policy applications. Prerequisites: One of (ECO 200, ECO 210 or ECO 211); (STA 215 or STA 312); one of (ECO 300, STA 216, or MTH 201); and admission to Seidman College of Business or by permit.

## **ECO 414 - Money and Banking (3 credits)**

Contemporary issues related to the role of money in a modern economy, regulation and performance of banks, and the Federal Reserve Bank's policy to control economic fluctuations and promote growth. Offered every year. Prerequisites: Either (ECO 210 or ECO 200) and admission to Seidman College of Business or by permit.

## **ECO 440 - Public Economics and Ethics (3 credits)**

The provision of goods and services in the public sector, government decision-making, and fair and efficient taxation will be analyzed in light of the interaction between ethics and economics. Offered fall semester. Prerequisites: Either (ECO 211 or ECO 200); and admission to Seidman College of Business or by permit.

## **ECO 450 - Advanced Economic Policy and Analysis (3 credits)**

This is a projects-based course in economics and economic data science. Students will analyze current macroeconomic conditions to determine optimal monetary policy. Students will also learn and apply foundational data analysis techniques using firm-level data. Designed for advanced students and/or those pursuing an honors minor or honors emphasis in economics.

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Offered fall semester. Prerequisites: Either (ECO 313 or ECO 414), and either (ECO 300 or ECO 400), and 3.2 overall GPA (or with departmental permission).

## **ECO 480 - Special Topics in Economics (1 to 3 credits)**

Readings, lectures, and/or discussions in specific topics not normally covered by other courses in the program.

## **ECO 490 - Economics Internship (1 to 6 credits)**

This course will be used to grant economics credit to students who complete internships in the economics field. May not be used to fulfill the upper-division cognate requirement for business majors. Prerequisites: Junior standing, minimum 3.0 GPA, and admission to Seidman College of Business or by permit. Graded credit/no-credit.

## **ECO 495 - Senior Economic Project (Capstone) (3 credits)**

Seminar style course in empirical methods in economics. The nature of empirical methods and their relationship to economic theory is discussed. Presentation and discussion of empirical papers from the literature. Economics faculty may present own research. Students will design, conduct and present an empirical research paper. Offered winter semester. Prerequisites: ECO 300, (ECO 312 and ECO 313; one may be taken concurrently), and admission to Seidman College of Business or by permit.

## **ECO 499 - Independent Study and Research (1 to 4 credits)**

Independent study in an area of interest to the student, supervised by a member of the economics faculty and cumulating in a written and oral report. Offered fall and winter semesters. Prerequisite: Admission to Seidman College of Business or by permit.

## **ECO 542 - Economic Reasoning (3 credits)**

An examination of economic concepts, principles, definitions, and relationships. Designed to provide analytical micro and macroeconomic techniques and concepts necessary to reason from an economic point of view. Offered fall and winter semesters. Prerequisite: MTH 110. Equivalent to ECO 210 and ECO 211.

## **ECO 641 - Business Economics and Strategy (3 credits)**

Develops an analytical framework to identify and evaluate cost-cutting or revenue-enhancing strategies. Topics include economics of production costs and consumer demand, projections using supply/demand analysis, competitive labor markets and employee compensation strategies, cost benefit analysis of investment projects, decision-making under uncertainty, product pricing

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strategies, make or buy decisions, economics of business organization. Offered fall and winter semesters. Prerequisite: Completion of M.B.A. background equivalents.

### **ECO 643 - Health Economics (3 credits)**

This course employs economic tools to understand issues related to health care. Students will learn how to evaluate cost-benefit analysis, assess cost effectiveness, and interpret regression analysis. Microeconomic issues include resource allocation, production efficiencies, market structure, and industry performance. Macroeconomic issues include national policy, equity, and health care reform. Cross-listed with PNH 633. Offered fall and winter semesters. Prerequisite: Admission to the M.B.A., M.S.A., or M.S.T. program, or permission of the graduate business programs director.

### **ECO 680 - Special Topics in Economics (1 to 3 credits)**

Analysis of contemporary and controversial issues in a specific area of economics. Although the course content is applications-oriented, it varies depending on students and faculty interests. Consult the current schedule of classes for details. Prerequisite: Completion of M.B.A. background equivalents.

### **ECO 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

### **EDC 601 - Content/Curriculum Workshop (1 to 3 credits)**

Advanced-level workshops that provide a breadth and depth of understanding in content and curriculum of educational programs. Topics may vary and prerequisites may be established.

### **EDC 621 - The Profession of School Counseling (3 credits)**

This course provides an introduction to the profession of school counseling and is the first course in the program. The philosophy, principles, and theories of school counseling are taught including national standards and ethical and legal issues. At least 15 supervised practicum hours must be completed in a school setting. Offered at least once a year.

### **EDC 623 - Social/Emotional Development (3 credits)**

This course provides students with knowledge and practice in developmental counseling appropriate for students within elementary, middle, high school, and higher education settings. The process of consultation with teachers, parents, and support personnel is taught. At least 20

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supervised practicum hours must be completed in a school counseling setting. Offered winter semester. Prerequisite: EDC 621.

### **EDC 625 - Academic Development (3 credits)**

This course provides students with strategies to support academic success of students in schools. It includes the acquisition of skills in decision-making, problem solving, and goal setting, critical thinking, and interpersonal communication emphasizing small group counseling. At least 20 supervised practicum hours must be completed to support academic development. Offered winter semester. Prerequisite: EDC 621.

### **EDC 649 - Career Development (3 credits)**

This course examines the principles and processes involved in supporting career development. Students will explore a variety of theories, philosophies, and programs related to career development and its role in kindergarten through postsecondary educational settings. School counseling candidates must complete at least 20 supervised practicum hours to demonstrate educational development planning. Offered at least once a year.

### **EDC 651 - School Counseling Curriculum and Techniques (3 credits)**

This course examines the process of the school counseling. It includes basic principles related to assessing, interviewing, assisting, and referring students. Emphasis is placed on school counseling curriculum in affecting the positive mental health of students. At least 25 practicum hours are incorporated through counseling skills recordings and reflections. Offered at least once a year.

### **EDC 680 - Special Topics in School Counseling (1 to 3 credits)**

Study of selected topics in education. Offered upon sufficient demand.

### **EDC 685 - Internship in School Counseling (3 to 6 credits)**

A 600-hour, field-based learning experience in schools designed to provide comprehensive practice for school counseling candidates over one or two semesters. Each internship must be approved by the faculty coordinator/advisor. An internship seminar will meet weekly to provide university supervision. Offered fall and winter semesters. Prerequisites: EDC 621, EDC 623, EDC 649, EDC 651, and EDC 625 (EDC 625 may serve as a corequisite).

### **EDC 693 - Master's Project (1 to 3 credits)**

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The student identifies a problem, reviews literature, creates a product based on applicable literature, research or theory that addresses the problem, and develops a plan for implementation and evaluation. Offered every semester. Prerequisites: Completion of 27 credit hours; EDF 660; application required (application deadline: fall May 15; winter September 15; spring/summer February 15); and completion of the Responsible Conduct of Research Training within the last three years.

## **EDC 695 - Master's Thesis (1 to 6 credits)**

Involves either theoretical research or empirical research that identifies an issue or question, reviews literature, designs a study, gathers and analyzes data or evidence, and presents interpretations or conclusions. Offered every semester. Prerequisites: Completion of 27 credit hours, EDF 660, application required (application deadline: fall May 15; winter September 15; spring/summer February 15), and completion of the Responsible Conduct of Research Training within the last three years.

## **EDC 696 - Continuation of Master's Project or Thesis Research (1 credit)**

Continuation of work related to the master's project or thesis phase of the graduate student's program. Registration is required after all respective project or thesis credits are completed and the project or thesis is not completed. Work will be performed under the supervision of the project advisor or thesis committee chair. Offered every semester. Prerequisites: Completion of all required project or thesis credits and completion of the Responsible Conduct of Research Training within last three years.

## **EDC 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

## **EDC 699 - Independent Study in School Counseling (1 to 3 credits)**

Individual study of a theoretical or applied problem in education. Offered each semester. Prerequisites: Consent of advisor and demonstrated ability to pursue special study or investigation proposed.

## **EDF 100 - Teaching and Learning in a Diverse Environment (2 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Designed to acquaint students with teaching and culture of schools through a 25-hour field experience. Students will learn fundamental instructional principles, engage in one-on-one academic support, and write/discuss their experiences. General knowledge of public schools and the foundations of American education will be addressed through readings and discussions. Offered fall and winter semesters.

## **EDF 115 - Introduction to Education: An Exploration of Schooling in America (3 credits)**

This field-based course explores the way schools work and introduces students to the professional roles and responsibilities of educators. Students learn principles of teaching and learning, including social and cultural factors that shape learning outcomes. Students spend up to 30 exploratory hours in various educational settings. Fulfills one of the Foundations - Social and Behavioral Studies. Offered fall and winter semesters.

## **EDF 215 - Introduction to Philosophies of Early Childhood (3 credits)**

Inquiry into the different and unique perspectives of early childhood education - including historical, social, theoretical, and philosophical foundations of the field. Course will examine how schools of philosophies impact how we see children, learning, and education and how they help us understand modern day movements, issues, and events. Fulfills Foundations - Philosophy and Literature. Offered fall and winter semesters.

## **EDF 260 - Educational Research and Assessment: Foundations of Practice (3 credits)**

Presents the basic principles, techniques and ethical considerations underlying educational research and assessment. Students will learn about the action research cycle and the ethical uses of empirical evidence and assessments to inform practice. Offered fall and winter semesters.

## **EDF 315 - Diverse Perspectives on Education (3 credits)**

This course will introduce the historical, philosophical, and sociological foundations of education in the United States. Emphasis will be placed on the changing purposes of education historically, the legal and procedural expansion of schooling to an increasingly diverse student population, and the cultural competencies needed to teach all students effectively. Fulfills Cultures - U.S. Diversity. Offered every semester. Prerequisite: Sophomore standing.

## **EDF 316 - Global Perspectives on Education (3 credits)**

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Globalization is changing the purposes of education around the world, both increasing competition and enhancing global citizenship. This course will examine the interrelationship between sociocultural contexts and education in multiple countries, the impact of globalization on educational policies and practices, and global perspectives on these emerging challenges and opportunities. Fulfills Cultures - Global Perspectives. Part of the Globalization Issue. Offered winter semester. Prerequisite: Junior standing.

## **EDF 320 - International Teaching Certificate Preparation (1 credit)**

This course will deliver pre-departure training and include destination specific exploration of culture, history, geography, and health/safety information. Students will define their own cultural and educational beliefs as they are challenged to expand their international and education awareness. Offered fall and winter semesters. Prerequisite: Admission into a College of Education and Community Education sponsored study/teach abroad program.

## **EDF 325 - Learning from Detroit: Education and Community Revitalization (3 credits)**

This course studies community revitalization efforts in the city of Detroit. Focusing on community-based initiatives that are strengthening neighborhoods, improving schools, and fostering the well-being of children, families, and neighborhoods in Detroit, this course invites students with diverse perspectives from across content areas. The class includes two visits to Detroit. Part of the Identity Issue. Cross-listed with IDS 325. Offered fall semester. Prerequisite: Junior standing.

## **EDF 380 - Special Topics in Foundations (1 to 3 credits)**

Independent supervised study on selected topics that are not dealt with in-depth in other courses. Offered upon sufficient demand.

## **EDF 399 - Independent Study in Foundations (1 to 3 credits)**

Independent supervised study on selected topics that are not dealt with in-depth in other courses. Offered upon sufficient demand.

## **EDF 485 - The Context of Educational Issues (3 credits)**

This culminating education course will explore the context of contemporary educational issues. Students will analyze and critique current educational practices and policies, and draw upon foundational perspectives in addressing such issues. Offered every semester. Prerequisite: EDI 430 or EDI 431 (may be taken concurrently).

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## **EDF 495 - Capstone: Reflective Inquiry and Practice (3 credits)**

Explores the context of contemporary educational issues. Students draw upon foundational perspectives to analyze and critique current educational practices and policies. To develop their professional capacities, students will use action research to integrate and apply their knowledge and skills when making curricular and instructional decisions. Offered fall and winter semesters. Corequisite: EDI 430 or EDI 431.

## **EDF 499 - Independent Study in Foundations (1 to 3 credits)**

Independent supervised research and study in special areas of education, prearranged with a faculty sponsor and approved by the director. Offered upon demand.

## **EDF 601 - Content/Curriculum Workshop (1 to 3 credits)**

Advanced-level workshops that provide a breadth and depth of understanding in content and curriculum of educational programs. Topics may vary and prerequisites may be established.

## **EDF 633 - Race, Class, and Language (3 credits)**

Interdisciplinary course incorporating the views of linguists, psychologists, sociologists, educators, and speech researchers. Exploration of the background literature and practical implications of the problems raised by social class and ethnic differences in language. Offered at least once a year.

## **EDF 634 - Teaching the At-Risk Student (3 credits)**

Issues and concerns and programs in implementing effective programs for students from at-risk backgrounds. Offered at least once a year.

## **EDF 635 - Survey of Urban Education (3 credits)**

Study of the historical, sociological, and educational bases of urban education.

## **EDF 650 - Classroom Management (K-12) (3 credits)**

An examination of the differentiation of the terms "discipline" and "classroom management." Review and study of such interrelated subjects as authority, rules, power, responsibility, types and degrees of control, and the many related attitudes, standards, and prejudices that combine to complicate a problem. Offered at least once a year.

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## **EDF 653 - School Learning (3 credits)**

Consideration of learning situations in the light of psychological findings and concepts. Development of a theory of learning and its applications to the teaching of attitudes, skills, concept formation, and understanding. Offered at least once a year.

## **EDF 660 - Educational Inquiry and Evaluation (3 credits)**

Introduces educational inquiry and explores the impact it can have on educational institutions. Investigates educational evaluation. Provides foundational research knowledge necessary for Capstone courses EDF 693 and EDF 695. Offered every semester.

## **EDF 661 - Educational Testing and Measurement (3 credits)**

Study of school testing, selection, and evaluation of norm-based and criterion-based instruments, informal assessment, norm-based profiles, descriptive statistical analysis, and survey research. Review of ethical and legal issues in testing minority and special needs populations. Offered every semester.

## **EDF 671 - Educational Policy and Practice (3 credits)**

Course offers an advanced examination of social foundations, theories, and perspectives in education in preparation for an analysis and critique of selected policy related issues and practices in U. S. education. Offered every semester.

## **EDF 672 - Social/Cultural Foundations of Education (3 credits)**

Examines education as a social and cultural phenomenon. Explores the implications of this perspective on educational experience in general and the processes of teaching and learning in particular. Offered every semester.

## **EDF 675 - Cultural and Educational Foundations of Ecological Issues (3 credits)**

The learner will develop an understanding of the intimate connection between social justice, environmental issues, and education through examination of the historical and philosophical foundations of Western culture and education and how these may undermine or enhance sustainable and equitable relations between humans and other living systems. Offered fall and spring/summer semesters.

## **EDF 676 - Introduction to Place-Based Education (3 credits)**

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Place-based education is the process of using the local community and environment as the basis for curriculum and learning. This course will assist students in understanding the fundamental principles and practices of place-based education that nurture academic skills, strong ties to community, civic engagement, local-global connections, and sustainable practices. Offered winter and spring/summer semesters.

### **EDF 677 - Citizenship, Activism, and Community Problem-Solving (3 credits)**

Academic concepts learned in previous courses will be applied to address concrete social and environmental problems in real-world community contexts. Students will collaborate with community organizations, place-based education programs, or other initiatives to utilize their knowledge and skills in working with others to address issues specific to their place. Offered fall and spring/summer semesters. Prerequisites: EDF 675 and EDF 676.

### **EDF 680 - Special Topics in Foundations (1 to 3 credits)**

Study of selected topics in education. Offered upon sufficient demand.

### **EDF 693 - Master's Project (1 to 3 credits)**

The student identifies a problem, reviews literature, creates a product based on applicable literature, research or theory that addresses the problem, and develops a plan for implementation and evaluation. Offered every semester. Prerequisites: Completion of 27 credit hours, EDF 660, application required (application deadline: fall May 15, winter September 15, spring/summer February 15), and completion of the Responsible Conduct of Research Training within last three years.

### **EDF 695 - Master's Thesis (1 to 6 credits)**

Involves either theoretical research or empirical research that identifies an issue or question, reviews literature, designs a study, gathers and analyzes data or evidence, and presents interpretations or conclusions. Offered every semester. Prerequisites: Completion of 27 credit hour, EDF 660, application required (application deadline: fall May 15, winter September 15, spring/summer February 15), and completion of the Responsible Conduct of Research Training within last three years.

### **EDF 696 - Continuation of Master's Project or Thesis Research (1 credit)**

Continuation of work related to the master's project or thesis phase of the graduate student's program. Registration is required after all respective project or thesis credits are completed and the project or thesis is not completed. Work will be performed under the supervision of the

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project advisor or thesis committee chair. Offered every semester. Prerequisites: Completion of all required project or thesis credits and completion of the Responsible Conduct of Research Training within last three years.

### **EDF 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

### **EDF 699 - Independent Study in Foundations (1 to 3 credits)**

Individual study of a theoretical or applied problem in education. Offered each semester. Prerequisites: Consent of advisor and demonstrated ability to pursue special study or investigation proposed.

### **EDH 181 - Navigating College Success (1 credit)**

Introduction to recommended academic, social and personal skills, highlighting the expectations and needs of successful college students in the context of Grand Valley State University's diverse community. Offered fall and winter semesters.

### **EDH 182 - Strategies for Academic Success (2 credits)**

Examines factors that influence the academic performance of college students. Identifies social, affective, and cognitive barriers negatively impacting learning. Introduces strategic approaches for improving academic performance, which are tailored to individual students, implemented and evaluated. Highlights university resources for supporting academic performance. Offered every semester.

### **EDH 601 - Content/Curriculum Workshop (1 to 3 credits)**

Advanced-level workshops that provide a breadth and depth of understanding in content and curriculum of educational programs. Topics may vary and prerequisites may be established.

### **EDH 647 - Theories of College Student Development (3 credits)**

This course examines the major student development theories used by college student affairs practitioners in the higher education environment. Offered at least once a year.

### **EDH 648 - The Adult Learner (3 credits)**

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Emerging theories and techniques for teaching the adult learner. Focus upon the adult's deliberate efforts at learning, developing, growing, changing, and learning difficulties. Offered at least once a year.

### **EDH 650 - Materials and Methods for Adult and Continuing Education (3 credits)**

Materials and methods of teaching the adult learner in school and nonschool settings. Offered at least once a year.

### **EDH 651 - Higher Education and Student Affairs Functions (3 credits)**

Provides an overview of the historical development of American higher education and an introduction to the evolution of student affairs functions in the academy. Offered at least once a year.

### **EDH 652 - The American College Student (3 credits)**

Examines the characteristics, values, expectations, and needs of contemporary college students in the context of student development theory. Offered at least once a year.

### **EDH 653 - Administration of Student Affairs Programs (3 credits)**

Examines the philosophy, organization and delivery of support programs, services, and cocurricular learning experiences for college students. Offered at least once a year. Prerequisite: EDH 651.

### **EDH 654 - Student Affairs Administrators and the Law (3 credits)**

Provides an overview of the legal issues and challenges that confront student affairs administrators in the higher education environment. Offered at least once a year. Prerequisite: EDH 651.

### **EDH 655 - Intervention Strategies for Student Development (3 credits)**

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Examines the interventions used by student affairs practitioners to facilitate students' learning about themselves, about other people, and about ideas. Offered at least once a year. Prerequisite: EDH 647.

## **EDH 656 - Organization and Administration in Higher Education (3 credits)**

Theory and models of organizational structure, administrative behavior, funding, governance and management of higher education; processes and factors influencing institutional decision-making and higher education planning. Offered once per year. Prerequisite: EDH 651.

## **EDH 657 - The Community College (3 credits)**

The community college will explore the organizational behaviors and administrative practices unique to community colleges. Drawing on current and historical research, the course will examine educational philosophy and curricular objectives, student demographics, faculty and staff development, governance and leadership, and financial management of community colleges. Offered once per year. Prerequisite: EDH 651.

## **EDH 658 - Critical Issues in Higher Education (3 credits)**

Critical issues in higher education will provide a study of contemporary higher education and will include an analysis of the changing needs and demands of society and how they impact higher education. Attention is centered on issues emphasizing organization and administration, curriculum, college students, faculty, and retention. Offered once per year.

## **EDH 659 - Gender and Sexuality in Higher Education (3 credits)**

This course provides an overview of how notions of gender and sexuality as they converge with additional categories of race or (dis)ability, for example, operate to structure the distribution of access and resources in higher education contexts. Offered once per year. Prerequisite: EDH 651.

## **EDH 680 - Special Topics in Higher Education (1 to 3 credits)**

Study of selected topics in education. Offered upon sufficient demand.

## **EDH 685 - Practicum/Graduate Field Experience in Higher Education I (3 credits)**

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Field-based experience designed to provide clinical experience for graduate students. Each practicum shall be no less than the minimum requirements set forth by state and accrediting agencies and must be with approval by the appropriate program personnel. All practica will require seminars. Offered at least once a year. Prerequisites: Candidates must apply separately to the College of Education and Community Innovation by February 15 for spring/summer; May 15 for fall semester, and September 15 for winter semester.

## **EDH 686 - CSAL Practicum/Graduate Field Experience II (3 credits)**

Field-based experience designed to provide clinical experience for graduate students. Each practicum shall be no less than the minimum requirements set forth by state and accrediting agencies and must be approved by the appropriate program personnel. All practica will require seminars. Offered twice per year. Prerequisite: EDH 685.

## **EDH 693 - Master's Project (3 credits)**

The student identifies a problem, reviews literature, creates a product based on applicable literature, research or theory that addresses the problem, and develops a plan for implementation and evaluation. Offered every semester. Prerequisites: Completion of 27 credit hour, EDF 660, application required (application deadline: fall May 15, winter September 15, spring/summer February 15); and completion of the Responsible Conduct of Research Training within the last three years.

## **EDH 695 - Master's Thesis (1 to 6 credits)**

Involves either theoretical research or empirical research that identifies an issue or question, reviews literature, designs a study, gathers and analyzes data or evidence, and presents interpretations or conclusions. Offered every semester. Prerequisites: Completion of 27 credit hour, EDF 660, application required (application deadline: fall May 15, winter September 15, spring/summer February 15), and completion of the Responsible Conduct of Research Training within the last three years.

## **EDH 696 - Continuation of Master's Project or Thesis Research (1 credit)**

Continuation of work related to the master's project or thesis phase of the graduate student's program. Registration is required after all respective project or thesis credits are completed and the project or thesis is not completed. Work will be performed under the supervision of the project advisor or thesis committee chair. Offered every semester. Prerequisites: Completion of all required project or thesis credits and completion of the Responsible Conduct of Research Training within last three years.

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## **EDH 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

## **EDH 699 - Independent Study in Higher Education (1 to 3 credits)**

Individual study of a theoretical or applied problem in education. Offered each semester. Prerequisites: Consent of advisor and demonstrated ability to pursue special study or investigation proposed.

## **EDI 310 - Building and Sustaining Positive Learning Environments (3 credits)**

Focuses on current theories and methodologies that build, develop, and sustain positive classroom learning environments and maximize productive behaviors for teaching and learning. Emphasis is on understanding personal and learning needs, structuring the environment, and recognizing and responding to children's behavior to meet learning needs. Offered fall and winter semesters. Corequisite: EDI 330.

## **EDI 311 - Assessing the Young Child (3 credits)**

Study of goals, benefits, uses, and methods of effective assessment of young children. Prepares candidates to assess and understand the development and learning of young children, and apply findings to plan, implement and evaluate effective curriculum. Requires some field-based work outside of class. Offered fall and winter semesters. Prerequisite: PSY 305 (may be taken concurrently).

## **EDI 312 - Child Guidance (3 credits)**

Focuses on understanding the child as a full person deserving of human rights as articulated in the UN Convention on the Rights of the Child treaty. Develops understanding of the social context, child development, needs and rights; diversity, vulnerabilities, methods and strategies that foster social emotional, physical, and cognitive development. Part of the Human Rights Issue. Offered fall and winter semesters. Prerequisite: Junior standing.

## **EDI 313 - Programs for Children Birth to Age Three (3 credits)**

Prepares candidates to create and facilitate inclusive learning environments for children from birth-age to three years old. Focuses on comprehensive theories of child development, social

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context, understanding and engaging diverse families, elements of quality programs and research-based practices, resources, professional guidelines/ethics, and policies and regulations for infant/toddler programs. Requires field-based assignments. Offered fall and winter semesters. Prerequisite: PSY 305.

### **EDI 314 - Teaching Young Children with High Needs (3 credits)**

This course prepares candidates to support the learning and development of children with a range of needs through effective assessment, responsive teaching strategies, and individualized curriculum. Emphasis on working in partnership with other professionals and families, and utilizing a range of resources, including assistive technology. Includes field-based assignments. Offered fall and winter semesters. Prerequisite: PSY 305.

### **EDI 315 - Curriculum and Learning in Pre-K/Primary Programs (3 credits)**

Focuses on relationships between developmental theory, developmentally and culturally relevant practices, curriculum, and authentic assessment for diverse groups of children in preschool and primary programs. Considers sociocultural contexts and family partnerships to create environments and learning experiences to support optimal learning and development. Requires field-based assignments. Offered fall and winter semesters. Prerequisite: PSY 305.

### **EDI 317 - Collaborating with Families and Professionals (3 credits)**

Prepares teacher candidates to engage families in respectful, reciprocal relationships that support learning and child development. Prepares candidates to work with a variety of professionals within school and local communities. Includes field-based assignments. Offered fall and winter semesters. Prerequisite: PSY 301 or PSY 305.

### **EDI 330 - Elementary Apprenticeship PK-6 (6 credits)**

Daily half-day experience in a PK-6 classroom as a teaching apprentice. Includes a weekly seminar covering content methodology and equitable instructional practices, professional development on current and critical topics in the field, and a one week (four mornings and one full day) intensive on-campus pedagogy workshop. Corequisites: EDI 310.

### **EDI 331 - Methods and Strategies of Secondary Teaching (5 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Half-day field experiences as teacher assistant in a secondary classroom for a minimum of 13 weeks. Includes two-hour weekly seminars covering content area methodology (with major field advisor) and instructional strategies. Offered fall and winter semesters. Note: Music majors complete teacher assisting fall semester only. Students must follow the holiday break schedule designated by the K-12 district for their school placement/assignment, not the GVSU holiday break schedule. Prerequisite: Admission to the College of Education and Community Innovation. Corequisites: EDI 310 and EDR 321.

### **EDI 338 - Teachers as Decision Makers: Instruction and Assessment in Elementary Schools (3 credits)**

An introductory course for pre-service educators focusing on P-6 classroom assessment beliefs and practices. Instruction focuses on understanding the learning theories within which the work in classroom assessment occurs, understanding and applying specific assessment methods and practices, and communicating assessment results about P-6 student achievement. Offered every semester. Prerequisite: Sophomore standing.

### **EDI 339 - Teachers as Decision Makers: Instruction and Assessment in Secondary Schools (3 credits)**

An introductory course for pre-service educators focusing on 7-12 classroom assessment beliefs and practices. Instruction focuses on understanding the learning theories within which the work in classroom assessment occurs, understanding and applying specific assessment methods, and communicating assessment results about 7-12 student achievement. Offered every semester. Prerequisite: Sophomore standing.

### **EDI 380 - Special Topics in Instruction and Curriculum (1 to 3 credits)**

Independent supervised study on selected topics that are not dealt with in depth in other courses. Offered upon sufficient demand.

### **EDI 399 - Independent Study in Instruction and Curriculum (1 to 3 credits)**

Independent supervised study on selected topics that are not dealt with in depth in other courses. Offered upon sufficient demand.

### **EDI 416 - Teaching Early Language and Literacy (3 credits)**

An in-depth, critical study of theories and methods for supporting early language and literacy during the ages from birth to age eight. Culturally and developmentally relevant assessment,

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curriculum, and pedagogy are emphasized as candidates apply knowledge of theory, research, and best practices. Requires field-based experience. Offered fall and winter semesters. Prerequisite: PSY 305.

## **EDI 418 - Administration and Supervision in Early Childhood Education (3 credits)**

A study of the organization, administration, and skills required in the direction of early childhood education programs. Knowledge base includes understanding of professional guidelines and ethics, as well as pertinent federal, state, and local standards of quality, regulations and support services. Requires field-based experiences. Offered fall and winter semesters. Prerequisite: PSY 305.

## **EDI 430 - Student Teaching, Elementary (10 credits)**

Daily full-day experience in a PK-6 classroom as a teaching intern. Includes a weekly seminar covering implementation of equitable instructional, assessment and management practices, professional development on current and critical topics in the field, and personal reflection. Prerequisite: EDI 330 grade of B- or better.

## **EDI 431 - Student Teaching, Secondary (8 credits)**

Secondary, full-time student teaching with a two-hour weekly seminar covering pedagogy, methodology, and instructional best practices. Students must follow the holiday break schedule designated by the K-12 district for their school placement/assignment, not the GVSU holiday break schedule. Corequisites: EDI 432, advancement to student teaching, and positive recommendations from prior fieldwork.

## **EDI 432 - Student Teaching, Secondary Content Practicum (2 credits)**

Secondary content practicum, full-time student teaching with three content area seminars covering pedagogy, methodology, and instructional best practices taken simultaneously with EDI 431. Offered fall and winter semesters. Prerequisites: Advancement to student teaching and positive recommendations from prior fieldwork. Corequisite: EDI 431.

## **EDI 470 - Directed Teaching in Early Childhood Education (3 credits)**

The directed teaching experience provides students the opportunity to implement the knowledge, skills, and best practices learned in their coursework related to teaching young children in an early childhood setting that serves infants/toddlers, preschoolers, or K-3 students. It meets the

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minimum requirements set by the state and accrediting agencies. Offered every semester.  
Prerequisites: Completion of 15 credits toward the early childhood minor. Instructor permission required.

## **EDI 499 - Independent Study in Instruction and Curriculum (1 to 3 credits)**

Independent supervised research and study in special areas of education, prearranged with a faculty sponsor and approved by the director. Offered upon demand.

## **EDI 601 - Content/Curriculum Workshop (1 to 3 credits)**

Advanced-level workshops that provide a breadth and depth of understanding in content and curriculum of educational programs. Topics may vary and prerequisites may be established.

## **EDI 610 - Advanced Studies in Child Development Ages 0-8 (3 credits)**

Theories and research methods and findings related to the intellectual, emotional, perceptual, social, and personality development of the young school child. Offered at least once a year.

## **EDI 611 - Assessment of the Young School Child (3 credits)**

Instructional assessment procedures and prescriptive techniques for students in grades Pre-K-6. Offered at least once a year.

## **EDI 612 - Curriculum Development for Early Childhood Education (3 credits)**

Theoretical background and content of curricular approaches in early childhood programs. Analysis and evaluation of early childhood curricular materials. Experience in designing and sequencing activities for young children. Offered at least once a year.

## **EDI 613 - Administration and Supervision of Early Childhood Education (3 credits)**

A study of the organization, administration, and skills required in the direction of early childhood education programs. Review of the pertinent federal, state, and local regulations and support services. Offered at least once a year.

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## **EDI 614 - Infant and Toddler Development and Curriculum (3 credits)**

This course will include the history of education and research on the care of infants and toddlers, intervention activities for special needs, instructional strategies, developing and establishing collaborative partnerships with families, and designing and implementing developmentally appropriate environments for infants and toddlers (ages: conception through four years of age). Offered every semester.

## **EDI 630 - Teaching Mathematics: K-8 (3 credits)**

Study of content and instruction pedagogies used in teaching elementary and middle school mathematics. Consideration of the principles involved in developing a mathematics program and quality materials for classroom use. Offered at least once a year.

## **EDI 631 - Teaching Science: K-8 (3 credits)**

Designed to prepare teachers to teach elementary and middle-level science to all students. Emphasizes planning and teaching science, including laboratory inquiry and hands-on activities. Integration of process and content objectives, activities, and assessment will be addressed. Offered at least once a year.

## **EDI 632 - Teaching Creative and Performing Arts (3 credits)**

Explores theories of creativity and their application in the classroom. It provides students with an opportunity to learn more about developing the creative potential of their students within all disciplines and across all levels of education. Offered spring/summer semester.

## **EDI 633 - Teaching Social Studies and Diversity (3 credits)**

Emphasizes instructional methods for teaching and integrating social studies, economics, history, civics, geography, and diversity in elementary and middle schools. Focus is on problem solving, critical thinking, and democratic citizenship with strategies for valuing people with differences in learning styles, race, class, culture, gender, and disability. Offered at least once a year.

## **EDI 634 - Middle-Level Education (3 credits)**

A study of middle-level organization, curriculum, instruction, staffing, subject matter, and school-parent-community interaction as it supports the education and development of early adolescents (ages 9 through 14). Offered spring/summer semester.

## **EDI 635 - Development and Needs of Students (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

This course focuses on theories of development in cognitive, social, physical, and emotional domains as they relate to the education of elementary and secondary students. Offered at least once a year.

### **EDI 636 - Instruction in Middle and High Schools (3 credits)**

Multiple instructional strategies appropriate for teaching and assessing middle and high school curriculum; methods for addressing individual differences, incorporating students' ideas, developing thinking and problem-solving skills, facilitating groups, promoting student responsibility and planning lessons, units, interdisciplinary activities, and experiences that foster achievement of the curriculum. Offered at least once a year.

### **EDI 637 - Assessment: K-12 Models and Practices (3 credits)**

Study of standardized and authentic assessments used in K-12 classrooms. Students will define intended learning outcomes, select and construct assessment instruments, evaluate reliability and validity of varied instruments and understand current theory, problems, trends, and issues of assessment. Offered at least once a year.

### **EDI 638 - Facilitating School Environments (3 credits)**

Study of research-based methodologies related to the establishment of positive school environments that promote academic achievement for all students within a community of learners. Focus on teachers as change agents, leaders, and collaborators. Offered at least once a year.

### **EDI 639 - Curriculum Development (3 credits)**

A study of the various approaches of curriculum construction and organization in the schools. Examination of principles of curriculum improvement, change, and evaluation. Offered at least once a year.

### **EDI 640 - Fundamentals of Talent Development (3 credits)**

This course prepares students to develop their rationale for differentiation by studying the history of special provisions for talent development and contemporary approaches. It addresses both the cognitive and affective needs of students. Offered at least once a year.

### **EDI 641 - Teaching for Talent Development (3 credits)**

This course covers the principles and practices of designing curriculum that enhances the talents of students. Special attention is given to the development of instructional materials. Offered at least once a year.

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## **EDI 680 - Special Topics in Instruction and Curriculum (1 to 3 credits)**

Study of selected topics in education. Offered upon sufficient demand.

## **EDI 685 - Practicum/Graduate Field Experience (3 or 6 credits)**

Field-based experience designed to provide clinical experience for graduate students. Each practicum shall be no less than the minimum requirements set forth by state and accrediting agencies, and must be approved by the appropriate program personnel. All practica will require seminars.

EDI 685A Elementary Education  
EDI 685B Secondary Education  
EDI 685C Early Childhood Education  
EDI 685D Educational Differentiation

Candidates must apply separately to the College of Education and Community Innovation by February 15 for spring/summer, May 15 for fall semester, and September 15 for winter semester. Offered at least once a year.

## **EDI 693 - Master's Project (1 to 3 credits)**

The student identifies a problem, reviews literature, creates a product based on applicable literature, research or theory that addresses the problem, and develops a plan for implementation and evaluation. Offered every semester. Prerequisites: Completion of 27 credit hours, EDF 660, application required (application deadline: fall May 15; winter September 15; spring/summer February 15), and completion of the Responsible Conduct of Research Training within the last three years.

## **EDI 695 - Master's Thesis (1 to 6 credits)**

Involves either theoretical research or empirical research that identifies an issue or question, reviews literature, designs a study, gathers and analyzes data or evidence, and presents interpretations or conclusions. Offered every semester. Prerequisites: Completion of 27 credit hour, EDF 660, application required (application deadline: fall May 15, winter September 15, spring/summer February 15), and completion of the Responsible Conduct of Research Training within the last three years.

## **EDI 696 - Continuation of Master's Project or Thesis Research (1 credit)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Continuation of work related to the master's project or thesis phase of the graduate student's program. Registration is required after all respective project or thesis credits are completed and the project or thesis is not completed. Work will be performed under the supervision of the project advisor or thesis committee chair. Offered every semester. Prerequisites: Completion of all required project or thesis credits and completion of the Responsible Conduct of Research Training within last three years.

### **EDI 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

### **EDI 699 - Independent Study in Instruction and Curriculum (1 to 3 credits)**

Individual study of a theoretical or applied problem in education. Offered each semester. Prerequisites: Consent of advisor and demonstrated ability to pursue special study or investigation proposed.

### **EDI 710 - Instructional Management and Supervision (3 credits)**

Systematic study of theories, models, research and multiplicity of influences on instructional effectiveness, instructional management, and supervision in school districts. The interrelationships of instructional supervision, curriculum alignment, instructional practices, assessment analysis, and school effectiveness will be explored with attention to characteristics of effective programs and research findings on effective leadership. Offered at least once a year, fall or spring/summer semesters.

### **EDI 797 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

### **EDI 799 - Independent Study Curriculum and Instruction (1 to 3 credits)**

Student-initiated advanced study or research in curriculum and instruction. The student and faculty supervisor agree on the scope of the study, its components, and methods of evaluation. Offered every semester. Prerequisite: Admission to educational specialist in leadership degree.

### **EDL 601 - Content/Curriculum Workshop (1 to 3 credits)**

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Advanced-level workshops that provide a breadth and depth of understanding in content and curriculum of educational programs. Topics may vary and prerequisites may be established.

## **EDL 650 - Foundations of Special Education Administration (3 credits)**

Theories of educational leadership will be explored. Federal regulations and state rules pertinent to special education programming will be examined. Students will participate in simulations, presentations, and group discussions designed to provide information about, and insight into, effective leadership and management of special education programs and services. Offered at least once a year.

## **EDL 651 - Administration of Special Education Programs and Services (3 credits)**

Students will use knowledge of laws and rules, leadership/management theory and practices, and problem-solving skills to engage in simulations, presentations, and group discussions related to the delivery of special education programming. Students will develop a personal philosophy of leadership statement based on review of scholarly literature and self-examination. Offered at least once a year. Prerequisite: EDL 650.

## **EDL 652 - Curriculum and Instruction Leadership in Special Education Administration (3 credits)**

An examination of the leadership role of the special education administrator in curriculum, instruction, and assessment for students with disabilities. Students will engage in the study of current state curriculum content standards, the delivery of curriculum through effective instruction, and the assessment of student achievement. May be combined with EDL 666. Offered at least once a year.

## **EDL 653 - Special Education Law (3 credits)**

Federal and state laws governing the administration of special education programs and services will be discussed in detail. Students will examine the impact and application of the laws, and strategies for complying with them in the PK -12 setting.

## **EDL 654 - Special Education Finance (3 credits)**

Review and analysis of special education funding sources and formulas at the local, state, and national levels. School finance and special education funding will be highlighted. Financial management will be discussed with a focus on budgeting, accounting, auditing, reporting, support services, and personnel.

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## **EDL 665 - Educational Leadership (3 credits)**

Students will participate in a variety of self-assessment activities, simulations, and group discussions designed to provide information about and insight into effective leadership in schools. Offered at least once a year.

## **EDL 666 - Curriculum Leadership (3 credits)**

Study of a variety of organizational development approaches used in leading staff through curriculum development. Topics include preplanning, principles of curriculum decision-making, effective schools research, participatory strategies for curriculum problem solving, and the process of change. Emphasis on leadership skill building. May be combined with EDL 652. Offered at least twice a year.

## **EDL 667 - Elementary Supervision and Evaluation (3 credits)**

Emphasis on enabling leaders to generate the tools to improve elementary schools. Topics include organizational development, problem solving, goal setting, organizational change, employee motivation and communication, resolution of conflicts, and clinical supervision and evaluation. Analysis of topics will emphasize effects research and descriptive theory. Offered at least once a year.

## **EDL 668 - Personnel Administration (3 credits)**

Responsibilities in staff supervision, staffing needs, certification, selection, assignment, promotion, salaries, retirement, absences, teachers' organizations, grievances, collective bargaining, and supervision of student teachers. Offered once a year.

## **EDL 669 - School Finance (3 credits)**

The principles and theory underlying finance practice in public schools. Offered at least once a year.

## **EDL 670 - School Law (3 credits)**

General legal principles and laws that affect general and special education. Emphasis on sources and scope of school law, legal rights and responsibilities of teachers, pupils, and taxpayers. Procedural, historical, and jurisprudential dimensions of American law are stressed. Offered at least once a year.

## **EDL 671 - Secondary Supervision and Evaluation (3 credits)**

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Emphasis on giving leaders the tools to make ongoing improvement in secondary schools. Topics include organizational development, problem solving, goal setting, organizational change, employee motivation, and communication, resolution of conflicts, and clinical supervision and evaluation. Analysis of topics will emphasize effects research and descriptive theory. Offered at least once a year.

### **EDL 677 - School and Community Relationships (3 credits)**

This course is designed to assist school leaders in developing an effective school community relations plan. Emphasis will be on creating effective communications formats to address internal and external populations. Candidates will be actively involved in the process of creating positive communication plans that will help gain support for the school's program.

### **EDL 680 - Special Topics in Leadership (1 to 3 credits)**

Study of selected topics in education. Offered upon sufficient demand.

### **EDL 685 - Practicum/Graduate Field Experience (3 to 6 credits)**

Field-based experience designed to provide clinical experience for teaching or administration majors. Each practicum shall meet the minimum requirements set forth by state and accrediting agencies, and must be with approval by the appropriate program personnel. All practica will require seminars. Not to be used for initial certification.

EDL 685A K-12 Principal  
EDL 685B Special Education Supervisor  
EDL 685C Special Education Director

Candidates must apply separately to the College of Education and Community Innovation by February 15 for spring/summer, May 15 for fall semester, and by September 15 for winter semester. Offered at least once a year.

### **EDL 687 - Administrative Internship (3 credits)**

The administrative internship provides significant opportunities for students to synthesize and apply the knowledge and practice gained in the classroom to real situations in authentic school settings, planned and guided cooperatively by the instructor and administrative mentor. Prerequisites: Completion of 21 credit hours (three in foundations and 18 in emphasis area) and EDL 685.

### **EDL 693 - Master's Project (1 to 3 credits)**

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The student identifies a problem, reviews literature, creates a product based on applicable literature, research or theory that addresses the problem, and develops a plan for implementation and evaluation. Offered every semester. Prerequisites: Completion of 27 credit hours, EDF 660, application required (application deadline: fall May 15, winter September 15, spring/summer February 15), and completion of the Responsible Conduct of Research Training within last three years.

## **EDL 695 - Master's Thesis (1 to 6 credits)**

Involves either theoretical research or empirical research that identifies an issue or question, reviews literature, designs a study, gathers and analyzes data or evidence, and presents interpretations or conclusions. Offered every semester. Prerequisites: Completion of 27 credit hours, EDF 660, application required (application deadline: fall May 15, winter September 15, spring/summer February 15), and completion of the Responsible Conduct of Research Training within last three years.

## **EDL 696 - Continuation of Master's Project or Thesis Research (1 credit)**

Continuation of work related to the master's project or thesis phase of the graduate student's program. Registration is required after all respective project or thesis credits are completed and the project or thesis is not completed. Work will be performed under the supervision of the project advisor or thesis committee chair. Offered every semester. Prerequisites: Completion of all required project or thesis credits and completion of the Responsible Conduct of Research Training within last three years.

## **EDL 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

## **EDL 699 - Independent Study in Leadership (1 to 3 credits)**

Individual study of a theoretical or applied problem in education. Offered each semester. Prerequisites: Consent of advisor and demonstrated ability to pursue special study or investigation proposed.

## **EDL 700 - Educational Leadership and Change (3 credits)**

This course is designed to develop understanding and skills associated with generating a school culture that is responsive to change/reform and embodies the philosophical underpinnings of systemic change. Students will research and discuss theories of organizational change and

explore various strategies to bring these theories into practice through administrative leadership. Offered at least once a year.

## **EDL 705 - Organizational Behavior, Ethics and Decision-Making (3 credits)**

This course discusses multiple approaches to the study of educational organizations including the application of organizational theory to improve decision-making and organizational outcomes. It examines the human behavior in educational organizations. The course also provides students with an understanding of the moral and ethical dimensions of leadership in education. Offered at least once a year.

## **EDL 715 - Data-Based Decision-Making and Technology (3 credits)**

Principles of data-based decision-making and their applications in educational settings will be explored through readings and case studies. Technology's use in addressing problems in management and instruction will be included. Offered at least once a year.

## **EDL 720 - Organizational and Community Relations (3 credits)**

This course is designed to provide a thorough examination of the school district as an organization and its interaction with the community. Consideration will be given to the internal and external communities and the relationship between and among these entities within the school district. Offered at least once a year.

## **EDL 725 - Educational Law, Policy, and Practice (3 credits)**

This course will review the legal framework of education and various legal issues that are imperative for educational leaders to be able to identify, understand, and incorporate within their administrative responsibilities. Emphasis is placed on the legal framework with a focus on discipline, equity, and personnel issues. Offered at least once a year.

## **EDL 740 - The Superintendency (3 credits)**

This course will provide a broad view of the roles and responsibilities of the superintendent of schools. Areas of study include developing a vision; establishing policies; decision-making; establishing relationships with the Board of Education, staff, students, and community; curriculum/instruction; human resources; politics and education in a larger context. Offered at least once a year.

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## **EDL 742 - School Board Relations (3 credits)**

This course focuses on the major factors that influence the relationship between the Board of Education and the superintendent of schools. Areas examined are the nature of policy development and administration, the influence of external factors on local control, and the discretionary authority boards grant their superintendents. Offered fall semester.

## **EDL 744 - Educational Finance and Economic Issues (3 credits)**

This course emphasizes theories of economics, finance, and taxation as applied to educational complexities pervasive in the fiscal management and operations of public schools. It focuses on current political and economic issues affecting public schools and is designed to promote thoughtful decision-making by school administrators with respect to school financial matters. Offered at least once a year.

## **EDL 770 - Leadership Theory into Practice (3 credits)**

This course is the culminating experience for the educational specialist in leadership degree. It includes an internship in a school district, practitioner research, and development of a professional portfolio. Offered at least once a year.

## **EDL 797 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

## **EDL 799 - Independent Study in Educational Leadership (1 to 3 credits)**

Student-initiated advanced study or research in educational leadership. The student and faculty supervisor agree on the scope of the study, its components, and methods of evaluation. Offered every semester. Prerequisite: Admission to educational specialist in leadership degree.

## **EDR 317 - Class-conscious: Popular Culture, Schooling, and Identity (3 credits)**

Challenges students to think critically, collaborate, and integrate multiple disciplines as they explore the role that popular culture and schooling play in forming their identities. Students will use critical reading skills to analyze films, television, music, and other aspects of popular culture and compare to prominent theories and their experiences. Part of the Identity Issue. Offered every semester. Prerequisite: Junior standing.

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## **EDR 320 - Emergent Literacy and the Development of Reading, Writing, and Language (3 credits)**

Offers students opportunities to gain knowledge about language development and the emergence of reading and writing. Students will apply this knowledge to implement oral language and emergent and early literacy assessments and research-based principles and practices to meet the developmental needs of children PK-6. Prerequisites: Admission to the College of Education and Community Innovation.

## **EDR 321 - Content Area Literacy (3 credits)**

This course will help secondary pre-service teachers learn strategies, theory, and research that support literacy in all disciplines. Students will engage in class discussions, prepare demonstrations, and in other ways explore effective methods for helping their students read, write, listen, speak, view, and represent in meaningful ways. Offered fall and winter semesters. Prerequisite: Admission to the College of Education and Community Innovation. Corequisites: EDI 310 and EDI 331.

## **EDR 323 - Teaching Students with Language and Literacy Learning Difficulties (3 credits)**

To meet the needs of PK-6 students, candidates will learn to select, enact, and evaluate evidence-based, inclusive and intensive literacy practices for the purpose of creating supportive and equitable learning environments. Course content and school-based fieldwork will attend particularly to students experiencing, or at-risk of experiencing, language-learning difficulties and disabilities. Cross-listed with EDS 323. Offered fall and winter semesters.

## **EDR 380 - Special Topics in Literacy Studies (1 to 3 credits)**

Independent supervised study on selected topics that are not dealt with in depth in other courses. Offered upon sufficient demand.

## **EDR 470 - Directed Teaching in ESL: Elementary (5 credits)**

The directed teaching experience provides elementary teacher candidates with opportunities to teach and assess multilingual learners using a variety of research-based practices. Candidates will create an engaging learning environment that is culturally responsible, differentiated, and based on the needs of those learning English as a second language. Prerequisites: EDI 330, ENG 261, ENG 363, ENG 364, ENG 365, ENG 366, ENG 465, and permit required. Students must apply to College of Education and Community Innovation by September 15 for winter term placements. Corequisite: EDI 430.

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## **EDR 471 - Directed Teaching in ESL: Secondary (5 credits)**

The directed teaching experience provides secondary teacher candidates with opportunities to teach multilingual learners using research-based instructional strategies and assessments. Candidates will have the opportunity to implement pedagogy and related best instructional practices for secondary students learning English as a second language. Offered winter semester. Prerequisites: EDI 331, ENG 261, ENG 363, ENG 364, ENG 365, ENG 366, ENG 465, and permit required. Corequisites: EDI 431 and EDI 432. Students must apply to the College of Education and Community Innovation by September 15 for winter term placements.

## **EDR 499 - Independent Study in Literacy Studies (1 to 3 credits)**

Independent supervised research and study in special areas of education, prearranged with a faculty sponsor and approved by the director. Offered upon demand.

## **EDR 601 - Content/Curriculum Workshops (1 to 3 credits)**

Advanced-level workshops that provide a breadth and depth of understanding in content and curriculum of educational programs. Topics may vary and prerequisites may be established.

## **EDR 602 - Teaching English Language Learners Across Content (3 credits)**

Provides elementary and content area teachers with the skills and knowledge to effectively teach in a classroom setting where there are linguistically diverse learners. Participants will examine and apply strategies and skills for delivering instruction in the subject matter content areas to a variety of learners. Offered fall and spring/summer semesters (at least once a year). Prerequisite: Admission to the College of Education and Community Innovation graduate programs.

## **EDR 603 - Bi-literacy Development (3 credits)**

This course provides students with the knowledge and skills to explore and understand aspects of biliteracy development. It also seeks to explore specific biliteracy educational policy issues affecting classroom practice. Methods for providing effective biliteracy instruction will be taught. Offered winter semester at least once a year. Prerequisite: Admission to a graduate program in education.

## **EDR 612 - Reading Assessment: Elementary Teacher (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

This course examines classroom appropriate literacy assessments and differentiated instruction methods useful for meeting the needs of a diverse classroom student population grades K-8. The course content meets the state school code PA 118. Offered fall and winter semesters.

Prerequisite: A K-8 teaching certificate is required to take this course.

### **EDR 613 - Reading Assessment: Secondary Teacher (3 credits)**

This course examines classroom appropriate literacy assessments and differentiated instruction methods useful for meeting the needs of a diverse classroom student population grades 6-12. The course content meets the state school code PA 118. Offered fall and winter semesters.

Prerequisite: A 6-12 teaching certification is required to take this course.

### **EDR 620 - English as a Second Language Methodologies (3 credits)**

This course is designed to provide theory and application of second-language learning and teaching strategies for English learners. There is a field assignment of 25 hours required for this course. Offered each semester.

### **EDR 621 - Foundations of Literacy (3 credits)**

Foundations of Literacy centers on the introduction of the theoretical, conceptual, and historical foundations of literacy and language and the application of the foundational knowledge in PK-12 classroom settings. Students engage in evaluating and reflecting on the curricula and instructional practices in PK-12 classroom settings. Offered at least once a year. Prerequisite: Acceptance into a graduate certification program.

### **EDR 622 - Developmental Literacy for Children (3 credits)**

Developmental Literacy for Children is the study of the nature of the reading process and the analysis of factors influencing literacy development. Instruction and assessment appropriate to the developmental levels of children will be addressed. Communication with parents and professional development of teachers will also be explored. Offered at least once a year.

Prerequisites: Admission into a graduate certification program.

### **EDR 623 - Developmental Literacy for Adolescents (3 credits)**

Course examines the developmental nature of literacy and its integration and application into secondary school curricula. Focus is on the integration among the variables: student prior knowledge, text, teaching methods, and strategies to enhance comprehension and learning. This

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course is appropriate for middle school and secondary teachers. Offered at least once a year.  
Prerequisites: Admission into a graduate certification program.

## **EDR 624 - Elementary Literacy: Learners, Text, and the Environment (3 credits)**

Elementary Literacy: Learners, Text, and the Environment centers on teaching with text to meet the learning, developmental, and cultural needs of individual PK-6 learners. This course emphasizes the ways teachers can foster literacy-rich learning environments, while also highlighting the reciprocal relationship between reading and writing. Offered at least once a year.

## **EDR 625 - Secondary Literacy: Learners, Text, and the Environment (3 credits)**

Secondary Literacy: Learners, Text, and the Environment centers on teaching with text to meet the learning, developmental, and cultural needs of individual learners in grades 7 through 12. This course emphasizes the ways teachers can foster literacy-rich learning environments, while also highlighting the reciprocal relationship between reading and writing. Offered at least once a year.

## **EDR 626 - Field-based Literacy Assessment for Learning (3 credits)**

Field-based Literacy Assessment for Learning examines research, theory, and assessment practices appropriate for meeting the literacy needs of all PK-12 students. This course is designed to provide state-required clinical experience in diagnosing literacy strengths and needs and to meet PK-12 teacher certification renewal requirements.

## **EDR 627 - Literacy Strategies for Content Areas (3 credits)**

Course addresses methods and materials for assisting students' reading, studying, and learning in content area classrooms. Emphasis is placed on approaches that facilitate learning of content and process across the curriculum. This course is appropriate for elementary and middle school teachers. Secondary teachers should take EDR 623. Offered at least once a year.

## **EDR 628 - Literacy Instruction Across Disciplines (PK-6) (3 credits)**

Literacy Instruction Across Disciplines (PK-6) centers on the application of foundational knowledge to design, analyze, and implement PK-6 literacy curricula, instruction, and literacy-rich environments to meet learners' needs. Students will develop and articulate a holistic vision

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for literacy curriculum and instruction that integrates content and disciplinary literacies. Offered at least once a year.

### **EDR 629 - Teaching Reading to Adults (3 credits)**

Analysis of the concept of illiteracy and characteristics of the adult learner. Methods and materials for teaching reading to the adult will be examined and evaluated. Offered every other year.

### **EDR 630 - Literacy Instruction Across Disciplines (7-12) (3 credits)**

Literacy Instruction Across Disciplines centers on the application of foundational knowledge to design, analyze, and implement literacy curricula for grades 7 through 12, instruction, and literacy-rich environments to meet learners' needs. Students will develop and articulate a holistic vision for literacy curriculum and instruction that integrates content and disciplinary literacies. Offered every semester.

### **EDR 631 - Writing, Teaching, and Learning (3 credits)**

Writing, Teaching, and Learning provides an overview of the research, relevant theories, pedagogies, and essential concepts of writing instruction, with attention to diversity and equity in PK-12 classrooms. Candidates will design, implement, and assess writing instructional practices in the context of student learning. Offered at least once a year. Prerequisite: Teaching experience or admission into a graduate certification program.

### **EDR 632 - Field-based Literacy and Language Interventions (3 credits)**

Literacy and Language Interventions engages candidates in the research around literacy instructional practices. In this course, candidates will select, adapt, design, and evaluate literacy interventions and approaches to meet the needs of PK-12 learners. This course is designed to provide clinical experience with literacy interventions. Offered fall and winter semesters. Prerequisites: EDR 621 and EDR 626.

### **EDR 634 - Linguistics for Teachers (3 credits)**

Focuses on language systems in instructional contexts and deals with U.S. English structure and language sound patterns emphasized in the four language macro-skills (i.e., reading, writing, speaking, and listening), grammar, pragmatics, and semantics as taught to speakers of other languages in the U.S. Offered winter semester. Prerequisite: Admission to the TESOL or reading program.

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## **EDR 635 - Sociolinguistics: Language, Society, and Schooling (3 credits)**

Examines the role that social interactions and cultural traditions play in language, learning, and schooling with a specific focus on issues surrounding diversity, individual and cultural identity and values, and the relationship between home and school language. Offered winter semester. Prerequisite: Admission to a College of Education and Community Innovation graduate program.

## **EDR 680 - Special Topics in Literacy Studies (1 to 3 credits)**

Study of selected topics in education. Offered upon sufficient demand.

## **EDR 685 - Literacy Instruction Practicum (3 credits)**

Literacy Instruction Practicum requires candidates to demonstrate the ability to be reflective literacy professionals who apply foundational knowledge of literacy and language in PK-12 classroom settings. Practicum meets university and state requirements for completing supervised, integrated, extended clinical experiences in school-based settings. Offered at least once a year.

EDR 685A - Practicum for Reading Teachers

EDR 685B - TESOL

Prerequisites: Not to be used for initial certification. Completion of emphasis area. Permit required.

## **EDR 687 - Reading/Literacy Specialist and Literacy Coach Practicum (3 credits)**

Reading/Literacy Specialist and Literacy Coach Practicum requires candidates to develop knowledge and skills needed to work with PK-12 learners and dispositions and techniques needed to work with PK-12 educators. Practicum meets university and state requirements for completing supervised, integrated, extended clinical experiences in school-based setting(s). Offered spring/summer semester. Prerequisite: EDR 685.

## **EDR 689 - Professional Development and Leadership Practicum (3 credits)**

Professional Development and Leadership Practicum requires candidates to plan and lead professional development informed by theory, research, and practice concerning PK-12 literacy development, literacy instruction, leadership, professional development, reflection, and reading/literacy specialist responsibilities. Practicum meets university and state requirements for completing supervised, integrated, extended clinical experiences in school-based setting(s).

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Offered winter semester. Prerequisites: EDR 621, EDR 624 or EDR 625, EDR 626, EDR 628 or EDR 630, EDR 631, EDR 632, and EDR 685.

### **EDR 693 - Master's Project (1 to 3 credits)**

The student identifies a problem, reviews literature, creates a product based on applicable literature, research or theory that addresses the problem, and develops a plan for implementation and evaluation. Offered every semester. Prerequisites: Completion of 27 credit hours, EDF 660, application required (application deadline: fall May 15, winter September 15, spring/summer February 15), and completion of the Responsible Conduct of Research Training within last three years.

### **EDR 695 - Master's Thesis (1 to 6 credits)**

Involves either theoretical research or empirical research that identifies an issue or question, reviews literature, designs a study, gathers and analyzes data or evidence, and presents interpretations or conclusions. Offered every semester. Prerequisites: Completion of 27 credit hours, EDF 660, application required, and completion of the Responsible Conduct of Research Training within last three years.

### **EDR 696 - Continuation of Master's Project or Thesis Research (1 credit)**

Continuation of work related to the master's project or thesis phase of the graduate student's program. Registration is required after all respective project or thesis credits are completed and the project or thesis is not completed. Work will be performed under the supervision of the project advisor or thesis committee chair. Offered every semester. Prerequisites: Completion of all required project or thesis credits and completion of the Responsible Conduct of Research Training within last three years.

### **EDR 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

### **EDR 699 - Independent Study in Literacy Studies (1 to 3 credits)**

Individual study of a theoretical or applied problem in education. Offered each semester. Prerequisites: Consent of advisor and demonstrated ability to pursue special study or investigation proposed.

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## **EDS 317 - The Myth of Normal: Disability Studies in the 21st Century (3 credits)**

A primary emphasis of the course will be on examining the ethical and moral issues raised by viewing disability from different perspectives. Students will increase their awareness of the complexity of the disability experience through in-depth examination of stigma, discrimination, individual and social representation of disability, and other psychosocial considerations. Part of the Identity Issue. Offered fall and winter semesters. Prerequisite: Junior standing.

## **EDS 318 - Teaching Students with Learning and Behavior Difficulties (3 credits)**

Focus on access to the PK-6, general curriculum and supporting the academic, social/emotional, and behavioral needs of students with disabilities. Course content and fieldwork will include early intervention frameworks, special education procedures, and evidence-based practices for systematically and explicitly teaching skills/content, providing peer/group supports, and preventing/managing challenging behaviors. Offered fall and winter semesters.

## **EDS 323 - Teaching Students with Language and Literacy Learning Difficulties (3 credits)**

To meet the needs of PK-6 students, candidates will learn to select, enact, and evaluate evidence-based, inclusive and intensive literacy practices for the purpose of creating supportive and equitable learning environments. Course content and school-based fieldwork will attend particularly to students experiencing, or at-risk of experiencing, language-learning difficulties and disabilities. Cross-listed with EDR 323. Offered fall and winter semesters.

## **EDS 332 - Methods and Strategies of Special Education Teaching (5 credits)**

Half-day field experiences as a teacher assistant in a special education classroom for a minimum of 13 weeks, additional weeks provided for professional development and training to total 15 weeks. Includes a two-hour weekly seminar covering content area methodology and instructional strategies. Offered fall semester. Prerequisite: Admission to College of Education and Community Innovation. Corequisites: EDI 310, EDS 361, and EDS 495. Students must earn a minimum grade of B- to pass this field experience. In the event that a student is removed from EDS 332, withdrawal from EDS 361 and EDS 495 is required.

## **EDS 360 - Language and Reading Development (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Study of materials and curricula for use in assisting the special needs student in development of speech, language, reading, and writing. Offered fall semester. Prerequisite: Admission to the College of Education and Community Innovation (program outlines specify corequisites).

### **EDS 361 - Principles, Processes, and Methods in Special Education (3 credits)**

Processes and methods involved in identification, assessment, placement, programming, instruction, and evaluation of learning needs. Offered fall and winter semesters. Prerequisite: Admission to the College of Education and Community Innovation. Corequisites: EDI 310, EDS 332, and EDS 495. Successful completion of field experience (EDS 332) is required. In the event that a student is removed from EDS 332, withdrawal from EDS 361 is required.

### **EDS 378 - Universal Design for Learning: Elementary (3 credits)**

Universal design for learning is a means of improving students with special needs access to the general education curriculum. Candidates will learn universal design principles regarding multiple means of: representation, engagement, and expression and instructional practices specifically designed for elementary classrooms. Offered every semester. Prerequisite: Sophomore standing.

### **EDS 379 - Universal Design for Learning: Secondary (3 credits)**

Universal design for learning is a means of improving students with special needs access to the general education curriculum. Candidates will learn universal design principles regarding multiple means of representation, engagement, and expression and instructional practices specifically designed for secondary classrooms. Offered every semester. Prerequisite: Sophomore standing.

### **EDS 380 - Special Topics in Special Education (1 to 3 credits)**

Independent supervised study on selected topics that are not dealt with in-depth in other courses. Offered upon sufficient demand.

### **EDS 399 - Independent Study in Special Education (1 to 3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Independent supervised study on selected topics that are not dealt with in depth in other courses. Offered upon sufficient demand.

### **EDS 441 - Curriculum for CI (3 credits)**

Study of the curricula used for the different levels of instruction. Includes prescribing materials appropriate for remedial activities, lesson and unit planning, and instructional techniques. Offered winter semester. Prerequisites: Successful completion of prior coursework and permission of advisor. Corequisite: EDS 471. Successful completion of field experience (EDS 471) is required. In the event that a student is removed from EDS 471, withdrawal from EDS 441 is required.

### **EDS 442 - Curriculum for EI (3 credits)**

Study of the curricula used for the different levels of instruction. Includes prescribing materials appropriate for remedial activities, lesson and unit planning, and instructional techniques. Offered winter semester. Prerequisites: Successful completion of prior coursework and permission of advisor. Corequisite: EDS 472. Successful completion of field experience (EDS 472) is required. In the event that a student is removed from EDS 472, withdrawal from EDS 442 is required.

### **EDS 463 - Educational Practices and Procedures: Cognitive Impairment (3 credits)**

In-depth exploration of strategies used throughout the life span for persons with cognitive impairments. Includes: accurate and unbiased assessment, creation of learning environments that foster enhanced life skills, communication skills and academic success, and development of transition services that span school and community settings. Offered winter semester. Prerequisite: Successful completion of prior coursework.

### **EDS 464 - Educational Practices and Procedures: Emotional Impairment (3 credits)**

In-depth exploration of strategies used throughout the life span for persons with emotional/behavior disorders. Includes: accurate and unbiased assessment, creation of learning environments that foster good mental health and academic success, and development of behavior management programs that span school and community settings. Offered winter semester. Prerequisite: Successful completion of prior coursework.

### **EDS 470 - Directed Teaching in Early Childhood Developmental Delay (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

The directed teaching experience provides students the opportunity to implement the knowledge, skills, and best practices learned in their coursework related to teaching young children with special needs in an early childhood setting that serves infants/toddlers, preschoolers, or K-3 students. It meets requirements set by the state and accrediting agencies. Offered every semester. Prerequisite: Completion of 15 credits toward the early childhood minor, including EDI 314. Instructor permission required.

## **EDS 471 - Directed Teaching in Cognitive Impairment (9 credits)**

Student teaching in a classroom with students who have cognitive impairments. Accompanying seminars on methods of teaching and the organization and development of curriculum for students with cognitive impairments. Offered winter semester. Prerequisites: Successful completion of prior coursework and positive recommendations from prior fieldwork. Corequisite: EDS 441. Students must earn a minimum grade of B- to pass this field experience. In the event that a student is removed from EDS 471, withdrawal from EDS 441 is required. Students must follow the holiday break schedule designated by the K-12 district for their school placement/assignment, not the GVSU break schedule.

## **EDS 472 - Directed Teaching in Emotional Impairment (9 credits)**

Student teaching in a special education classroom under professional supervision with accompanying seminar on materials and curriculum for students with emotional impairments. Offered winter semester. Prerequisites: Successful completion of prior coursework and positive recommendations from prior fieldwork. Corequisite: EDS 442. Students must follow the holiday break schedule designated by the K-12 district for their school placement/assignment, not the GVSU break schedule. Students must earn a minimum grade of B- to pass this field experience. In the event that a student is removed from EDS 472, withdrawal from EDS 442 is required.

## **EDS 495 - Diagnostic and Interpretive Procedures (3 credits)**

Study of formal and informal assessment procedures with emphasis on test interpretation as it relates to performance objectives for exceptional students. Offered fall semester. Prerequisite: Admission to the College of Education and Community Innovation. Corequisites: EDI 310, EDS 332, and EDS 361. Successful completion of field experience (EDS 332) is required. In the event that a student is removed from EDS 332, withdrawal from EDS 495 is required.

## **EDS 497 - Educational Interventions: Cognitive Impairment (3 credits)**

Study of the educational interventions appropriate for students with cognitive impairments. Offered winter semester. Program outline specifies corequisites.

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## **EDS 498 - Educational Interventions: Emotional Impairment (3 credits)**

Study of the educational interventions appropriate for students with emotional impairments. Offered winter semester. Program outline specifies corequisites.

## **EDS 499 - Independent Study (1 to 3 credits)**

Independent supervised research and study in special areas of education, prearranged with a faculty sponsor and approved by the director. Offered upon demand.

## **EDS 550 - Preteaching and Methods of Teaching Special Education (6 credits)**

A supervised field experience of at least six weeks with exceptional children teaching in the area of CI, LD, or EI students must apply by February 15 for spring/summer and fall semesters.

## **EDS 601 - Content/Curriculum Workshops (1 to 3 credits)**

Advanced-level workshops that provide a breadth and depth of understanding in content and curriculum of educational programs. Topics may vary and prerequisites may be established.

## **EDS 609 - Understanding Students with Emotional Impairment (3 credits)**

A study of the characteristics associated with emotional impairments in children and adolescents. Emphasis is on identification, intervention, and collaboration with families and service providers. Offered winter semester.

## **EDS 610 - Positive Behavioral Interventions and Supports (3 credits)**

This course provides a basis for understanding and addressing behavior challenges of diverse learners through implementation of positive behavioral interventions and supports (PBIS) at the school-wide, classroom, and individual levels. Students will learn to utilize multi-tiered systems of support for behavior decision-making to improve outcomes for all students. Offered at least once a year.

## **EDS 611 - Curriculum and Instruction for Students with Emotional Impairment (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Students will learn instructional practices for teaching children and adolescents considered at risk with challenging behaviors and those with high incidence disabilities. This includes learning about the influence of social and emotional disorders on student academic success and the multi-tiered systems of support that facilitates data-based instruction and assessment. Offered winter semester.

## **EDS 615 - Educational Assessment and Interventions for Autism (3 credits)**

This course will explore assessment strategies and implementation tools for supporting students with Autism Spectrum Disorder in educational settings. Focus is placed on individualized services, supports, and interventions that promote inclusion in general education settings and improve engagement and participation in the general education curriculum. A team-based approach is emphasized. Cross-listed with PSY 615. Offered spring/summer semester. Prerequisites: PSY 540 (may be taken concurrently); and admission to College of Education and Community Innovation or the school psychology program.

## **EDS 616 - Language and Communication Assessment and Instruction for Autism (3 credits)**

This course addresses the role of language and communication traits/characteristics in students with Autism Spectrum Disorder (ASD) and other developmental disabilities. Specific focus is placed on implementing language and communication interventions based on assessment data to improve the educational outcomes of individuals with ASD and other developmental disabilities. Prerequisites: Admission to a College of Education and Community Innovation graduate program.

## **EDS 618 - Understanding Students with Cognitive Impairment (3 credits)**

This course provides information about individuals with cognitive impairments including definitions, classifications, characteristics, causes, medical aspects, and prevention. Historical perspectives, impact of cultural diversity, placement options, current trends and issues and their implications for teaching students with cognitive impairments will be explored. Offered fall semester of odd-numbered years.

## **EDS 619 - Educational Interventions for Mild Cognitive Impairment (3 credits)**

This course examines instructional principles and evidence-based practices for teaching students with mild cognitive impairment. Emphasis is placed on curriculum development, instructional design, explicit instruction, access to and progress in the general curriculum, and development

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and monitoring of Individualized education programs for students with mild cognitive impairment.

## **EDS 620 - Educational Interventions for Severe Cognitive Impairment (3 credits)**

This course examines instructional principles and evidence-based practices for teaching students with moderate and severe cognitive impairment. Emphasis is placed on curriculum development, instructional design, access to and progress in the general curriculum, and development and monitoring of individualized education programs for students with moderate and severe cognitive impairment. Offered in odd-numbered years. Prerequisite: Must be enrolled in the College of Education and Community Innovation or the school psychology program.

## **EDS 621 - Assistive Technology in Education (3 credits)**

This course provides participants with an overview of assistive and augmentative technology for students with cognitive impairments. Includes individualized educational programming considerations, use of high- and low-tech assistive and augmentative devices, Internet-based solutions, curriculum integration, and inclusion strategies. Offered fall semester of even-numbered years.

## **EDS 622 - Assessment for Placement and Program: CI (3 credits)**

This course provides exposure to assessment techniques and diagnostic procedures specifically used with individuals with cognitive impairments and the development of the Individualized Education Program (IEP). Offered spring/summer semester of even-numbered years.

## **EDS 623 - Collaboration in Special Education (3 credits)**

This course will provide theory, principles, and procedures for fostering collaborative partnerships among families and professionals that lead to mutual empowerment and positive outcomes for individuals with cognitive impairments. Offered winter semester of odd-numbered years. Prerequisite: Admission to the College of Education and Community Innovation or the school psychology program.

## **EDS 625 - Inclusive Practices (3 credits)**

Research validated planning and instructional routines designed for and tested in inclusive classrooms will be presented. Further, validated teaching approaches and curriculum designed for students with high incidence disabilities will be taught. Offered at least once a year. Prerequisite: Admission to the College of Education and Community Innovation or the school psychology program.

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## **EDS 627 - Technology and Professional Practice (3 credits)**

In this course, students will learn about the use of technology as an instructional tool as well as a resource. Additionally, students will explore various roles of professional special educators and use technology to address aspects of professional practice such as ethics, research, and advocacy. Offered fall and winter semesters. Prerequisite: Admission to the College of Education and Community Innovation or the school psychology program.

## **EDS 629 - Transition Practices (3 credits)**

A study of the development of attitudes, skills, and supports that contribute to successful transitions of children and adolescents with disabilities. Offered fall semester.

## **EDS 636 - Diagnostic and Interpretative Procedures (3 credits)**

Review of evaluative instruments used for identification and programming for exceptional persons. Offered at least twice a year.

## **EDS 637 - Explicit Language Instruction (3 credits)**

Evidence-based practices for assessing and explicitly teaching foundational listening, speaking, reading, and writing skills to English language learners and students with high incidence disabilities. Offered fall and winter semesters. Prerequisite: Admission to the College of Education and Community Innovation or the school psychology program.

## **EDS 638 - Instructional Practices: Learning Disabilities II (3 credits)**

In this course, students will learn instructional practices for teaching reading, writing, mathematics, and social skills to children and adolescents with high incidence disabilities. Offered fall and winter semesters. Prerequisite: Admission to the College of Education and Community Innovation or the school psychology program.

## **EDS 640 - Diagnostic-Teaching Clinic (3 credits)**

In this clinic-based experience, each student will learn to apply diagnostic and interpretive procedures and instructional practices with a child with learning difficulties under the direct supervision of university faculty. Offered fall and winter semesters.

## **EDS 646 - Family and Community Collaboration in Early Childhood Education (3 credits)**

Remedial and preventive counseling strategies for parents of young children from birth through age eight. Preparation for assisting parents in settings that include parent education, atypical children, developmentally diverse children, and conditions requiring assistance from other professionals. Offered at least once a year.

## **EDS 647 - Serving Young Children with Diverse Needs (3 credits)**

Research implications, teaching strategies, and curricula for the instruction of special needs infants and preschool children. Offered at least once a year.

## **EDS 652 - Foundations of Special Education (3 credits)**

Study of the characteristics of exceptional students. Research-based effective instructional processes needed to provide the most appropriate education for meeting the needs of exceptional students in the least restrictive environment will be emphasized. Offered at least once a year.

## **EDS 680 - Special Topics in Special Education (1 to 3 credits)**

Study of selected topics in education. Offered upon sufficient demand.

## **EDS 685 - Practicum/Graduate Field Experience (3 or 6 credits)**

Field-based experience designed to provide clinical experience for teaching or administration majors. Each practicum shall be no less than the minimum requirements set forth by state and accrediting agencies, and must be with approval by the appropriate program personnel. All practica will require seminars. Not to be used for initial certification. Offered at least once a year.

EDS 685A - Emotional Impairment  
EDS 685B - Cognitive Impairment  
EDS 685C - Learning Disabilities  
EDS 685D - Early Childhood Developmental Delay  
EDS 685E - Autism

## **EDS 693 - Master's Project (1 to 3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

The student identifies a problem, reviews literature, creates a product based on applicable literature, research or theory that addresses the problem, and develops a plan for implementation and evaluation. Offered every semester. Prerequisites: Completion of 27 credit hours, EDF 660, application required (application deadline: fall May 15, winter September 15, spring/summer February 15), and completion of the Responsible Conduct of Research Training within last three years.

## **EDS 695 - Master's Thesis (1 to 6 credits)**

Involves either theoretical research or empirical research that identifies an issue or question, reviews literature, designs a study, gathers and analyzes data or evidence, and presents interpretations or conclusions. Offered every semester. Prerequisites: Completion of 27 credit hours, EDF 660, application required (application deadline: fall May 15, winter September 15, spring/summer February 15), and completion of the Responsible Conduct of Research Training within last three years.

## **EDS 696 - Continuation of Master's Project or Thesis Research (1 credit)**

Continuation of work related to the master's project or thesis phase of the graduate student's program. Registration is required after all respective project or thesis credits are completed and the project or thesis is not completed. Work will be performed under the supervision of the project advisor or thesis committee chair. Offered every semester. Prerequisites: Completion of all required project or thesis credits and completion of the Responsible Conduct of Research Training within last three years.

## **EDS 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

## **EDS 699 - Independent Study in Special Education (1 to 3 credits)**

Individual study of a theoretical or applied problem in education. Offered each semester. Prerequisites: Consent of advisor and demonstrated ability to pursue special study or investigation proposed.

## **EDT 312 - Children and Technology (3 credits)**

Focused on the impact technology in its many forms is having on children, ages two through 12, including pre-school uses of technology, as well as incorporation of technology into instruction and assessment. Explores issues related to children's participation in an increasingly digital

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society within the context of development, education, and society. Part of the Information, Innovation, or Technology Issue. Offered fall and winter semesters. Prerequisite: Junior standing.

### **EDT 370 - Technology in Education (3 credits)**

Introduction to technologies used in the classroom. Focus on integrating technologies into the curriculum for teaching and learning. Lab-based practical and hands-on learning is emphasized. Offered every semester. Prerequisites: EDI 310, and (one of EDI 330, EDI 331 or EDS 332), and (either EDR 320 or EDR 321). All may be taken concurrently.

### **EDT 380 - Special Topics in Technology (1 to 3 credits)**

Independent supervised study on selected topics that are not dealt with in-depth in other courses. Offered upon sufficient demand.

### **EDT 399 - Independent Study in Technology (1 to 3 credits)**

Independent supervised study on selected topics that are not dealt with in-depth in other courses. Offered upon sufficient demand.

### **EDT 476 - Teaching with Technology (3 credits)**

PK-6 classroom-based teaching and assessing with technology. Focused on integrating available technologies into assessment and instruction in support of student learning. Students should be prepared to inventory available digital technologies for classroom use, support needs of all students and align instruction with relevant benchmarks and standards. Part of the Information, Innovation, or Technology Issue. Offered fall and winter semesters. Prerequisite: Junior standing.

### **EDT 601 - Content/Curriculum Workshop (1 to 3 credits)**

Advanced-level workshops that provide a breadth and depth of understanding in content and curriculum of educational programs. Topics may vary and prerequisites may be established.

### **EDT 619 - Curricular Integration of Ed Technology (3 credits)**

Focusing on issues related to integrating educational technology into existing curricula, this course provides extensive experiences using the Internet and other resources for subject matter teaching and learning. Students will investigate learning theory and exemplary uses of technology in teaching and learning in educational settings.

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## **EDT 620 - Evaluating and Applying Instructional Media (3 credits)**

This course focuses on the evaluation, selection, and use of instructional media and online instructional resources in classroom teaching and learning. Exposure to a variety of educational software applications, as well as resources on the Internet, with a focus on the processes and products of design, evaluation, and implementation of technology-based learning environments. Offered fall semester.

## **EDT 621 - Topics in Educational Technologies (3 credits)**

Advanced study of the issues related to school-wide adoption of technology and the impact on teachers, administrators, and others involved in K-12 education. The course covers a broad range of topics, including theories of learning, ethical uses of technology, funding for technology, information literacy, and ubiquitous computing. Offered winter semester. Prerequisite: Completion of 12 graduate credits.

## **EDT 626 - Assessment/Evaluation with Educational Technology (3 credits)**

The use of educational technology provides opportunities for new forms of assessment and evaluation for student learning. This course focuses on models of educational assessment, strategies for assessment of learning in technology-based environments, uses of technology to support diversity and assessment, and alternative forms of assessment made possible with technology supporting student needs. Offered fall semester.

## **EDT 627 - Technology Integration for Secondary Teachers (3 credits)**

Focusing on issues related to integrating educational technology into secondary curricula, this course provides extensive experiences using the Internet and other resources for subject matter teaching and learning. Students will investigate exemplary uses of technology in teaching and learning in educational settings, learn how to develop and teach online courses, and support subject area learning with available technology.

## **EDT 629 - Online Instructional Design/Development (3 credits)**

This course is designed to provide educators with the ability to create instructional content on the Internet, paying attention to issues salient for instruction. These issues include theory and research in the area of Web-based instruction, online pedagogical design and development, Web design, and use of Web-based learning environments (like Blackboard). Offered winter semester.

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## **EDT 634 - Planning/Managing Educational Technology (3 credits)**

Students will examine adoption and integration of educational technology from the standpoint of personnel, planning, and administration of equipment, infrastructure, software, and future developments. Drawing on the published literature on adoption and use of educational technology, and adoption of innovation models, the course addresses the issues related to planning for and managing these technologies in education settings.

## **EDT 635 - Instructional Systems Design (3 credits)**

Comprehensive examination of the process of instructional systems design, aimed at designing effective technology-mediated instruction following a systematic process and adopting a systemic perspective. Offered every semester.

## **EDT 680 - Special Topics in Technology (1 to 3 credits)**

Study of selected topics in education. Offered upon sufficient demand.

## **EDT 684 - Field Experience - Educational Technology (3 credits)**

Field-based experience designed to provide clinical experience for graduate students. Each field-based experience must be completed with approval by the appropriate faculty advisor. All practica will require participation in online seminar sessions. Offered fall and spring/summer semesters. Prerequisite: EDT 635.

## **EDT 685 - Practicum/Graduate Field Experience (3 credits)**

Field-based experience designed to provide supervised experience for teaching or administration majors. Each practicum shall meet the minimum requirements set forth by accrediting agencies and have the approval of appropriate program personnel. All practica will require participation in online seminars. Not to be used for initial certification. Offered all three semesters. Prerequisites: EDT 619, EDT 620, EDT 621, EDT 626, EDT 629, EDT 634, and EDT 635.

## **EDT 693 - Master's Project (1 to 3 credits)**

The student identifies a problem, reviews literature, creates a product based on applicable literature, research or theory that addresses the problem, and develops a plan for implementation and evaluation. Offered every semester. Prerequisites: Completion of 27 credit hours, EDF 660, application required (application deadline: fall May 15, winter September 15, spring/summer

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February 15), and completion of the Responsible Conduct of Research Training within the last three years.

### **EDT 695 - Master's Thesis (1 to 6 credits)**

Involves either theoretical research or empirical research that identifies an issue or question, reviews literature, designs a study, gathers and analyzes data or evidence, and presents interpretations or conclusions. Offered every semester. Prerequisites: Completion of 27 credit hours, EDF 660, application required (application deadline: fall May 15, winter September 15, spring/summer February 15), and completion of the Responsible Conduct of Research Training within last three years.

### **EDT 696 - Continuation of Master's Project or Thesis Research (1 credit)**

Continuation of work related to the master's project or thesis phase of the graduate student's program. Registration is required after all respective project or thesis credits are completed and the project or thesis is not completed. Work will be performed under the supervision of the project advisor or thesis committee chair. Offered every semester. Prerequisites: Completion of all required project or thesis credits and completion of the Responsible Conduct of Research Training within last three years.

### **EDT 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

### **EDT 699 - Independent Study in Educational Technology (1 to 3 credits)**

Individual study of a theoretical or applied problem in education. Offered each semester. Prerequisites: Consent of advisor and demonstrated ability to pursue special study or investigation proposed.

### **EGR 100 - Introduction to Engineering (1 credit)**

An introduction to the various engineering fields and the industries that these fields support. Study techniques for students to be successful in the engineering program will be presented. Group work, problem identification, brainstorming ideas, prototyping solutions, and communicating results will be emphasized. Offered fall semester.

### **EGR 106 - Introduction to Engineering Design I (3 credits)**

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A first course in the principles and practice of multi-disciplinary engineering analysis, design, construction, and evaluation. Topics include graphical communication, solid modeling, computer-aided manufacturing, computer programming fundamentals, and structured programming. Professional skills such as problem solving and communication are emphasized. Offered fall and winter semesters. Corequisite: MTH 201.

## **EGR 107 - Introduction to Engineering Design II (3 credits)**

A second course in the principles and practice of multi-disciplinary engineering analysis, design, construction, and evaluation. Topics include design process, graphical communication, solid modeling, computer-aided manufacturing, computer programming, and principles of digital and analog electronics. Professional skills such as teamwork, problem-solving, and communication (oral and written) are emphasized. Prerequisites: Grade of C or higher in EGR 106 and grade of C or higher in MTH 201.

## **EGR 111 - Introduction to Engineering Graphics (1 credit)**

Provides principles of drafting used by engineers through a hands-on learning environment. Topics of instruction include drawing interpretation, visualization (including pictorials and orthographic drawings), geometric construction, sectioning, working drawings, and mechanical drawings (including but not limited to sectioning and working drawings). Offered fall and winter semesters.

## **EGR 112 - Applied Programming for Engineers (2 credits)**

An introduction to structured and modular programming for use in engineering applications. Numerous programming assignments, focusing on engineering concepts, develop the practical skills necessary to ensure students are capable of writing, testing, debugging, and validating programs. Offered fall and winter semesters. Prerequisite: MTH 123 or MTH 124 or placement into MTH 201 or above through Grand Valley math placement.

## **EGR 113 - Introduction to CAD/CAM (1 credit)**

Computer -aided design (CAD) and computer -aided manufacturing (CAM) theory and applications are introduced. Topics include CAD/CAM systems, geometric modeling, tool path generation, integration of CAD/CAM with the production machine, NC machining, and additive manufacturing. Offered fall and winter semesters.

## **EGR 124 - Introduction to Engineering Problem Solving (3 credits)**

This course provides a hands-on introduction to engineering problem solving with mathematics. Extensive examples of problems from core engineering courses are used to demonstrate how

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math (algebra, trigonometry, and calculus) is applied in engineering. Offered fall semester. Corequisite: MTH 124 or MTH 123.

## **EGR 180 - Special Topics in Engineering (1 to 4 credits)**

Readings, lectures, discussions, or laboratories (or any combination) on specific engineering topics appropriate for freshman engineering students. Offered on sufficient demand.

Prerequisites: Variable depending on topic.

## **EGR 185 - First-year Engineering Design (2 credits)**

Principles and practice of multidisciplinary engineering analysis and design to construct a working physical prototype of an electromechanical system. The effective communication of design ideas is emphasized. Offered every semester. Prerequisites: EGR 100 (grade of C or higher), EGR 111, EGR 112 (grade of C or higher), and EGR 113 (EGR 111 and EGR 113 may be taken concurrently).

## **EGR 209 - Mechanics and Machines (4 credits)**

Forces and moment, equilibrium, free body diagrams. Introduction of machine elements: gears, belts, chains, shafts. Stress/strain: normal and shear stresses due to bending and torsion. Design and analysis of welds, fasteners: bolts and rivets in engineering structures. Principles of mechanical design: synthesis and selection methods of basic off-the-shelf machine components. Offered fall and winter semesters. Prerequisites: Grade of C or better in both MTH 202 and PHY 230, and declared as an engineering major.

## **EGR 210 - Solid Mechanics (1 credit)**

Designed for transfer students who have had a statics course but not a solid mechanics course. Topics include stress/strain diagrams, generalized Hooke's law, stress and strain due to axial, torsional shear, and flexural loads. Offered fall semester. Prerequisites: C or better in a sophomore level statics course (MTH 202 and PHY 230 are prerequisites to the statics course), and declared an engineering major.

## **EGR 214 - Circuit Analysis I (3 credits)**

Topics include Ohm's law, Kirchhoff's laws, node voltage and mesh current analysis, superposition, Thévenin's and Norton's theorems, operational amplifiers, capacitance, inductance, and time-domain analysis of first order circuits. Offered fall and winter semesters. Prerequisites: A grade of C or better in both MTH 202 and PHY 230, and declared as an engineering major. Corequisite: EGR 215.

## **EGR 215 - Circuit Analysis I Lab (1 credit)**

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Laboratory activities associated with linear circuit analysis. Including the use of power supplies, multimeters, function generators, oscilloscopes, and electronic circuit CAD/CAM software packages. Offered every semester. Prerequisites: A grade of C or better in MTH 202 and PHY 230. Corequisite: EGR 214.

## **EGR 220 - Engineering Measurement and Data Analysis (1 credit)**

Measurement and data analysis lab that complements STA 220. This course uses hands-on engineering tests and experiments to build understanding of applied statistical analysis. The use of various measurement and data-acquisition tools and data analysis techniques are introduced. Technical writing in the form of lab reports is introduced and emphasized. Offered fall and winter semesters. Prerequisites: MTH 201 and fulfillment of general education Foundations - Writing (may take the Foundations - Writing requirement concurrently). Corequisite: STA 220.

## **EGR 223 - Probability and Signal Analysis (3 credits)**

An introduction to probability theory and signal analysis with applications. Topics covered include probability theory, random variables, properties of signals and systems, and applications to modeling physical systems and processes. Includes an active learning component to supplement the theory presented in lecture. Offered winter semester. Prerequisites: A grade of C or better in STA 220, EGR 220, EGR 214 (may be taken concurrently), MTH 302 (may be taken concurrently), and declared as an engineering major.

## **EGR 224 - Introduction to Digital System Design (3 credits)**

A first course in the analysis and design of digital systems. Provides an introduction to digital system design using schematic-based entry and hardware description language-based entry. Boolean algebra, combinational and sequential logic, state machine design, testbenches and various hardware modeling styles. Offered fall and winter semesters. Prerequisite: EGR 106 or EGR 112 with a C or better.

## **EGR 226 - Microcontroller Programming and Applications (3 credits)**

An introduction to digital systems and microcontroller programming including basic logic functions, microprocessor architecture, input and display devices, sensors, motors, and C programming for microcontrollers. The emphasis is on programming a microcontroller in C for practical applications. Offered fall and winter semesters. Prerequisites: Grade of C or better in EGR 107 or EGR 185 and declared as an engineering major or permit. Corequisite: EGR 227.

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## **EGR 227 - Microcontroller Programming and Applications Lab (1 credit)**

Laboratory activities associated with using microcontroller along with various inputs/outputs (I/O) peripherals, display devices, sensors and motors. Use of software programming language and software integrated development packages (IDE). Offered every semester. Prerequisites: Grade of C or better in EGR 185 and declared as an engineering major. Corequisite: EGR 226.

## **EGR 250 - Materials Science and Engineering (3 credits)**

The internal structure, composition, and processing of metals, polymers, and ceramics are related to their properties, end use, performance, and application in engineering. Materials selection exercises are included. Laboratory. (3-0-3) Offered winter and spring/summer semesters. Prerequisites: A grade of C or better in CHM 115, either PHY 234 or PHY 231, and declared as an engineering major. Corequisite: EGR 251.

## **EGR 251 - Materials Laboratory (1 credit)**

The laboratory sessions will acquaint students with modern experimental techniques and devices used in: (i) the characterization of the microstructures and properties of engineering materials, and (ii) laboratory simulation of industrial manufacturing processes. Application of the scientific method and technical report writing will be emphasized. Offered every semester. Prerequisites: A grade of C or better in CHM 115, either PHY 234 or PHY 231, and declared as an engineering major. Corequisite: EGR 250.

## **EGR 257 - Electronic Materials and Devices (4 credits)**

An introduction to solid state electronic materials and devices. Topics include basic quantum mechanics, atomic structure, electrical, magnetic and optical properties of electronic materials, and fundamentals of semiconductor devices including diodes and transistors. Laboratory activities. Offered winter semester. Prerequisites: A grade of C or better in CHM 115, either PHY 231 or PHY 234, and declared as an engineering major.

## **EGR 280 - Special Topics in Engineering (1 to 4 credits)**

Readings, lectures, discussions, or laboratories (or any combination) on specific engineering topics appropriate for sophomore engineering students. Offered on sufficient demand. Prerequisites: Variable depending on topic.

## **EGR 289 - Engineering Professionalism (1 credit)**

Introduces potential engineering cooperative education students to the industrial environment, the manufacture of quality products, and the basic principles of leadership. Helps students

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develop a better self-understanding through self-assessment and career development theory and prepares students for the co-op interview process. (1-0-0) Offered fall semester. Prerequisites: A grade of C or better in both MTH 202 and PHY 230 and declared as an engineering major.

### **EGR 290 - Engineering Co-op 1 (3 credits)**

The first full-time, four-month cooperative engineering work experience usually in a local industrial/manufacturing firm. Reading and writing assignments required. At least one evening meeting required. Offered spring/summer semester. Prerequisites: EGR 289, admitted (or pending admission) to an engineering major, and hired by an approved co-op employer.

### **EGR 301 - Analytical Tools for Product Design (4 credits)**

Analytic methods in product design are integrated into a coherent design process that includes: gathering customer requirements, establishing specifications, generating alternative concepts, estimating feasibility, concept selection, embodiment design, design refinement, prototyping, and project planning. Offered fall semester. Prerequisites: EGR 250, EGR 345 (may be taken concurrently), and admitted to biomedical, interdisciplinary, or product design and manufacturing engineering major.

### **EGR 302 - Engineering Decision-Making in Society (3 credits)**

Engineering decisions affect almost everyone in the modern world. This course studies the potential broad impacts of these decisions within social, economic, environmental, and global contexts. This course, through case-studies, places engineering in a wider context, emphasizing the application of ethical models to recognize professional responsibilities in engineering situations. Part of the Information, Innovation, or Technology Issue. Offered fall and winter semesters. Prerequisites: Junior standing and fulfillment of general education Foundations - Writing.

### **EGR 306 - Urban Sustainability (3 credits)**

Social, environmental, and economic points of view engaged to study how successful cities work. Study approached using assigned reading compared to direct observation and immersion into urban environments. Focus: interaction of built environment with social, natural environment. How engineering decisions about materials used in buildings impact structural integrity, energy use, and economics. Offered fall and winter semesters. Part of the Sustainability Issue. Prerequisites: Junior standing and MTH 110 (may be taken concurrently).

### **EGR 309 - Machine Design I (3 credits)**

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Shear and bending stresses in beams, beam deflections, buckling of columns, statically indeterminate beams, planar combined loading, triaxial stress and strain transformations, static failure theories, and fatigue failure theories. Offered winter and spring/summer semesters. Prerequisites: A grade of C or better in EGR 209 and declared as an engineering major. Corequisite: EGR 310.

## **EGR 310 - Machine Design I Laboratory (1 credit)**

Introduction to finite element analysis for planar loading, strain gauges and rosettes, and experimental determination of state of stress in a body. Offered every semester. Prerequisites: Grade of C or better in EGR 209 and declared engineering major. Corequisite: EGR 309.

## **EGR 311 - Intermediate Computer Aided Design and Manufacturing (3 credits)**

CAD/CAM topics including the creation of advanced prototype drawings and physical models, the graphic manipulation of symbol libraries, the utilization of advanced dimensioning techniques, rapid prototyping, analysis skills using CAD/CAM, and applications of data sharing techniques. Offered winter semester. Prerequisite: Admitted to mechanical, or interdisciplinary, or product design and manufacturing engineering major.

## **EGR 312 - Dynamics (3 credits)**

Study of motion and the relationship between force, mass, and acceleration for particles and rigid bodies. Work-energy and impulse-momentum concepts. (3-0-0) Offered winter and spring/summer semesters. Prerequisites: A grade of C or better in EGR 209 and declared as an engineering major.

## **EGR 314 - Circuit Analysis II (4 credits)**

Continuation of EGR 214. Topics include first and second order system transient analysis, Laplace transform analysis, sinusoidal steady state analysis, Bode plots, resonance, first and second order filters, Fourier series, and use of computer aided design software. (3-0-3) Offered fall semester. Prerequisites: EGR 214, MTH 302, and admitted to biomedical, computer, electrical, or interdisciplinary engineering major.

## **EGR 315 - Electronic Circuits I (4 credits)**

The design of discrete and integrated electronic circuits. Topics include large and small signal modeling of diodes, bipolar junction transistors, and MOS transistors. Biasing, small and large signal amplifier design, feedback, oscillators, and the use of computer-aided design software. Laboratory. (3-0-3) Offered fall semester. Prerequisites: EGR 314 (may be taken concurrently) and admitted to biomedical, computer, electrical, or interdisciplinary engineering major.

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## **EGR 323 - Signals and Systems Analysis (3 credits)**

A course in the engineering applications of transform methods. The processing of analog and digital signals is discussed, as well as the analysis and design of linear time invariant systems. Topics include signal and system classification, vector space representations, convolution, impulse response, Fourier Transform, DTFT, DFT, FFT, windowing, and time frequency tradeoff. (3-0-0) Offered spring/summer semester. Prerequisites: A grade of C or better in EGR 314 and admitted to biomedical, computer, electrical, or interdisciplinary engineering major.

## **EGR 326 - Embedded System Design (4 credits)**

A course in the design and implementation of embedded electronic systems. Topics include digital logic building blocks, programmable logic, microcontrollers, analog interface and support components, timing margin analysis, serial interfacing, signal integrity, heat sinks, and thermal resistance. A significant term project is required. Laboratory. (3-0-3) Offered fall semester. Prerequisites: EGR 214, EGR 224, EGR 226, and admitted to biomedical, computer, electrical, or interdisciplinary engineering major.

## **EGR 329 - Introduction to Finite Element Analysis (3 credits)**

Main topics: Modeling techniques, element technology, materials, loading, constraints, and results post processing using commercial software. Emphasis: Element behavior, planning of analyses, errors, critique of FE results. Course project is design oriented. Applications: Mainly structural analyses and elementary treatment of heat transfer, fluid mechanics, and dynamics. Offered spring/summer semester. Prerequisites: EGR 309. Admitted to biomedical, interdisciplinary or mechanical engineering major.

## **EGR 330 - Power Systems Analysis (4 credits)**

An introductory course on single-phase and poly-phase power systems. Topics include single-phase and poly-phase circuits, balanced and unbalanced systems, DC and AC power transmission and distribution systems, fault analysis and contemporary safety, and social and environmental issues. (3-0-3) Laboratory. Offered spring/summer semester. Prerequisite: EGR 314.

## **EGR 343 - Applied Electromagnetics (4 credits)**

Electromagnetic field equations and waves, signal spectra, transmission lines. Electromagnetic compatibility (EMC) issues, signal integrity, crosstalk, nonideal frequency dependent behavior of components, EMC requirements for electronic systems. Computer simulations, laboratory. Prerequisites: PHY 231 or PHY 234, a grade of C or better in EGR 314, and admitted to biomedical, electrical, or interdisciplinary engineering major.

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## **EGR 345 - Dynamic System Modeling and Control (4 credits)**

An introduction to mathematical modeling of mechanical, thermal, fluid, and electrical systems. Topics include equation formulation, Laplace transform methods, transfer functions, system response and stability, Fourier methods, frequency response, feedback control, control actions, block diagrams, state variable formulation, and computer simulation. Emphasis on mechanical systems. Laboratory. (3-0-3) Offered fall semester. Prerequisites: EGR 214, MTH 302, and admitted to biomedical, interdisciplinary, mechanical, or product design and manufacturing engineering major.

## **EGR 346 - Mechatronic Systems Dynamics and Control (4 credits)**

This course includes dynamics modeling, analyzing, and control of mechanical and electrical systems. Modeling and analysis are carried out using differential equations, numerical methods, and Laplace transforms. Software tools are also employed to perform these tasks. Offered fall semester. Prerequisites: EGR 214, EGR 226, EGR 312, MTH 302, and admitted to biomedical, interdisciplinary, or mechanical engineering major.

## **EGR 350 - Vibration (4 credits)**

Study of mechanical vibration of structures and engineering components. Free and forced vibration of single, two, and multidegree of freedom systems. Modal analysis and mode summation. Elements of analytical dynamics. Approximate numerical methods. Random vibration. Vibration measurement, isolation, and control. (4-0-0) Offered spring/summer semester. Prerequisites: EGR 346 and admitted to interdisciplinary or mechanical engineering major.

## **EGR 352 - Kinematics and Dynamics of Machinery (4 credits)**

The kinematics of machines are analyzed explicitly and approximately using computer-based mathematical techniques. Topics covered include planar mechanisms, positions, velocities, accelerations, spatial mechanisms, cams, gears, planar dynamics, and spatial dynamics. (4-0-0) Offered winter semester. Prerequisites: EGR 312, MTH 302, and admitted to interdisciplinary or mechanical engineering major.

## **EGR 360 - Thermodynamics (4 credits)**

Basic concepts of thermodynamics and an introduction to heat transfer. Properties of pure substances, equation of state, work, heat, first and second laws of thermodynamics, closed

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systems and control volume analysis, irreversibility and availability, refrigeration and power cycles, thermodynamic relations, introduction to conduction, convection, radiation, heat transfer, and heat exchanger design. (4-0-0) Offered fall semester. Prerequisites: (PHY 231 or PHY 234); MTH 302; and admitted to electrical, interdisciplinary, mechanical, or product design and manufacturing engineering major.

## **EGR 362 - Thermal and Fluid Systems (4 credits)**

Thermal system engineering is primarily a study of energy: its forms, transformations, the transfer of it, and efficiencies related to its transfer and use. This course includes the thermodynamic, fluid mechanics, and heat transfer principles required to understand the design of thermal systems found in product designs and manufacturing. Offered spring/summer semester. Prerequisite: Admission to the biomedical or product design and manufacturing engineering major.

## **EGR 365 - Fluid Mechanics (4 credits)**

Topics include fluid statics, control volume analysis, continuity, momentum, energy, Bernoulli equation, dimensional analysis and similitude, laminar and turbulent flows, boundary layers, differential analysis, external flow, lift and drag, internal flow, pump selection, introduction to turbomachinery, and open channel flow. Laboratory. (3-0-3) Offered spring/summer semester. Prerequisites: EGR 312, EGR 360, and admitted to interdisciplinary or mechanical engineering major.

## **EGR 367 - Manufacturing Processes (3 credits)**

The physics, operation, and application of manufacturing processes used for fabricating parts and devices from metals, polymers, ceramics, and composites in the manufacturing industry. The emphasis will be on the interactions between materials, process conditions, design, and economics. Offered fall and winter semesters. Prerequisites: A grade of C or better in EGR 250 and admitted to biomedical, interdisciplinary, mechanical, or product design and manufacturing engineering major. Corequisite: EGR 368.

## **EGR 368 - Manufacturing Processes Laboratory (1 credit)**

The laboratory experiments and exercises will involve careful investigation of the effects of the interactions between design, processing conditions, and materials on the quality and performance of fabricated products. Application of the scientific method in investigations, the principles of design of experiments (DOE), and statistics are reinforced. Offered fall and winter semesters. Prerequisites: A grade of C or better in EGR 250 and admitted to biomedical, interdisciplinary, mechanical, or product design and manufacturing engineering major. Corequisite: EGR 367.

## **EGR 380 - Special Topics in Engineering (1 to 4 credits)**

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Lecture, discussion, and/or laboratory in specific areas of engineering. Topics will reflect the special interests of the students and/or the instructor. Offered upon demand. Prerequisites: Depends on the nature of the topic and admitted to an engineering major.

## **EGR 390 - Engineering Co-op 2 (3 credits)**

The second full-time, four-month cooperative engineering work experience usually in a local industrial/manufacturing firm. Reading, writing assignments required. At least one evening meeting required. Offered each semester. Prerequisites: EGR 290, admitted to an engineering major, and hired by an approved co-op employer.

## **EGR 399 - Readings in Engineering (1 to 4 credits)**

Independent supervised readings on selected topics. Offered every semester. Prerequisites: Permission of instructor and admitted to an engineering major.

## **EGR 401 - Advanced Product Design (4 credits)**

Advanced topics in product design are integrated to prepare students to develop a prototype into a manufacturable design. The course will cover topics such as analysis of competitive product, protection of intellectual property, product architecture, material and process selection, experimental design, advanced tolerance analysis, rapid prototyping, and risk amelioration. Course material will be reinforced with design project work. Prerequisites: A grade of C or better in EGR 301 and admitted to interdisciplinary or product design and manufacturing engineering major.

## **EGR 403 - Medical Device Design (3 credits)**

Students will learn to design equipment, products, and processes for the medical device industry. The course will cover topics such as standards and regulations, determining and documenting device requirements, hazard and risk analysis, liability, verification and validation testing, and manufacturing quality systems. Cross-listed with EGR 503. Prerequisites: EGR 345 and admitted to biomedical, interdisciplinary, mechanical, or product design and manufacturing engineering major.

## **EGR 404 - Polymer Science and Processing (4 credits)**

This course is a broad study of the structures, properties, processing, design, and selection of polymeric materials and polymer matrix composites. The effects of the unique properties of different polymers and polymer-based composites on the selection of processes used to fabricate them are critically examined. Offered winter semester. Prerequisite: EGR 250 with a grade of C or better.

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## **EGR 405 - Materials Failure Analysis and Selection (3 credits)**

A study of the causes and modes of failure of engineering materials in service. The general procedures and analytical techniques employed in the investigation and analysis of material failures are discussed. Case studies are used to reinforce understanding of failure mechanisms and to develop appropriate materials and process selection methodologies. Offered spring/summer semester. Prerequisite: EGR 250.

## **EGR 406 - Renewable Energy Systems: Structure, Policy, and Analysis (3 credits)**

A survey of the technological as well as economic, societal, and public policy issues associated with renewable energy systems. Topics include generation using renewable resources such as solar, wind, hydropower, and biomass, as well as advanced energy storage systems and distribution. Energy research and analysis techniques are introduced. Fulfills Cultures - Global Perspectives. Part of the Sustainability Issue. Cross-listed with NRM 406. Offered winter semester. Prerequisites: Junior standing and (STA 215 or STA 220 or STA 312).

## **EGR 409 - Machine Design II (4 credits)**

Topics include design of screws, clutches, brakes, belts, gears, journal bearings, roller bearings, and planetary gear trains. (4-0-0) Offered spring/summer semester. Prerequisites: EGR 309 and admitted to biomedical, interdisciplinary, mechanical, or product design and manufacturing engineering major.

## **EGR 413 - Materials for Energy Storage (3 credits)**

Study of the materials for advanced energy storage. Topics include electrochemical reactions, anode and cathode materials, electrolyte materials, electrochemical testing of materials, typical responses of common materials, and life testing. In addition, tradeoffs in material performance are discussed. Cross-listed with EGR 513. Offered winter semester. Prerequisites: (EGR 250 or EGR 257) and admitted to interdisciplinary or product design and manufacturing engineering major.

## **EGR 415 - Communication Systems (4 credits)**

Study of the techniques and performance of analog and digital communication systems. Block diagram study of the transmitter and receiver, performance analysis for noisy channels, and the multiplexing of multiple channels. Topics include noise characterization, AM, FM, PCM, FSK, and PSK. Applications include radio, TV, telephony, wireless and modems. Laboratory. (3-0-3) Cross-listed with EGR 515. Offered alternating fall and winter semesters. Prerequisites: A grade of C or better in EGR 323 and admitted to electrical or interdisciplinary engineering major.

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## **EGR 418 - Radio Frequency Systems (4 credits)**

Study of the limitations used in lumped element analysis and how to use distributive models and network theory to design common communication components found in wireless and wired systems. Topics include signal propagation, telegraph equation, scattering parameters, Smith charts, loading conditions, matching techniques, microstrip filters, microwave active devices. Cross-listed with EGR 518. Offered winter semester. Prerequisites: EGR 314 and EGR 315.

## **EGR 423 - Digital Signal Processing Systems (4 credits)**

The techniques and tools used for signal/system analysis and design in the digital domain. Filter design and frequency analysis are presented in the context of implementation on modern digital hardware. Hands-on experiments and design projects are a central component of the course. (3-0-3) Cross-listed with EGR 523. Offered alternating fall and winter semesters. Prerequisites: A grade of C or better in EGR 323. Admitted to computer, electrical, or interdisciplinary engineering major.

## **EGR 424 - Design of Microcontroller Applications (4 credits)**

The architecture and capabilities of single chip microcontrollers and the design of microcontroller applications. A/D and D/A conversion, I/O, timing, programming, expansion methods, and development systems. Design projects will be an integral part of both lecture and laboratory. Laboratory. (3-0-3) Cross-listed with EGR 524. Offered spring/summer semester. Prerequisites: A grade of C or better in EGR 326 and admitted to computer, electrical, or interdisciplinary engineering major.

## **EGR 425 - RISC Architecture (4 credits)**

Modern computer organization and implementation of RISC processor with emphasis on interaction between computer hardware and software at various levels. Students will learn the concepts of computer architecture, programmable device architecture, instruction set architecture, assembly language, and peripheral design using HDL, assembly and other programming languages. Cross-listed with EGR 425. Offered spring/summer semester. Prerequisite: EGR 326.

## **EGR 426 - Integrated Circuit Systems Design (4 credits)**

The design of digital circuits using behavioral modeling with VHDL. Topics include CPLD and FPGA architectures, the VHDL language, modeling of combinational logic, sequential logic, microcontrollers, state machines, and algorithms for numeric computation on integer and fixed-point numbers. Hands-on projects are a significant part of the course. Laboratory. (3-0-3) Cross-listed with EGR 526. Offered winter semester. Prerequisites: A grade of C or better in EGR 326 or graduate standing, and admitted to computer, electrical, or interdisciplinary engineering major.

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## **EGR 430 - Electromechanics (4 credits)**

A course covering the engineering science and design of electrical to mechanical transducers. Topics include magnetic circuit design, solenoids, transformers, DC machines, induction machines, synchronous generators and motors, stepper motors, and an introduction to dynamic systems analysis. Laboratory. (3-0-3) Cross-listed with EGR 530. Offered winter semester. Prerequisites: A grade of C or better in EGR 330 and admitted to electrical or interdisciplinary engineering major.

## **EGR 432 - Biomedical Imaging and Image Processing (3 credits)**

Study of biomedical imaging modalities used in diagnostic imaging with an emphasis on physical principles and algorithms underlying X-ray imaging, computed X-ray tomography, magnetic resonance imaging, fluoroscopy, and ultrasound imaging. Topics also include multidimensional signal processing, image acquisition and filtering, reconstruction, qualification, segmentation, and pattern analysis. Cross-listed with EGR 532. EE/CE elective. Offered winter semester. Prerequisites: EGR 323. Admitted to biomedical, computer, electrical, or interdisciplinary engineering major.

## **EGR 433 - Electronic Instrumentation for Biomedical Applications (3 credits)**

Study of the operating principles of transducer devices and design of modern electronic instrumentation systems with emphasis on biomedical applications. Topics include electronic sensors and measurement principles, design of instrumentation amplifiers for sensors that transduce measured quantities into low level signals in noisy environments, and signal conditioning and display. Cross-listed with EGR 533. Offered winter semester. Prerequisites: EGR 315 and EGR 326; or permission of instructor (knowledge of basic electronics and microcontroller applications).

## **EGR 434 - Bioelectric Potentials (3 credits)**

Study of mechanisms governing the generation of bioelectrical signals focusing on measurement and analysis techniques in nerve and muscle electrophysiology. Topics include excitable membranes, plasma membrane characteristics, origin of electrical membrane potentials, action potentials, voltage clamp experiments, impulse propagation, membrane biophysics, and cardiac arrhythmias. Cross-listed with EGR 534. EE elective. Offered fall semester. Prerequisites: EGR 323 and admitted to biomedical, electrical, or interdisciplinary engineering major.

## **EGR 435 - Mathematical Modeling of Physiologic Systems (3 credits)**

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This course provides an introduction to mathematical modeling, numerical methods, model simulations, and regression analysis, as applied to biomedical systems at the cellular, tissue, and organ levels. Offered winter semester. Prerequisites: MTH 302 or (MTH 204 and MTH 304).

### **EGR 436 - Embedded Systems Interface (4 credits)**

Study of the interface between microcontrollers and sensors and actuators that enable programmed control of monitoring and interaction with the environment. Use of wired and wireless communications to link users to modern electronic systems either directly or through the Internet. Cross-listed with EGR 536. Offered winter semester. Prerequisites: A grade of C or better in EGR 315 and EGR 326, or permission of instructor.

### **EGR 440 - Introduction to Production (3 credits)**

An overview of production methods. Philosophies such as lean and quick response manufacturing. Organization for production and facilities layout. Elements of production including workstations and inventories with mathematical analysis. Introduction to flow control schemes as well as their analysis using discrete event simulation. A comprehensive case study is required. Offered spring/summer semester. Prerequisite: Admitted to biomedical, interdisciplinary, or product design and manufacturing engineering major.

### **EGR 441 - Engineering Economics, Quality Control, and Manufacturing Operations (4 credits)**

This course explores selected topics from the fields of engineering economics, strategic decision making based on principles of operations management, quality control issues, method engineering and process improvement. The course examines complex interrelationships of the topics and introduces problem solving tools that are fundamentals to the manufacturing support system. Cross-listed with EGR 541. Offered spring/summer semester. Prerequisites: MTH 302 or equivalent; and admitted to any engineering major or graduate program.

### **EGR 443 - Electromagnetic Compatibility (4 credits)**

Electromagnetic Compatibility (EMC) of electronic systems. Topics include: signal spectra, inductive and capacitive coupling, common-impedance coupling, non-ideal circuit components, EMC filters, common-mode and differential-mode currents, electromagnetic wave shielding, EMC regulations and testing, radiated and conducted emissions and susceptibility, SMPS design for EMC compliance. Offered fall semester. Prerequisites: A grade of C or better in EGR 343 and admitted to electrical or interdisciplinary engineering major.

### **EGR 445 - Robotic Systems Engineering (4 credits)**

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Introduction to the field of robotics and its scientific background from a practical perspective. Topics include robotic systems fundamentals, terminology, spatial description and manipulation, stationary manipulator kinematics, mobile robots, trajectory planning, and applications. Cross-listed with EGR 545. Offered spring/summer semester. Prerequisites: EGR 345 or 346 or admission to M.S.E. program, and admitted to biomedical, interdisciplinary, mechanical, or product design and manufacturing engineering major.

## **EGR 447 - Engineering Mechanics of Human Motion (3 credits)**

This course focuses on the applications of the principles of mechanics to the study of human movement. Students will learn to acquire and analyze human motion data using self-developed computer programs. Topics include biomechanics terminology, anthropometric measurement, joint kinematics and kinetics, electromyography, and hands-on clinical application of movement biomechanics. Cross-listed with EGR 547. Offered winter semester. Prerequisites: EGR 346 and admitted to biomedical, interdisciplinary, mechanical, or product design and manufacturing engineering major.

## **EGR 450 - Manufacturing Control Systems (4 credits)**

An introduction to the control of machines and processes widely used in manufacturing. Topics include programmable logic controllers, actuators and sensors for discrete and continuous systems, structured design techniques, memory structures, data handling functions, A/D and D/A converters, data communications, and hierarchical control. The technical issues involved in implementing control schemes are discussed. Laboratory. (0-3-3) Cross-listed with EGR 550. Offered spring/summer semester. Prerequisites: A grade of C or better in EGR 314, or EGR 345, or EGR 346 admission to the graduate program, and admitted to biomedical, interdisciplinary, mechanical, or product design and manufacturing engineering major.

## **EGR 453 - Biomedical Materials (3 credits)**

Study of the characteristics of materials used in medicine and dentistry and their interactions with living tissues. Topics may include biocompatibility, host responses, degradation of biomaterials in biological environments and their applications in artificial organs, implants, soft and hard tissue replacements, dentistry, drug delivery systems, medical equipment, etc. Cross-listed with EGR 553. Offered fall semester. Prerequisites: EGR 250 and admitted to biomedical, interdisciplinary, mechanical, or product design and manufacturing engineering major.

## **EGR 455 - Automatic Control (4 credits)**

An introduction to automatic control of physical systems. Topics include mathematical modeling of physical systems, analysis of control system characteristics, and compensator design and implementation. Laboratory. (3-0-3) Cross-listed with EGR 555. Offered alternating fall and

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winter semesters. Prerequisites: A grade of C or better in EGR 323 and admitted to biomedical, electrical, or interdisciplinary engineering major.

## **EGR 457 - Fundamentals of Nanotechnology (4 credits)**

The course introduces students to the field of nanotechnology. Topics include sizes and scaling laws, characteristics of nanomaterials, growth, fabrication, and measurement techniques for nanostructures, applications in electronics, photonics, mechanics, chemistry, and medicine. In addition, the societal impact and ethical dimensions of nanotechnology are covered. Lecture and in-class lab activities. Cross-listed with EGR 557. Offered spring/summer semester. Prerequisite: EGR 315 or EGR 345 or equivalent.

## **EGR 458 - Introduction to Fiber Optics (4 credits)**

An introduction to fiber optics and optical fiber communications. Topics include fundamentals of fiber optics, properties of optical fibers, optical fiber testing, optical fiber cables, fiber-optic connectors, fiber-optic splices, transmitters, receivers, applications of fiber optics, and communication systems design. In-class activities. Cross-listed with EGR 558. Offered spring/summer semester. Prerequisites: EGR 315, EGR 323, and admitted to electrical or interdisciplinary engineering major.

## **EGR 463 - Alternative Energy Systems and Applications (4 credits)**

Introduction to the current issues of energy for sustainability. Principles of alternative and renewable energy sources including solar thermal, solar photovoltaic, wind, hydropower, biomass, geothermal, hydrogen, and nuclear energy. Fundamentals of combustion of hydrocarbon fuels and alternative fuels such as biofuels. Fuel cells and electrochemical energy storage units. Offered fall semester. Prerequisites: EGR 360 or EGR 362, or permission of instructor. Admitted to mechanical, interdisciplinary, or product design and manufacturing engineering major.

## **EGR 465 - Computational Fluid Dynamics (CFD) (4 credits)**

The fundamentals and applications of Computational Fluid Dynamics (CFD) using a commercially available software, featuring mesh generation, solver settings, numerical accuracy, and postprocessing. Fundamental topics such as governing equations, boundary conditions, and numerical solving schemes are also covered. Cross-listed with EGR 565. Offered winter semester. Prerequisites: EGR 365 and admitted to biomedical, interdisciplinary, or mechanical engineering major.

## **EGR 466 - Turbomachinery (4 credits)**

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Application of energy, momentum, and continuity equations to turbomachinery. Fundamentals of axial and centrifugal compressors/pumps, axial/radial gas turbines, and hydraulic and wind turbines. Mean-line analysis, radial equilibrium, blade geometry, component design, losses, and design parameters. Offered winter semester. Prerequisites: EGR 365 or EGR 362, and admitted to the mechanical or product design and manufacturing engineering majors.

### **EGR 468 - Heat Transfer (4 credits)**

Study of the mechanisms by which heat is transferred in different media: conduction, convection, and radiation. One- and two-dimensional steady state conduction, transient conduction, finite differences, methods in conduction, forced and free convections, heat exchangers, radiation processing and properties, radiation exchange between surfaces. Laboratory. (3-0-3) Offered winter semester. Prerequisites: EGR 365 and admitted to biomedical, interdisciplinary, or mechanical engineering major.

### **EGR 475 - Design of HVAC Systems (4 credits)**

Application of thermodynamics and fluid mechanics to the design of heating, ventilation, and air conditioning systems. Topics include heat load calculations, hot water and forced air systems, comfort/health factors, applicable codes, regulations, controls, equipment choice, and plant layout. Offered spring/summer semester. Prerequisites: EGR 468 and admitted to interdisciplinary or mechanical engineering major.

### **EGR 477 - Hybrid Electric Battery Systems (3 credits)**

Students will learn to model and control hybrid electric battery systems, and will design a complete battery management system. The course will cover topics such as battery chemistry, vehicle power electronics and communication interfaces, cell balancing, thermal, mechanical, and small signal measurements in a noisy battery environment. Cross-listed with EGR 577. Offered winter semester of even-numbered years. Prerequisite: EGR 330.

### **EGR 480 - Special Topics in Engineering (1 to 4 credits)**

Readings, lectures, discussions, or laboratories (or any combination) on specific engineering topics appropriate for senior engineering students. Offered on sufficient demand. Prerequisites: Variable depending on topic and admitted to an engineering major.

### **EGR 485 - Senior Engineering Project I (Capstone) (1 credit)**

An independent investigation of theoretical or experimental design problems in engineering. The nature and scope of the project are determined by the student in consultation with the instructor and depend upon the facilities available. Normally this project is carried out during the entire

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senior year, with one-hour of credit during the first semester and two hours of credit during the second semester. A written technical report is required. All seniors meet together each week to discuss their projects with each other and their supervisor. Laboratory. (1-0-4) Offered winter semester. Prerequisites: Acceptance into the B.S.E. degree program and completion of the prerequisite courses listed under the student's engineering major.

## **EGR 486 - Senior Engineering Project II (Capstone) (2 credits)**

Continuation of student's work in EGR 485. Both an oral report and a final written technical report are required. (1-0-8) Offered spring/summer semester. Prerequisite: EGR 485.

## **EGR 490 - Engineering Co-op 3 (3 credits)**

The third full-time, four-month cooperative engineering work experience usually in a local industrial/manufacturing firm. Reading and writing assignments required. At least one evening meeting required. Offered each semester. Prerequisites: EGR 390 and admitted to an engineering major and hired by an approved co-op employer.

## **EGR 499 - Research in Engineering (1 to 4 credits)**

Investigation of current ideas and techniques in engineering for upper-class students majoring in engineering. Content determined by the student in conference with professor. Completion of work includes a technical report and usually an oral presentation. Offered on demand. Prerequisites: Permission of the director of the School of Engineering and admitted to an engineering major.

## **EGR 503 - Medical Device Design (3 credits)**

Students will learn to design equipment, products, and processes for the medical device industry. The course will cover topics such as standards and regulations, determining and documenting device requirements, hazard and risk analysis, liability, verification and validation testing, and manufacturing quality systems. Cross-listed with EGR 403. Offered winter semester. Prerequisite: EGR 604.

## **EGR 513 - Materials for Energy Storage (3 credits)**

Study of the materials for advanced energy storage. Topics include electrochemical reactions, anode and cathode materials, electrolyte materials, electrochemical testing of materials, typical responses of common materials, and life testing. In addition, tradeoffs in material performance are discussed. Cross-listed with EGR 413. Offered winter semester. Prerequisite: EGR 250 or EGR 257 or by permit.

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## **EGR 515 - Communication Systems (4 credits)**

Study of the techniques and performance of analog and digital communication systems. Block diagram study of the transmitter and receiver, performance analysis for noisy channels, and the multiplexing of multiple channels. Topics include noise characterization, AM, FM, PCM, FSK, and PSK. Applications include radio, TV, telephony, wireless and modems. Laboratory. (3-0-3) Cross-listed with EGR 415. Offered alternating fall and winter semesters. Prerequisites: A grade of C or better in EGR 323 and admitted to electrical or interdisciplinary engineering major.

## **EGR 518 - Radio Frequency Systems (4 credits)**

Study of the limitations used in lumped element analysis and how to use distributive models and network theory to design common communication components found in wireless and wired systems. Topics include signal propagation, telegraph equation, scattering parameters, Smith charts, loading conditions, matching techniques, microstrip filters, microwave active devices. Cross-listed with EGR 418. Offered winter semester. Prerequisites: EGR 314 and EGR 315.

## **EGR 523 - Digital Signal Processing Systems (4 credits)**

The techniques and tools used for signal/system analysis and design in the digital domain. Filter design and frequency analysis are presented in the context of implementation on modern digital hardware. Hands-on experiments and design projects are a central component of the course. (3-0-3) Cross-listed with EGR 423. Offered alternating fall and winter semesters. Prerequisites: A grade of C or better in EGR 323 and admitted to computer, electrical, or interdisciplinary engineering major.

## **EGR 524 - Design of Microcontroller Applications (4 credits)**

Students will explore a complex microcontroller architecture and develop the necessary firmware for implementing a rudimentary real-time operating system that effectively uses the microcontroller resources. Laboratory. (3-0-3) Cross-listed with EGR 424. Offered spring/summer semester. Prerequisites: A grade of C or better in EGR 326, programming proficiency (CIS 263 and CIS 361 are recommended) and/or graduate standing.

## **EGR 525 - RISC Architecture (4 credits)**

Modern computer organization and implementation of RISC processor with emphasis on interaction between computer hardware and software at various levels. Students will learn the concepts of computer architecture, programmable device architecture, instruction set architecture, assembly language, and peripheral design using HDL, assembly and other programming languages. Cross-listed with EGR 425. Offered spring/summer semester. Prerequisite: EGR 326.

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## **EGR 526 - Integrated Circuit System Design (4 credits)**

The design of digital circuits using behavioral modeling with VHDL. Topics include CPLD and FPGA architectures, the VHDL language, modeling of combinational logic, sequential logic, microcontrollers, state machines, and algorithms for numeric computation on integer and fixed-point numbers. Hands-on projects are a significant part of the course. Laboratory. (3-0-3) Cross-listed with EGR 426. Offered winter semester. Prerequisites: A grade of C or better in EGR 326 or graduate standing. Admitted to computer, electrical, or interdisciplinary engineering major.

## **EGR 530 - Electromechanics (4 credits)**

A course covering the engineering science and design of electrical to mechanical transducers. Topics include magnetic circuit design, solenoids, transformers, DC machines, induction machines, synchronous generators and motors, stepper motors, and an introduction to dynamic systems analysis. Laboratory. (3-0-3) Cross-listed with EGR 430. Offered winter semester.

## **EGR 532 - Biomedical Imaging and Image Processing (3 credits)**

Study of biomedical imaging modalities used in diagnostic imaging with an emphasis on physical principles and algorithms underlying X-ray imaging, computed X-ray tomography, magnetic resonance imaging, fluoroscopy, and ultrasound imaging. Topics also include multidimensional signal processing, image acquisition and filtering, reconstruction, quantification, segmentation, and pattern analysis. Cross-listed with EGR 432. Offered winter semester. Prerequisites: Admission to M.S.E. program and permission of instructor.

## **EGR 533 - Electronic Instrumentation for Biomedical Applications (3 credits)**

Study of the operating principles of transducer devices and design of modern electronic instrumentation systems with emphasis on biomedical applications. Topics include electronic sensors and measurement principles, design of instrumentation amplifiers for sensors that transduce measured quantities into low level signals in noisy environments, and signal conditioning and display. Cross-listed with EGR 433. Offered winter semester.

## **EGR 534 - Bioelectric Potentials (3 credits)**

Study of mechanisms governing the generation of bioelectrical signals focusing on measurement and analysis techniques in nerve and muscle electrophysiology. Topics include excitable membranes, plasma membrane characteristics, origin of electrical membrane potentials, action potentials, voltage clamp experiments, impulse propagation, membrane biophysics, and cardiac arrhythmias. Cross-listed with EGR 434. Offered fall semester. Prerequisite: Admission to M.S.E. program and permission of instructor.

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## **EGR 536 - Embedded Systems Interface (4 credits)**

Study of the interface between microcontrollers and sensors and actuators that enable programmed control of monitoring and interaction with the environment. Use of wired and wireless communications to link users to modern electronic systems either directly or through the Internet. Cross-listed with EGR 436. Offered winter semester. Prerequisites: A grade of C or better in EGR 315, EGR 326, or permission of instructor.

## **EGR 541 - Engineering Economics, Quality Control, and Manufacturing Operations (4 credits)**

This course explores selected topics from the fields of engineering economics, strategic decision making based on principles of operations management, quality control issues, method engineering and process improvement. The course examines complex interrelationships of the topics and introduces problem solving tools that are fundamentals to the manufacturing support system. Cross-listed with EGR 441. Offered spring/summer semester. Prerequisites: MTH 302 or equivalent; and admitted to any engineering major or graduate program.

## **EGR 543 - Electromagnetic Compatibility (4 credits)**

Electromagnetic Compatibility (EMC) of electronic systems. Topics include: signal spectra, inductive and capacitive coupling, common-impedance coupling, non-ideal circuit components, EMC filters, common-mode and differential-mode currents, electromagnetic wave shielding, EMC regulations and testing, radiated and conducted emissions and susceptibility, SMPS design for EMC compliance. Offered fall semester. Prerequisites: EGR 343 or admission to M.S.E. program and permission of instructor.

## **EGR 545 - Robotic Systems Engineering (4 credits)**

Introduction to the field of robotics and its scientific background from a practical perspective. Topics include robotic systems fundamentals, terminology, spatial description and manipulation, stationary manipulator kinematics, mobile robots, trajectory planning, and applications. Cross-listed with EGR 445. Offered spring/summer semester. Prerequisite: Admission to M.S.E. program.

## **EGR 547 - Engineering Mechanics of Human Motion (3 credits)**

Applications of the principles of mechanics to the study of human movement. Students will learn to acquire and analyze human motion data using self-developed computer program. Topics include biomechanics terminology, anthropometric measurement, joint kinematics and kinetics, electromyography, and hands-on clinical application of movement biomechanics. Cross-listed

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with EGR 447. Offered winter semester. Prerequisites: Admission to M.S.E. program and permission of instructor.

## **EGR 550 - Manufacturing Control Systems (4 credits)**

An introduction to the control of machines and processes widely used in manufacturing. Topics include programmable logic controllers, actuators and sensors for discrete and continuous systems, structured design techniques, memory structures, data handling functions, A/D and D/A converters, data communications, and hierarchical control. The technical issues involved in implementing control schemes are discussed. Laboratory. (0-3-3) Cross-listed with EGR 450. Offered spring/summer semester. Prerequisite: A grade of C or better in EGR 314, or EGR 345, or EGR 346, or admission to the graduate program.

## **EGR 553 - Biomedical Materials (3 credits)**

Study of the characteristics of materials used in medicine and dentistry and their interactions with living tissues. Topics may include biocompatibility, host responses, degradation of biomaterials in biological environments and their applications in artificial organs, implants, soft and hard tissue replacements, dentistry, drug-delivery systems, and medical equipment. Cross-listed with EGR 453. Offered fall semester. Prerequisites: Admission to the M.S.E. program and permission of the instructor.

## **EGR 555 - Automatic Control (4 credits)**

An introduction to automatic control of physical systems. Topics include mathematical modeling of physical systems, analysis of control system characteristics, and compensator design and implementation. Laboratory. (3-0-3) Cross-listed with EGR 455. Offered alternating fall and winter semesters. Prerequisite: Admitted to the M.S.E. program.

## **EGR 557 - Fundamentals of Nanotechnology (4 credits)**

The course introduces students to the field of nanotechnology. Topics include sizes and scaling laws, characteristics of nanomaterials, growth, fabrication, and measurement techniques for nanostructures, applications in electronics, photonics, mechanics, chemistry, and medicine. In addition, the societal impact and ethical dimensions of nanotechnology are covered. Lecture and in-class lab activities. Cross-listed with EGR 457. Offered spring/summer semester. Prerequisite: EGR 315 or EGR 345 or equivalent.

## **EGR 558 - Introduction to Fiber Optics (4 credits)**

An introduction to fiber optics and optical fiber communications. Topics include fundamentals of fiber optics, properties of optical fibers, optical fiber testing, optical fiber cables, fiber-optic connectors, fiber-optic splices, transmitters, receivers, applications of fiber optics, and

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communication systems design. In-class activities. Cross-listed with EGR 458. Offered spring/summer semester. Prerequisites: EGR 315 and EGR 323.

## **EGR 565 - Computational Fluid Dynamics (CFD) (4 credits)**

The fundamentals and applications of Computational Fluid Dynamics (CFD) using a commercially available software, featuring mesh generation, solver settings, numerical accuracy, and postprocessing. Fundamental topics such as governing equations, boundary conditions, and numerical solving schemes are also covered. Cross-listed with EGR 465. Offered winter semester.

## **EGR 577 - Hybrid Electric Battery Systems (3 credits)**

Students will learn to model and control hybrid electric battery systems, and will design a complete battery management system. The course will cover topics such as battery chemistry, vehicle power electronics and communication interfaces, cell balancing, thermal, mechanical, and small signal measurements in a noisy battery environment. Cross-listed with EGR 477. Offered winter semester of even-numbered years.

## **EGR 580 - Special Topics in Engineering (1 to 4 credits)**

A study of special topics not regularly covered in the curriculum. Expectations of this course approximate those in other 500-level courses. May be repeated for credit when the content varies. Offered every semester. Prerequisite: Admitted to the M.S.E. program or permission.

## **EGR 600 - Advanced Engineering Analysis (3 credits)**

Mathematics, statistics, and other quantitative topics significant to the solution of advanced engineering problems using quantitative analytic thinking. Focus on project analysis, economic justification, risk analysis, and the behavior of engineering systems. Emphasis on computer-based solution techniques. Computers will be used extensively in an active learning environment. Offered fall semester. Prerequisite: Admission to the M.S.E. program.

## **EGR 601 - Principles of Computer Engineering (3 credits)**

This course provides introduction to basic principles of computer engineering discipline with emphasis on use of techniques as an aid to build modern embedded systems. Topics covered include: microcontroller-based design, programmable logic based design, communication interface and database management systems for data storage and retrieval. Offered fall semester. Prerequisite: Graduate standing.

## **EGR 602 - Professional Aspects of Engineering (3 credits)**

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This course will expose the students to a thorough examination of the qualitative issues and elements that are critical to advanced engineering practice and research. The course focuses on communication skills and techniques, especially writing, as well as research methods and techniques. Both elements are applied throughout the course in a context of engineering ethics and professional issues. These issues include contemporary topics such as law, ethics, globalization, societal impacts, environmental issues, and project management. Offered winter semester. Prerequisite: Admission to graduate school.

## **EGR 604 - Implementation and Measurement (3 credits)**

Emphasis on the ties between engineering theory and analysis, and the implementation of devices and mechanisms. Use of design and build procedures, designed experiments, data analysis, data modeling, reporting, and fabrication. Weekly activities and a major design project. Offered fall semester. Prerequisite: Admission to the M.S.E. program.

## **EGR 609 - Advanced Structural Analysis (3 credits)**

Three-dimensional stress and strain transformation will be introduced. Principal stresses and directions will be found by solving the eigenvalue problem. The theory of elasticity and Euler-Bernoulli beam theory will be used in axial, bending and torsion problems. Virtual work principles and energy methods will be applied to structural systems. Offered fall semester. Prerequisite: EGR 309, or equivalent, or permission of instructor.

## **EGR 610 - Engineering Design (3 credits)**

Application of various methods and approaches to engineering design using modern design tools. Design experiences are used throughout to develop designs. Mini design projects are assigned in interdisciplinary areas, machine design, heat transfer, and controls. Offered winter semester. Prerequisites: EGR 604 and EGR 520 (may be taken concurrently).

## **EGR 611 - Computer-Aided Design and Engineering (3 credits)**

Use of computer-aided methods for generating 3-D parametric, feature-based geometric models. Use of the associated database for calculating design parameters. Topics include solid and surface modeling, fundamentals of geometric elements, and design related issues. Design projects are emphasized using industry-standard computer applications. Offered fall semester. Prerequisites: EGR 600 and EGR 604.

## **EGR 612 - Analytical Dynamics (3 credits)**

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Study of kinematics and kinetics of rigid, multi-body systems using momentum and energy conservation methods and analytical dynamics techniques such as D'Alembert's principle, virtual work, and Lagrange's equations. Offered fall semester.

## **EGR 614 - Opportunity Identification for Medical Devices (3 credits)**

Students will learn to seek out opportunities for new medical products and how to evaluate the technical and business potential of an opportunity. Students will produce a venture plan and a concept feasibility prototype suitable to attract investment. Offered fall and winter semester. Prerequisite: EGR 503.

## **EGR 615 - Applied Finite Element Analysis (3 credits)**

Fundamentals of structural finite element modeling. Geometry creation, element types, material specification, and problem solution and results postprocessing. A focus is placed on modeling techniques and guidelines using commercially available software. Offered winter semester.

## **EGR 620 - Material and Process Selection (3 credits)**

A study of current topics in materials and manufacturing processes for engineering design. Topics selected from advanced metallic, polymeric, ceramic, and composite materials, surface treatment, and electrical materials. Offered fall semester. Prerequisite: Admission to the M.S.E. program.

## **EGR 627 - Advanced FPGA Implementation (3 credits)**

This course introduces the modern approach of designing and testing advanced digital systems using Field Programmable Gate Arrays (FPGAs). This approach emphasizes describing the circuit's intended behavior and verification using hardware description language. This course also discusses various FPGA architectures and design flow using FPGAs. Offered spring/summer semester. Prerequisites: EGR 426 and graduate standing or permission of instructor.

## **EGR 635 - Biomedical Signal Modeling (3 credits)**

This course introduces engineering graduate students to advanced signal processing techniques for analyzing complex physiological systems and processes. It provides a modeling-based approach for biomedical signal processing. Topics include auto-regressive moving average (ARMA) modeling, nonlinear modeling, stochastic modeling, time-frequency analysis, adaptive filtering, and wavelets. Offered fall semester. Prerequisite: Admission to M.S.E. program.

## **EGR 636 - Electronic Prototyping (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

This course is a project-based introduction to design and fabrication of PCB electronics. Students will apply modern industry tools and design standards to design, build, and test electronics. The course builds upon students' prerequisite circuit knowledge and engineering background to develop design experience and sound design habits. Prerequisite: Graduate standing.

## **EGR 637 - Application Development on Field Programmable Gate Arrays (3 credits)**

Developing and implementing applications on Field Programmable Gate Arrays (FPGAs) using software programming languages and overlays that are similar to software libraries. This course also introduces advanced programmable device architecture, digital design flow using field programmable gate arrays and verification of the systems using hardware descriptive languages. Offered winter semester. Prerequisites: EGR 601 or equivalent, graduate standing, or permission of instructor.

## **EGR 640 - Production Operation Models (3 credits)**

An overview of methods for creating and analyzing production flow including lean, quick response manufacturing, traditional production organizations, and facilities layout. Discussion of workstations and inventories with mathematical analysis. Introduction to flow control schemes as well as their analysis using discrete event simulation. A significant project is required. Offered fall semester. Prerequisite: STA 615 or permission of the instructor.

## **EGR 641 - Applied Optimization (3 credits)**

An introduction to the application of optimization models in product design and manufacturing. Topics include modeling, formulation, and computer-based solution methodologies. Emphasis on applications in manufacturing options, product management, and design. Cost-effective implementations including linear programming, nonlinear programming, and genetic algorithms are employed. Offered fall semester. Prerequisite: EGR 600.

## **EGR 642 - Materials Handling and Flow Control (3 credits)**

Comprehensive coverage of material movement in production including material handling equipment and strategies, material flow control and supply chain logistics. Topics include conveyor systems and AGV Systems; KANBAN, CONWIP, and one-piece flow; and supplier selection and material movement logistics. Emphasis on the application of discrete event modeling and experimentation. Offered winter semester. Prerequisite: EGR 640 with a grade of B or better.

## **EGR 643 - PCB Design and EMC (3 credits)**

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A study of PCB design techniques for EMC compliance. Topics include digital circuit power distribution, effectiveness of decoupling capacitors and embedded capacitance, digital circuit grounding, ground plane current distribution and impedance, return current path, and PCB layout and stack-up. Students will design a PCB and evaluate its EMC performance. Prerequisite: Instructor's permission.

### **EGR 653 - Digital and Adaptive Systems (3 credits)**

An advanced course in topics encompassing signal processing, communication, and control. Material from previous courses is extended to model digital and adaptive behavior. Topics include digital control, adaptive filtering, adaptive control, and digital communications. Offered fall semester. Prerequisites: EGR 415, EGR 423, and EGR 455.

### **EGR 655 - Power Electronics (3 credits)**

The construction, characterization, and system realization of power switching devices. Specific topics include single-phase and three-phase rectifying circuits, DC chopper circuits, AC voltage controllers, frequency converters, and harmonic analysis. A significant course project is required. Offered fall semester. Prerequisites: EGR 315 and EGR 340.

### **EGR 656 - Electrical Drive Systems (3 credits)**

A second course in DC and AC machines and their industrial applications. Topics include adjustable speed drives, speed control of DC and AC machines, slip energy recovery, and synchronous machine drives. A significant course project is required. Offered winter semester. Prerequisite: EGR 655.

### **EGR 657 - Photovoltaic Systems (3 credits)**

This course introduces students to the fundamentals of photovoltaic (PV) systems. The topics include solar energy resources, PV system components, physics of PV cells, grid-connected PV systems, stand-alone PV systems, and economic/technical considerations in the design of PV systems. Offered winter semester of even-numbered years. Prerequisite: Admission to the M.S.E. program or instructor's permission.

### **EGR 665 - Advanced Power Electronics (3 credits)**

An advanced course in power electronics. Topics include active power factor correction, interleaving techniques, resonant converters and applications, soft-switching techniques and applications, bi-directional converters, application of power electronics in renewable energy systems, high voltage DC transmission system, DC distribution system, DC-to-AC inverters and applications, static VAR compensators and grid stability. Offered winter semester. Prerequisite: EGR 655.

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## **EGR 670 - Systems Physiology for Engineers (3 credits)**

The course provides an introduction to human anatomy and functional physiology, from the cellular to organ systems level, and from an engineering viewpoint. Topics covered include cellular and molecular physiology, nervous system, cardiovascular, renal, respiratory, endocrine, and gastrointestinal physiology. Offered fall semester. Prerequisite: Admission to the M.S.E. program or permission of instructor.

## **EGR 680 - Special Topics in Engineering (1 to 4 credits)**

Lecture, discussion, and/or laboratory in specific areas of engineering. Topics will reflect the special interests of the students and/or the instructor. Offered upon demand. Prerequisites: Depends on the nature of the topic. Admitted EGR or permit.

## **EGR 685 - Graduate Practicum (3 credits)**

A full-time cooperative education engineering work experience usually with a local industrial/manufacturing firm. Practical aspects of modern engineering and problem-solving culminating in a written report and formal presentation. Weekly reports and faculty supervisory meetings as required. Offered every semester. Prerequisites: Completion of 12 credit hours of EGR 600-level courses and permission of program administrator.

## **EGR 690 - Capstone Design Project (3 credits)**

Emphasis on team-based engineering design and realization procedures with application to an industrial or entrepreneurial design problem. Students will synthesize the knowledge and skills acquired in prior master's level engineering courses. The nature and scope of the problem is determined by the student teams in consultation with the instructor. Prerequisites: Successful completion of professional practice and emphasis courses.

## **EGR 693 - Master's Project (1 to 6 credits)**

Planning and execution of an individualized project involving the development of an engineered product or system which is proprietary to a company. The nature and scope of the project are determined by the student in consultation with an approval of the instructor. May be repeated. Offered every semester. Prerequisites: Permission of graduate program director and completion of the Responsible Conduct of Research Training within last three years.

## **EGR 695 - Master's Thesis (1 to 6 credits)**

Student plans and performs research, under the guidance of an advisor, that will involve work with a thesis committee and lead to a formally defended and publicly disseminated thesis. The thesis topic is determined by the student in consultation with the advisor. The topic must be

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approved by a thesis committee. The course may be repeated. Offered every semester. Prerequisites: Permission of the graduate program director and completion of the Responsible Conduct of Research Training within last three years.

## **EGR 696 - Continuation of Master's Project or Thesis Research (1 credit)**

Continuation of work related to the master's project or thesis phase of the graduate student's program. Registration is required after all respective project or thesis credits are completed and the project or thesis is not completed. Work will be performed under the supervision of the project advisor or thesis committee chair. Offered every semester. Prerequisites: Completion of all required project or thesis credits and completion of the Responsible Conduct of Research Training within last three years.

## **EGR 699 - Independent Study in Engineering (1 to 3 credits)**

Independent supervised study on selected topics. Offered upon demand. Prerequisite: Permission of instructor.

## **EMBA 601 - Financial Accounting for Executives (1.5 credits)**

Focuses on the interpretation and analysis of corporate financial statements as a source of information for executives. Emphasis will be placed on the evaluation of information in the financial statements - balance sheet, income statement, and statement of cash flows - for improved critical thinking and decision-making. Offered fall semester. Prerequisite: Admission to the EMBA program.

## **EMBA 610 - Strategic Information Systems for Executives (2 credits)**

Examines the role of data and information in the management and integration of systems processes. Students will explore strategic and sustainability related implications and the significance of effective management and analysis of internal and external information resources. Offered fall semester. Prerequisite: Admission to the EMBA program.

## **EMBA 611 - Managerial Accounting for Executives (1.5 credits)**

Emphasizes the use of accounting information for internal planning and control purposes. It is intended for individuals who will make business decisions and evaluate the performance of

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business units using accounting and managerial techniques. Offered winter semester.  
Prerequisite: EMBA 601 (may be taken concurrently).

## **EMBA 621 - Finance for Executives (3 credits)**

Focuses on the application of financial principles to optimize the value of the firm. Emphasis is placed on integrating academic and practitioner perspectives in the practice of financial management. Topics include financial statement analysis, risk and return, capital budgeting, capital structure, and distribution policy. Offered winter semester. Prerequisite: Admission to EMBA program.

## **EMBA 626 - Financial Policy for Executives (3 credits)**

Analyzes the evaluation and application of financial decision-making to optimize the value of the firm. Course focuses on advanced principles, including forecasting and valuation applied to mergers, acquisitions, divestitures, bankruptcy, reorganization, and multinational financial markets. Offered fall semester. Prerequisite: EMBA 621.

## **EMBA 635 - Organizational Change Management (2 credits)**

Analyzes the forces that drive organizations to change, evaluates the impediments to change, and examines the approaches or models of making change most effective. Special attention is given to managing the individual and organizational disruptions inherent in the change process.  
Prerequisite: Admission to the EMBA program.

## **EMBA 636 - Emerging Trends--Industry Disruptions and Firm Sustainability (3 credits)**

Explores current and future trends that are expected to challenge and impact businesses, industries, and society. Students will become better strategic leaders and managers as they examine and better understand the changing business environment. Topics will vary to align with contemporary issues. Offered fall and winter semesters. Prerequisite: Admission to EMBA program.

## **EMBA 641 - Business Economics for Executives (3 credits)**

Students will use economic tools to understand issues related to business including resource allocation, production and market structure, industry performance, and government policy. Students will learn how to analyze and evaluate empirical research related to an industry. Offered fall semester. Prerequisite: Admission to EMBA program.

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## **EMBA 651 - Marketing Management for Executives (3 credits)**

Focuses on developing an understanding of the role of markets and marketing in the macroeconomic environment, providing the knowledge and tools needed to successfully analyze product or service markets and develop marketing strategies that will provide sustainable competitive advantages. Offered winter semester. Prerequisite: Admission to the EMBA program.

## **EMBA 652 - Negotiations for Executives (2 credits)**

Focuses on business negotiations environments and the development of related tactics to achieve value-added resolution. Students will explore models of negotiations and apply them to case studies and simulations. Offered fall semester. Prerequisite: Admission to the EMBA program.

## **EMBA 667 - Service and Value Chain Management (3 credits)**

Examines approaches for achieving operational competitiveness in a service business and provides students with the conceptual foundations and analytic tools to improve service delivery and value chain. The focus of this course is on the application of analytical tools to evaluate and improve the efficiency of service processes. Offered winter semester. Prerequisite: Admission to the EMBA program.

## **EMBA 675 - Law for Executives (3 credits)**

Focuses on the laws and regulations that affect business decisions. Students will develop an understanding of the legal and regulatory environment, compliance, and the assessment of risk. They will acquire sufficient fluency to determine when legal counsel is needed. Offered winter semester. Prerequisite: Admission to the EMBA program.

## **EMBA 678 - Executive Leadership and Ethics (3 credits)**

The indivisible interrelationship between leadership and ethics will be explored in the context of the leadership life cycle. Students will explore the intersections of their value structures, propensities, and experiences related to the world of work, regulations, and competing demands. Offered winter semester. Prerequisite: Admission to the EMBA program.

## **EMBA 680 - Special Topics in Executive MBA (1 to 3 credits)**

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Readings, lectures, and/or discussions in specific topics not normally covered by other courses in the program. Students may repeat this course under different topics. Prerequisite: Admission to Seidman College of Business or permit.

### **EMBA 681 - Developing the Strategic Mindset (1 credit)**

Provides students with the framework to develop an executive-level strategic and systemic perspective for evaluating business options and decision-making. Offered fall semester. Prerequisite: Admission to the EMBA program.

### **EMBA 682 - Systems Thinking and Advanced Tactics (2 credits)**

Deepens student's capacity to simultaneously analyze and consider multiple strategic initiatives. Students learn to frame problems holistically, using judgment to make decisions on multiple (potentially conflicting) perspectives and develop a rigorous and resilient approach to solving complex business issues. Offered fall semester. Prerequisite: Admission to the EMBA program.

### **EMBA 683 - Corporate Strategy for Executives (3 credits)**

Examines strategic decision-making with an emphasis on the processes to improve competitiveness and sustainability in complex and uncertain corporate environments. The focus is on exploration of strategic management process models and applications to the unit and organization. Offered winter semester. Prerequisite: Admission to the EMBA program.

### **EMBA 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

### **ENG 100 - Reading for College in All Majors (3 credits)**

Students will learn to read college-level texts critically, analytically, and efficiently. Students will engage with texts from a variety of disciplines. Offered fall and winter semesters.

### **ENG 105 - Literatures in English (3 credits)**

An introduction to literatures written in English, organized around a theme, period, author, genre, or topic. All sections emphasize close reading, careful writing, and cultural understanding. Besides enhancing these foundational skills, the course will highlight the pleasures and excitements a lifetime of reading offers. Fulfills Foundations - Philosophy and Literature. Offered fall and winter semesters.

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## **ENG 112 - Much Ado About Shakespeare (3 credits)**

Love and cruelty. Loyalty and betrayal. Ambition. Jealousy. Madness. Engage a vast range of human emotions by reading plays from Shakespeare's major genres, by experiencing his works as produced for modern audiences, and by exploring the wonders of his poetry. The course typically includes attending a live, local performance. Fulfills Foundations - Philosophy and Literature. Offered fall and winter semesters.

## **ENG 115 - Introduction to Science Fiction (3 credits)**

An introduction to science fiction literature, focusing primarily on texts from the late 19th, 20th, and 21st centuries. Examines the interaction between scientific change and the resulting ethical questions as depicted in fictional texts. Emphasis will be on short stories written by authors from diverse cultural backgrounds and contexts. Fulfills Foundations - Philosophy and Literature. Offered fall and winter semesters.

## **ENG 180 - Special Topics in English (1 to 9 credits)**

Studies of selected authors, concepts, movements, periods, theories, or genres. Topics will be announced in the class schedule and prerequisites may be listed. May be repeated for credit.

## **ENG 201 - Foundations of Literacy Instruction (3 credits)**

Study of the theoretical foundations of literacy instruction. Investigates current/historical theories of literacy, and contemporary trends in the practice of teaching literacy. Pedagogical application of linguistic and cognitive principles to decoding, encoding, and comprehension strategies for PK-6 children. Field experience required (five hours); students provide transportation; placements on bus line. Offered every semester.

## **ENG 203 - World Literature (3 credits)**

Readings of major drama, poetry, and novels from medieval times to the present, translated from major European and world languages. Authors such as Dante, Voltaire, Mann, Tolstoy, Kafka, Narayan, and Borges offer varied literary glimpses of foreign worlds. Fulfills Foundations - Philosophy and Literature. Offered fall and winter semesters. Prerequisite: Fulfillment of general education Foundations - Writing.

## **ENG 204 - World Mythology (3 credits)**

A comparative look at myths, folk tales, and fairy tales and how they derive from, and work on, the mind of a culture, both socially and aesthetically. Examines these tales as works of art in their own right and also as metaphors expressing a society's major values, themes, and

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preoccupations. Fulfills Cultures - Global Perspectives. Offered fall and winter semesters. Prerequisite: Fulfillment of general education Foundations - Writing.

## **ENG 215 - Foundations of Literary Study: Genre (3 credits)**

The course examines a variety of literary genres (including fiction, poetry, drama, and nonfiction) within and across a range of historical periods and cultural and national contexts. In addition to learning about genres, students will develop skills of close reading, textual support, inter-textual analysis, and critical thinking. Offered fall and winter semesters. Prerequisite: Fulfillment of general education Foundations - Writing.

## **ENG 216 - Foundations of Literary Study: Critical Approaches (3 credits)**

This course will examine literary texts through the prism of different literary theories and other critical approaches and prepare students to undertake advanced literary interpretation and to produce literary critical writing. This course will enable students to connect literary texts and critical approaches to their historical and social contexts. Offered fall and winter semesters. Prerequisite: Fulfillment of general education Foundations - Writing.

## **ENG 220 - British Literature I (3 credits)**

A survey of early British literature from Beowulf in the old English period through Chaucer in the middle English period, and such authors as Spenser, Marlowe, Shakespeare, Jonson, Donne, and Milton in the Renaissance. Prerequisite: Fulfillment of general education Foundations - Writing.

## **ENG 221 - British Literature II (3 credits)**

A survey of later British literature from the Restoration and the Eighteenth century, the Romantic and Victorian periods, modernism, and contemporary Anglophone literature. Prerequisite: Fulfillment of general education Foundations - Writing.

## **ENG 225 - American Literature I: to 1860 (3 credits)**

A survey of American literature from its beginnings to 1860. Significant attention will be given to the writings of women and minorities. Prerequisite: Fulfillment of general education Foundations - Writing.

## **ENG 226 - American Literature II: from 1860 (3 credits)**

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A survey of American literature from the Realist period to the present. Significant attention will be given to the writings of women and minorities. Prerequisite: Fulfillment of general education Foundations - Writing.

### **ENG 231 - Early African American Literature (3 credits)**

Analysis and discussion of discourse written by and about African Americans during the formative years of this nation. Emphasis will be placed on literary discourse as one means of defining African American consciousness and community, and understanding how African Americans' communities of origin shaped African American discursive expression. Cross-listed with AAA 231. Students may not receive credit for both. Fulfills Foundations - Philosophy and Literature. Fulfills Cultures - Global Perspectives. Prerequisite: Fulfillment of general education Foundations - Writing.

### **ENG 232 - Modern African American Literature (3 credits)**

Analysis and discussion of discourse by and about African Americans primarily written during the twentieth century. Emphasizes literary discourse as a means of defining African American consciousness and community and understanding how the communities African Americans inhabit shaped their discursive expression. Cross-listed with AAA 232. Students may not receive credit for both. Offered winter semester. Prerequisite: Fulfillment of general education Foundations - Writing.

### **ENG 261 - Foundations of Language Study (3 credits)**

An introduction to the principles of linguistics and linguistic analysis, with a focus on the structure and use of English. Coverage includes phonology, morphology, syntax, descriptive and prescriptive grammar, language history, and language variation. Prerequisite for 300- to 400-level English courses in applied linguistics. Offered fall and winter semesters.

### **ENG 280 - Special Topics in English (1 to 9 credits)**

Studies of selected authors, concepts, movements, periods, theories, or genres. Topics will be announced in the class schedule and prerequisites may be listed. May be repeated for credit.

### **ENG 301 - Reading and Writing in the Elementary Classroom (3 credits)**

This course prepares teacher candidates to foster Pre-K to 6th grade students' reading comprehension, writing abilities, and academic vocabulary in interdisciplinary contexts across the content disciplines. Emphasizes the application of pedagogical content knowledge and assessment to inform instruction. Field experience required; students provide transportation. Offered every semester. Prerequisites: WRT 150 and ENG 201.

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## **ENG 302 - Introduction to Language Arts: Teaching Writing and Children's Literature (3 credits)**

Introduces important educational research and theory, teaching strategies and materials related to both children's literature and the teaching of writing, particularly the connections between the two. Course may require a practicum or off-campus learning experience. Does not fulfill requirement or elective in English major or minor. Offered every semester. Prerequisites: Fulfillment of general education Foundations - Writing and one of: EDI 338, EDI 339, PED 265, or PED 266.

## **ENG 303 - Studies in World Literature (3 credits)**

An in-depth comparative study of texts, themes, genres, and authors from literatures of the world in translation, including one or more from the following areas: Africa, Middle East, Asia, India, Latin America, the Caribbean, and Europe. Prerequisites: Fulfillment of general education Foundations - Writing and one literature course.

## **ENG 304 - International Literature for Children and Young Adults (3 credits)**

A comparative study of texts, themes, and authors from children's and young adults' international literature in translation, including one or more texts from the following: Africa, Middle East, Asia, Latin America, Oceania, Canada, the Caribbean, and Eastern and Western Europe. A tutoring practicum or off-campus learning experience may be required. Prerequisites: Fulfillment of general education Foundations - Writing and one literature course.

## **ENG 307 - Teaching Writing: Elementary (3 credits)**

A study of the writing process and of current theories of rhetoric, discourse analysis, language acquisition, and reading, all applied to teaching writing on the elementary level. A tutoring practicum may be required, and students will also work on their own writing. Should be taken prior to College of Education and Community Innovation admission. Offered fall and winter semesters. Prerequisites: Fulfillment of general education Foundations - Writing and sophomore standing.

## **ENG 308 - Teaching Reading: The Necessary Skills (4 credits)**

Application of linguistic principles to decoding and comprehension skills and to theories underlying the developmental and the language-experience approaches to teaching reading. Each student is required to tutor a pupil, administer an informal diagnostic test, and report on outside readings. Other off-campus learning experiences may be required. Offered fall and winter

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semesters. Prerequisites: Fulfillment of general education Foundations - Writing and junior standing.

### **ENG 309 - Teaching Literature to Children (3 credits)**

Introduces to students the important materials (classic and contemporary), teaching strategies, issues, and research related to children's literature, as well as guiding the reading of children. May include a practicum or off-campus learning experience. Should be taken prior to student teaching. Offered fall and winter semesters. Prerequisites: Fulfillment of general education Foundations - Writing and sophomore standing.

### **ENG 310 - Teaching Writing: Secondary (3 credits)**

A study of the writing process and of current theories of rhetoric, discourse analysis, language acquisition, and reading at the secondary level. A tutoring practicum or off-campus learning experience may be required, and students will also work on their own writing. Offered fall and winter semesters. Prerequisite: Fulfillment of general education Foundations - Writing.

### **ENG 311 - Teaching Literature to Adolescents (3 credits)**

Introduces to students the important classic and contemporary materials (including works by women and writers of color and/or ethnic diversity), teaching strategies, issues, and research related to adolescent literature, as well as the criteria for guiding the reading of adolescents. May include a practicum or off-campus learning experience. Offered fall and winter semesters. Prerequisite: Fulfillment of general education Foundations - Writing.

### **ENG 313 - British Literature: Shakespeare (3 credits)**

An in-depth study of the range of Shakespeare's work in its historical and critical context, including selections from comedy, tragedy, history, romance, and poetry. Prerequisites: Fulfillment of general education Foundations - Writing.

### **ENG 314 - Digital Literacies (3 credits)**

Increasingly, literary production and consumption are occurring in digital spaces using digital tools. This course will foster students' abilities to critically interpret literary texts using digital tools. Students will study literary authorship, readership, and analysis from the inception of the printing press to the present. Part of the Information, Innovation, or Technology Issue. Cross-listed with DS 314. Offered winter and spring/summer semesters. Prerequisite: Junior standing.

### **ENG 320 - Studies in Poetry (3 credits)**

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Focuses upon the formal properties of poetry and studies the conventions of the genre as it develops within or across historical periods and/or cultures. Offered fall semester. Prerequisites: Two foundation courses or declared writing major or minor.

### **ENG 321 - British Literature: Medieval (3 credits)**

An in-depth study of selected texts, themes, and authors representative of British literature up to 1500. Topics vary by semester. May be repeated for credit if content varies. Offered fall semester of odd-numbered years. Prerequisites: ENG 215, ENG 216, and ENG 220.

### **ENG 322 - British Literature: Renaissance (3 credits)**

An in-depth study of selected texts, themes, and authors representative of British literature in the Renaissance. Topics vary by semester. May be repeated for credit if content varies. Offered winter semester of even-numbered years. Prerequisites: ENG 215, ENG 216, and ENG 220.

### **ENG 323 - British Literature: 18th-Romantic (3 credits)**

An in-depth study of selected texts, themes, and authors of British literature from the Restoration through the Romantic period. Topics vary by semester. May be repeated for credit if content varies. Offered fall semester of even-numbered years. Prerequisites: ENG 215, ENG 216, and ENG 221.

### **ENG 324 - British Literature: Victorian-Present (3 credits)**

An in-depth study of texts, themes, and authors representative of British literature and post-Colonial Anglophone literature from the Victorian period through the present. Topics vary by semester. May be repeated for credit if content varies. Offered winter semester of odd-numbered years. Prerequisites: ENG 215, ENG 216, and ENG 221.

### **ENG 325 - American Literature to 1800 (3 credits)**

Intensive study of major authors, literary movements, and themes from America's pre-Colonial beginnings through the Revolution. Topics may include Native American myth and poetry; literature of discovery and conquest; Puritan writings; autobiography; captivity and slave narratives; literature of Revolution and the new Republic; and early American poetry, drama, and fiction. May be repeated for credit if content varies. Offered fall semester of odd-numbered years. Prerequisites: ENG 215, ENG 216, and ENG 225.

### **ENG 326 - Nineteenth-Century American Literature (3 credits)**

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Intensive study of major authors, literary movements, and themes from the post-Revolutionary War Period to 1900. Topics may include the American Renaissance, Transcendentalism, Realism, local color writers, African American slave narratives and autobiographies, the Civil War, naturalism, and developments in 19th-century literary genres. May be repeated for credit if the content varies. Offered winter semester of even-numbered years. Prerequisites: ENG 215, ENG 216, and ENG 225.

### **ENG 327 - Modern American Literature (3 credits)**

Intensive study of major authors, literary movements, and themes from 1900 to 1945. Topics may include Modernism, the Harlem Renaissance, the Wasteland Generation; Literature of American Expatriates; New York City; the South; the West; the Depression; World Wars I and II; and developments in modern literary genres. Offered fall semester of even-numbered years. Prerequisites: ENG 215, ENG 216, and ENG 226.

### **ENG 328 - Contemporary American Literature (3 credits)**

Study of established and emerging authors, literary movements, genres, or themes since 1945. Students will consider questions of what defines "American" through examination of cultural, historical, and political contexts that define U.S.-American contemporary period, e.g. Cold War, 9/11, borderlands/identities, globalization, social justice movements, race. Offered winter semester of odd-numbered years. Prerequisites: ENG 215, ENG 216 or ENG 261.

### **ENG 330 - Studies in Fiction (3 credits)**

Focuses on the formal properties of fiction and studies the conventions of the genre as it develops within or across historical periods and/or cultures. May be repeated for credit if the content varies. Offered fall and winter semesters. Prerequisites: Any two foundation courses or declared writing major or minor.

### **ENG 331 - Comics and Graphic Novels in Contemporary Culture (3 credits)**

This course examines the comics medium and its role in popular culture and academic studies. Students read and analyze historical and contemporary comics from varying genres, learn the formal elements of comics, consider the possibilities and limitations of the medium, and critique representations of race, class, and gender within comics. Part of the Information, Innovation, or Technology Issue. Offered spring/summer semester. Prerequisites: Fulfillment of general education Foundations - Writing and junior standing.

### **ENG 334 - American Multicultural Literature for Children and Young Adults (3 credits)**

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An examination of American multicultural literature for children and young adults, such as African American, Asian American, Latino, and Native American literatures. This service-learning course requires service reading, dramatic presentations, or other creative ways of engaging the community with literature. Prerequisites: Fulfillment of general education Foundations - Writing and junior standing.

### **ENG 335 - Literature of American Minorities (3 credits)**

Studies the importance and variety of literature by American minorities, such as African American, Native American, Asian American, Hispanic American, and other minority or marginalized authors. Emphasis will be on multiplicity of literary voices, social-historical contexts, and themes of negotiating identity between/among majority and minority cultures. Fulfills Cultures - U.S. Diversity. Part of the Identity Issue. Offered fall and winter semesters. Prerequisites: Fulfillment of general education Foundations - Writing and junior standing.

### **ENG 336 - Lesbian, Gay and Queer Literature (3 credits)**

This interdisciplinary course makes use of literary, historical, and social scientific theories and methods in an in-depth study of lesbian, gay, and queer literature with attention to historical and cultural context. Literature may include literary classics, pulp fiction, post-Colonial literature, feminist fiction, and postmodern narratives. Cross-listed with WGS 336. Offered winter semester of even-numbered years.

### **ENG 337 - Contemporary Black Literature (3 credits)**

Studies the importance and variety of literature by Black authors from Africa, the Americas, and/or Afro Europe since 1975. Texts written earlier than 1975 are used to consider influential historical and/or social events, trends and themes, literary styles, innovative uses of popular culture, and/or expression of the experience of marginality. Fulfills Cultures - Global Perspectives. Part of the Identity Issue. Cross-listed with AAA 337. Prerequisite: Junior standing.

### **ENG 340 - Studies in Drama (3 credits)**

Focuses on the formal properties of drama and studies the conventions of the genre as it develops within or across historical periods and/or cultures. May be repeated for credit if the content varies. Offered winter semester. Prerequisites: Two foundation courses or declared writing major or minor.

### **ENG 355 - Teaching English Learners, PK-6 (3 credits)**

Prepares pre-service PK-6 teachers to meet the needs of English learners (EL). Focus on how second languages are learned; the cultural, linguistic, and affective factors that influence the process; and research-based pedagogy for promoting ELs' academic language and literacy

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development across content areas. Field placement required. Fulfills Cultures - Global Perspectives. Offered every semester. Prerequisite: ENG 201.

### **ENG 360 - Studies in Nonfiction (3 credits)**

Focuses on the formal properties of one or more nonfictional genre as the genre develops within or across historical periods and/or cultures. May be repeated for credit if the content varies. Offered winter semester. Prerequisites: Two foundation courses or declared writing major or minor.

### **ENG 362 - History of the English Language (3 credits)**

Examination of the external and internal history of the English language from Old English to present day English. Investigation of regional and social varieties of English and the question of usage in the context of cultural change. Offered fall semester. Prerequisite: ENG 261.

### **ENG 363 - Applied Linguistics (3 credits)**

Application of contemporary linguistic theory and research to issues in language, literacy, and learning. Consideration of first and second language acquisition, literacy, bilingualism, ESL, language variation including gender and nonstandard dialects, language pedagogy, and language attitudes and their relevance to classroom practices. Offered fall and winter semesters. Prerequisite: ENG 261.

### **ENG 364 - Sociolinguistics (3 credits)**

Study of sociolinguistic theories investigating the interaction of language and society. An examination of the social and cultural aspects of language and language use: social stratification, power, gender, race, ethnicity, class, geographic origins, and networks. Offered fall semester. Prerequisite: ENG 261.

### **ENG 365 - Teaching English as a Second Language (3 credits)**

Examination of the relevant issues of language, culture, and methodology for teachers of ESL students. Consideration of first and second language acquisition theory, language politics, second language teaching methodologies, and the classroom application of these issues. Offered fall and winter semesters. Prerequisite: ENG 261.

### **ENG 366 - English Grammar and Usage (3 credits)**

A survey of the grammatical structure of English. The course helps students develop the ability to identify, understand, and analyze various syntactic properties of English, examines the

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historical and current contexts of teaching English in K-12/ESL settings, and explores the relationship between grammar and other areas of English study. Offered winter semester. Prerequisite: ENG 261 or permission of instructor.

## **ENG 378 - Contemporary Latin American Literature (3 credits)**

A survey of Latin American literature of the past three decades, in English translation, taking in a variety of nations, regions, and cultures, including Afro-Latin and indigenous voices. Genres include the novel, the short story, poetry, drama, testimonial narrative, speeches, folklore, and film. Cross-listed with SPA 378 and LAS 378. Students may not receive credit for more than one. Prerequisites: Fulfillment of general education Foundations - Writing and one literature course.

## **ENG 380 - Special Topics in English (1 to 3 credits)**

Studies of selected authors, concepts, movements, periods, theories, or genres. Topics will be announced in the class schedule and prerequisites may be listed. May be repeated for credit. Prerequisite: One literature foundation course.

## **ENG 382 - Literature and the Environment (3 credits)**

Focuses on literature that engages with the relationship between human beings and the natural world. Includes literary nonfiction, nature poetry, environmental fiction, and other forms of literature that illuminate both human and nonhuman nature. Attention is also given to the effects and consequences of human and non-human interaction. Part of the Sustainability Issue. Offered fall and winter semesters. Prerequisites: Fulfillment of general education Foundations - Writing and junior standing.

## **ENG 383 - "Make It New": Literary Modernism (3 credits)**

From the cafes and "little magazines" of Paris emerged writers forging a new way to express the new realities of the 20th century. Exploration of the literature in its cultural context. Prerequisite: Fulfillment of general education Foundations - Writing.

## **ENG 384 - Literature of War (3 credits)**

This course uses literary texts to explore the representations of war and conflict from a variety of perspectives. Works may include short stories, novels, poetry, nonfiction essays, or memoir. Ultimately, this course will examine how we write about war and ask how or if violence can become art. Part of the Human Rights Issue. Prerequisites: Fulfillment of general education Foundations - Writing and junior standing.

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## **ENG 386 - Literary Responses to Death and Dying (3 credits)**

Study of literary texts that examine attitudes, practices, and beliefs surrounding death and dying, from multiple perspectives, including personal experience, across cultures, and historically. Studies associated issues such as illness, grief, mourning, memorials, and responses to national tragedies. Works may include poetry, memoir, drama, fiction, nonfiction, myth, and other arts. Part of the Health Issue. Prerequisites: Fulfillment of general education Foundations - Writing and junior standing.

## **ENG 388 - Emigration and Immigration in Contemporary World Literature (3 credits)**

This course examines how different kinds of emigration and immigration, from formerly colonized regions to the developed countries of the West and between formerly colonized countries, are depicted in 20th and 21st century world literature. Part of the Identity Issue. Prerequisite: Junior standing.

## **ENG 390 - Topics in Language and Rhetoric (3 credits)**

Variable content. Course will focus on a problem (or problems) in the history or structure of English, or on a specific problem in the practice or theory of rhetoric. Among such topics are the following: dialects, Black English, artificial languages (Esperanto-Newspeak), semantics, and language and politics. May be repeated for credit. Prerequisite: Fulfillment of general education Foundations - Writing.

## **ENG 392 - Language and Power (3 credits)**

Examines language as a means of achieving personal and cultural freedom and as a tool for controlling and oppressing others. Students study various theories of language use and explore the tension between our right to use language freely and our need to protect ourselves from the way others use language. Offered winter semester. Prerequisite: Fulfillment of general education Foundations - Writing and ENG 261.

## **ENG 399 - Independent Studies (1 to 4 credits)**

Before registration, the student must arrange for supervision by a faculty member and submit a contract (available in the English office) specifying the scope of the proposed study. No more than three credits in ENG 399 may be applied to the major or minor. Offered fall and winter semesters. Prerequisites: Fulfillment of general education Foundations - Writing and prior approval of instructor.

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## **ENG 400 - Critical Issues in K-12 Literacy (3 credits)**

Integrates theories of teaching reading, writing, speaking, and listening for K-12 English Language Learners, African American Vernacular English or other dialect speakers, students of color, and students who live in poverty. May include a tutoring practicum or off-campus learning experience. Offered fall and winter semesters. Prerequisites: ENG 307 and ENG 308 for ELA; ENG 302 and ENG 308 for CSAT; ENG 310 for secondary.

## **ENG 401 - Languages, Literacies, and Cultures (3 credits)**

This course prepares students to provide culturally sustaining English Language Arts instruction. The course offers PK-6 teacher candidates the tools they need to build curricular bridges between students' home cultures, literacies, and languages and the English Language Arts. Field experience required; students provide transportation; some placements on bus line. Offered every semester. Prerequisites: ENG 301 and EDR 320.

## **ENG 436 - Women and Literature (3 credits)**

An in-depth study of major women writers and their historical, cultural, and artistic contributions. Significant attention will be given to the writings of minorities. Offered winter semester of even-numbered years. Prerequisites: Completion of foundation courses and one 300-level literature course.

## **ENG 440 - Studies in Major Author(s) (3 credits)**

An in-depth study of one or two major literary figures, with an emphasis on biography, major works, and influence. Offered fall semester of even-numbered years. Prerequisites: Completion of foundation courses and one 300-level literature course. May be repeated for credit if content varies.

## **ENG 445 - Studies in Literary Criticism and Theory (3 credits)**

An in-depth study of critical and theoretical approaches to literature, with an emphasis on the development of theories of literature from classicism to postmodernism. Offered winter semester of odd-numbered years. Prerequisites: Completion of foundation courses and one 300-level literature course.

## **ENG 461 - Language and Gender (3 credits)**

Examination of theoretical approaches to the dynamics of language and gender. Investigation of the relationship of language and gender with social categories such as age, ethnicity, class, and sexuality. Application of social and linguistic theories to analyses of data with particular

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attention to contexts of the classroom, workplace, and media. Cross-listed with WGS 461. Offered winter semester. Prerequisite: ENG 261.

## **ENG 465 - Teaching Second Language Reading and Writing (3 credits)**

Examination of current theory, research, and practice in second language literacy development. Students will gain an understanding of the cognitive, linguistic, and sociocultural factors involved in learning to read and write in a second language, and develop informed practices for teaching second language readers and writers at different levels. Offered winter semester. Prerequisite: ENG 261.

## **ENG 467 - Language Disorders and English Literacy (3 credits)**

An examination of common speech/language disorders in the school-aged population having an impact on English literacy acquisition. Investigation of interface between ESL and language disorders, compounded by language attrition. Application to classroom communication skills, acquisition of literacy, and working with other school professionals. Offered fall semester. Prerequisite: Prerequisite: PSY 304 for CSAT majors, ENG 261 for ENG majors, and (ENG 261 or PSY 304 or PSY 305) for non-ENG and non-CSAT majors.

## **ENG 469 - ESL Teaching Practicum (3 credits)**

Practicum experience for those interested in teaching second language learners of English. Focus on integrating ESL theory with practice and implementing instructional approaches that support literacy and academic development of ESL learners. Emphasis on reflective practices and development of critical perspectives. Does not lead to State of Michigan teaching certification. Offered fall semester of odd-numbered years. Prerequisite: ENG 465.

## **ENG 490 - Internship (1 to 3 credits)**

A supervised work experience in an area of a student's potential career interest. Initiated by the student, who plans the work experience with the advisor, the faculty sponsor chosen to supervise the internship, and the supervisor at the worksite. As a rough guide, the student should expect to spend 45 hours per semester in the internship and supporting academic work for each credit awarded. Credit is awarded only when the student, the faculty sponsor, and the work supervisor have completed evaluations of the internship. Offered every semester.

## **ENG 495 - Language and Literature (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

This course will be a culminating experience for all English majors. Students will reflect on their experience as English majors, create a senior project, and present their findings at a departmental conference. Prerequisites: English foundation courses and senior standing.

## **ENG 499 - Advanced Scholarly Writing Project (1 to 3 credits)**

Advanced, supervised work on a substantial piece of scholarly writing, such as the conversion of a seminar paper to a publishable article. Students register for this course upon recommendation of a faculty member. May not be used to fulfill 400-level course requirement for language and literature emphasis. Offered fall and winter semesters. Prerequisite: Permission of instructor.

## **ENG 600 - Graduate Literary Studies Seminar (3 credits)**

This course will introduce graduate students to current literary studies by explicating historical changes in the field of English in both literary content and critical discourse. Students will explore these changes by studying key concepts in the discipline and by completing a research project. Offered every year.

## **ENG 603 - Seminar in British Literature (3 credits)**

Aims at a synthesis of the development of British literature through a study of important literary themes, examining them closely in major works representative of the periods of British literature. Seminar presentation and research paper are required of each student. Offered every other year. Prerequisite: Completion of English major or minor or consent of instructor.

## **ENG 605 - Seminar in American Literature (3 credits)**

Aims at a synthesis of the development of American literature through a study of important literary themes, examining them closely in major works representative of the periods of American literature. Seminar presentation and research paper are required of each student. Offered every other year. Prerequisite: Completion of English major or minor or consent of instructor.

## **ENG 612 - Women Writers (3 credits)**

An in-depth study of selected works of women writers with attention to the literary and social contexts in which they wrote. Issues concerning the development of literature written by women and its status with regard to the canon will be addressed. Offered every other year. Prerequisite: Completion of English major or minor or consent of instructor.

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## **ENG 614 - Literature of American Ethnic Minorities (3 credits)**

An in-depth study of selected pieces of African American, Hispanic, Asian American, Native American or immigrant American literature. Issues concerning the development of minority literature and its status with regard to the canon will be addressed. Offered every other year. Prerequisite: Completion of English major or minor or consent of instructor.

## **ENG 616 - World Literature in English (3 credits)**

A varied and dynamic body of literary writing in English has emerged from formerly British territories in Africa, Asia, and the Americas. This course will explore the emergence and characteristics of world literature in English. It will also examine the latter's relationship to the canons of British and American literature. Offered every other year. Prerequisite: Completion of English major or minor or consent of instructor.

## **ENG 624 - Genre Studies (3 credits)**

Intensive study of the historical development of a selected genre (poetry, drama, fiction, literary nonfiction) and of the nature of the genre, focusing on selected works. May be repeated for credit when content varies. Offered every year. Prerequisite: Completion of English major or minor or consent of instructor.

## **ENG 632 - Summer Invitational Writing Institute (3 credits)**

The Summer Invitational Institute gathers teachers, grades K-16, to develop presentations based on their best practices in teaching writing to facilitate analysis of current research in the teaching of writing and to help teachers to better link their work as writers to work as teachers of writing. Offered spring/summer semester. Prerequisites: Application and interview.

## **ENG 633 - Advanced Writing (3 credits)**

An intensive writing course designed to help teachers develop their own writing using various forms of creative and expository writing. Offered every other year. Prerequisite: Completion of English major or minor or consent of instructor.

## **ENG 651 - Literary Period Seminar (3 credits)**

Intensive study of a period of British, American, or world literature. May be repeated for credit when content varies. Offered every year. Prerequisite: Completion of English major or minor or consent of instructor.

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## **ENG 655 - History of Literary Criticism and Theory (3 credits)**

A study of literary criticism and theory from all major historical periods (Greek, Roman, medieval, Renaissance, 18th century, Romantic, late 19th century), and of the various modern and contemporary schools. Emphasis on philosophical assumptions underlying literary theories and on application of critical approaches to literary works. Offered every other year (odd-numbered years). Prerequisite: Completion of English major or minor or consent of instructor.

## **ENG 660 - Principles of Educational Linguistics (3 credits)**

An introduction to contemporary linguistics and how linguistic concepts are used in educational contexts. Major component areas of phonetics, phonology, morphology, semantics, syntax, pragmatics, language variation, and language acquisition will be examined. Pedagogical relevance and implications for teaching are an integral part of linguistic analysis. Offered fall semester. Prerequisite: Admission to M.A. in applied linguistics.

## **ENG 661 - Author or Topic Seminar (3 credits)**

Intensive study of a work (or works) of a single author or focused literary topic. Offered every year. Prerequisites: Completion of English major or minor or consent of instructor. May be repeated for credit when content varies.

## **ENG 662 - Pedagogical Grammar (3 credits)**

An advanced course in contemporary grammatical analysis of English. The course focuses on both descriptive and prescriptive properties of English, primarily in the generative-transformational framework, and addresses pedagogical issues in the teaching of grammar to English learners in various contexts. Offered winter semester. Prerequisite: ENG 660 or permission of instructor.

## **ENG 663 - Shakespeare (3 credits)**

An in-depth study of selected plays, focusing on historical context, interpretive methods, and the development of Shakespeare's genius. Offered every other year. Prerequisite: Completion of English major or minor or consent of instructor.

## **ENG 664 - Sociolinguistics and Language Teaching (3 credits)**

Introduction to major concepts, theories, findings, and research methods in sociolinguistics as they relate to second and foreign language teaching. Topics include language variation and

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change; standards, attitudes, and ideologies; world Englishes; language policy and planning; identity; and socialization. Focus on implications for teaching English in domestic and international contexts. Offered winter semester. Prerequisite: ENG 667.

## **ENG 665 - Second Language Acquisition (3 credits)**

An examination of the major theories of second language acquisition (SLA) and various factors that influence the learning process among different age groups of learners from different first language backgrounds. The relationship between SLA research and its pedagogical implications for teachers is also addressed. Offered winter semester. Prerequisite: ENG 667.

## **ENG 667 - Introduction to Applied Linguistics Research (3 credits)**

An introduction to empirical research in applied linguistics. Critical reading of published research in the field, study of qualitative and quantitative research design, methodology and analysis, and writing of research reports are essential components of the course. Offered fall semester. Prerequisite: ENG 660 (may be taken concurrently).

## **ENG 668 - Second Language Assessment (3 credits)**

An examination of the basic concepts in language testing, with special focus on K-12 and adult learners of English as a second language (ESL). Areas of coverage include test selection, evaluation, development, and application. Both qualitative and quantitative methods will be addressed, though the latter are the primary concern. Required of those seeking Michigan ESL endorsement. Offered fall semester. Prerequisite: Completion of ENG 660 or equivalent.

## **ENG 669 - Teaching English as an Additional Language (EAL) (3 credits)**

Exploration of second language learning theories and pedagogy of teaching English as an additional language in domestic and international contexts. The course addresses theoretical foundations of language learning and the implications for instructional practice and considers critical issues in English language teaching. Offered fall semester. Prerequisite: ENG 660 (may be taken concurrently).

## **ENG 670 - World Englishes: History and Variation (3 credits)**

Examination of the external and internal history of the English language from Old English to present day English with emphasis on the development, change, and variation of regional and social varieties of World Englishes. Includes linguistic and textual analyses of corpora, social

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media, dictionaries, grammars, and other resources. Offered every other year. Prerequisite: ENG 667.

## **ENG 675 - Second Language Reading and Writing (3 credits)**

Exploration of major issues in the teaching of second language (L2) reading and writing in a variety of instructional contexts. Students will gain insight into the characteristics and needs of diverse second language learners and develop informed practices for teaching second language reading and writing at different levels. Offered fall semester. Prerequisite: ENG 669.

## **ENG 679 - Practicum (3 credits)**

Practicum experience in teaching or administrative contexts, domestic or international, where students serve as English language specialists. Focus is on integrating theory and practice and the implementation of informed approaches to instruction, assessment, curriculum development, or program design. Emphasis is on reflection and development of critical perspectives. Offered fall semester. Prerequisites: ENG 669 and ENG 675 (ENG 675 may be taken concurrently).

## **ENG 680 - Special Topics in English (1 to 4 credits)**

Study of selected topics. Topics will be announced in the course schedule. May be repeated for credit. Offered upon sufficient demand.

## **ENG 693 - Master's Project (3 credits)**

The culminating experience for M.A. in applied linguistics candidates who choose the Capstone (nonthesis) option. Students will design and develop a project in applied linguistics, which they will present publicly at a departmental conference. Course offered winter semester. Prerequisites: Students must complete 27 credits of M.A. in applied linguistics coursework prior to taking ENG 693 and complete the Responsible Conduct of Research Training within last three years.

## **ENG 695 - Master's Thesis (1 to 3 credits)**

Preparation of thesis for M.A. degree, Track two. Carried out under supervision of thesis director. A student preparing a thesis must register for at least one credit per semester (including spring/summer) and must have registered for a total of at least six credits before scheduling thesis defense. Offered every semester. Prerequisites: Completion of 27 credits, approval of thesis proposal, and completion of the Responsible Conduct of Research Training within last three years.

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## **ENG 696 - Continuation of Master's Project or Thesis Research (1 credit)**

Continuation of work related to the master's project or thesis phase of the graduate student's program. Registration is required after all respective project or thesis credits are completed and the project or thesis is not completed. Work will be performed under the supervision of the project advisor or thesis committee chair. Offered every semester. Prerequisites: Completion of all required project or thesis credits and completion of the Responsible Conduct of Research Training within last three years.

## **ENG 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

## **ENG 699 - Independent Study (1 to 3 credits)**

Independent supervised study of selected topics not usually covered in available courses. Offered upon demand. Prior to registration, the student must arrange for supervision by a faculty member and submit a contract (available in the English Department) specifying the scope of the proposed study. No more than three credits of ENG 699 may be applied toward the M.A. degree. Prerequisite: Permission of the instructor.

## **ENS 180 - Special Topics in Environmental Studies (1 to 9 credits)**

Readings, lectures, and/or discussions in specific topics not normally covered by other courses in the program.

## **ENS 183 - Sustainability as a Lifestyle (1 credit)**

This course will provide a broad and comprehensive perspective of sustainability practices. Students will be introduced to the fundamentals of sustainability through lectures, readings, field study activities, and guest speakers. The emphasis of this course will be on helping students incorporate sustainability practices in their lifestyle and experience at GVSU. Offered fall and winter semesters.

## **ENS 201 - Introduction to Environmental and Sustainability Studies (3 credits)**

An introduction to interdisciplinary understanding of the multiple ways that human society influences, and is influenced by, its natural environment. The course uses frameworks such as

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systems thinking and design thinking to integrate scientific, economic, political, and socio-cultural perspectives on topics in environmental and sustainability studies. Offered fall and winter semesters.

## **ENS 280 - Special Topics in Environmental Studies (1 to 9 credits)**

Readings, lectures, and/or discussions in specific topics not normally covered by other courses in the program.

## **ENS 300 - Principles of Sustainability (3 credits)**

An exploration of the history and meaning of concepts of sustainability. Special attention to the challenges of defining the term; its ethical, political, and descriptive meanings; its use in different sustainability models; its "strong" and "weak" versions; and its relation to concepts of development and growth. Offered fall and winter semesters. Prerequisite: ENS 201.

## **ENS 303 - Introduction to U.S. Environmental Policy (3 credits)**

This course examines the decision-making processes to cope with modern environmental problems. The course focuses on both domestic and international environmental issues with special attention to interests, ideas, and institutions. Part of the Sustainability Issue. Cross-listed with PLS 303. Offered winter semester. Prerequisite: Junior standing.

## **ENS 305 - Sustainability Assessment and Reporting (3 credits)**

Introduces methods of sustainability assessment and reporting. The course reviews the goals of sustainability initiatives in different types of organizations, and considers how assessment and reporting best practices are determined by type of organization and its sustainability goals. Sustainability professionals present on their use of assessment and reporting frameworks. Prerequisite: ENS 201.

## **ENS 310 - How Biosphere Works (3 credits)**

A forum for learning about the evolution, dynamics and change in earth's biosphere. Students will collaboratively explore the complex interplay between and among the earth system and humans for better understanding modern-day issues such as global environmental change and sustainability. Offered fall semester of odd-numbered years. Prerequisites: Junior standing, ENS 201, and completion of Foundations - Natural Sciences.

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## **ENS 311 - To Bee or Not to Bee; Honey Bees and Social Impact (3 credits)**

This course explores the centuries-old relationship between humans, nature and honey bees from a cultural, historical, and agricultural context. Pillars of our modern food system and bioindicator of our environment, honey bees provide important scientific, economic, philosophical, and political perspectives relevant to our current global climate. Offered fall semester.

## **ENS 380 - Special Topics in Environmental Studies (1 to 9 credits)**

Readings, lectures, and/or discussions in specific topics not normally covered by other courses in the program.

## **ENS 392 - Sustainable Agriculture: Ideas and Techniques (3 credits)**

Students will study agricultural systems while being exposed to applied research at the sustainable agriculture project site. Students will investigate models of sustainable food systems that link production to economics, consumption, and nutrition. Part of the Sustainability Issue. Offered fall semester. Prerequisite: Junior standing.

## **ENS 399 - Independent Readings in Environmental Studies (1 to 3 credits)**

Hours, credits, topics, and time to be arranged with individual faculty members with approval of the department.

## **ENS 401 - Environmental Problem Solving (3 credits)**

A problem-solving seminar in environmental studies. Attention will be given to vulnerabilities to environmental change, sustainable development, impact and risk assessment, and adaptations to and mitigation of environmental problems at various scales. Multidisciplinary student teams will conduct original research and design sustainable practices and solutions for real-life environmental problems. Offered fall and winter semesters. Prerequisites: ENS 201 and junior standing.

## **ENS 412 - Global Climate and Environmental Change (3 credits)**

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This course introduces students to natural and human causes of climate change and geographic patterns of climate change impacts, human vulnerabilities, and adaptation and mitigation strategies. Global climate modeling scenarios are examined in the context of international and national climate change policies, national security, climate preparedness, and resiliency planning. Part of the Sustainability Issue. Cross-listed with GPY 412. Offered winter semester. Prerequisites: Junior standing, and either GPY 100 or ENS 201 or at least one course from Foundations - Natural Sciences.

## **ENS 490 - Internship (1 to 6 credits)**

Supervised work experience in an area related to environmental studies. Offered each semester. May be repeated for credit. Prerequisite: Permission of the program director.

## **ENS 491 - Practicum (1 to 6 credits)**

Three or more hours a week of applying environmental and sustainability studies principles in a public or community setting. Possibilities include a case study, field involvement, or conference attendance, and will result in a statement evaluating the theory and practice of environmental and sustainability studies. May be repeated for credit. Offered every semester. Prerequisite: Permission of the program director.

## **ENT 150 - Entrepreneurial Quest (3 credits)**

Students will explore the entrepreneurial quest beginning with the myths and realities of entrepreneurs, student self-analysis through creativity and idea generation, and the concept of the business plan. Key motivators and the drivers for success will be analyzed. Students will be required to conceptualize a new venture idea. Offered fall and winter semesters.

## **ENT 151 - New Venture Feasibility (3 credits)**

This course focuses on the process of developing an idea from a product concept into a product design that has a market and commercial feasibility. Students will have hands-on and applied opportunities to develop their concepts within different environments including, graphics, design, and prototyping. Offered fall and winter semesters. Prerequisite: ENT 150.

## **ENT 350 - Entrepreneurial Business Plan (3 credits)**

Student teams will work with an entrepreneurial client in developing a business plan for client implementation. Each student will individually refine their own comprehensive business plan and submit it for competitive evaluation at a business plan competition to be judged by local entrepreneurs, investors, and faculty. Requires significant time commitment outside the classroom. Offered fall and winter semesters. Prerequisite: Admitted to Seidman College of Business or by permit.

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## **ENT 351 - Entrepreneurial Project (3 credits)**

In this course, students will extend principles to real-world entrepreneurial projects. The course involves individual project work such as the launching and/or growing of the student business, conducting in-depth research on current entrepreneurial issues, or assisting area entrepreneurs. This course requires significant time commitment outside the classroom. Offered fall and winter semesters. Prerequisites: ENT 350 and admitted to Seidman College of Business or by permit.

## **ESL 98 - English as a Second Language (ESL): Composition (4 credits)**

Provides non-native speakers of English with a practical review of English grammar and instruction in paragraph and essay organization and writing. As part of the course, students work one hour per week with a peer consultant in the Writing Center. Four (nongraduation) credits. Offered fall semester.

## **EXS 209 - Research Methods in Exercise and Health Sciences (3 credits)**

This course will cover strategies to conduct responsible ethical research in the exercise science field, with emphasis on study design and measurement techniques. A significant focus is the evaluation, interpretation, and application of research in professional settings. Offered fall and winter semesters. Prerequisite: STA 215.

## **EXS 320 - Exercise Testing and Prescription (3 credits)**

Provides students the fundamental background for health and fitness assessment commonly used in fitness and clinical settings. Topics include epidemiology, cardiovascular assessment, strength assessment, weight control, body composition assessment, and exercise prescription. Prerequisite: MOV 304. Corequisite: EXS 321.

## **EXS 321 - Exercise Testing Lab (1 credit)**

Introduction to health and fitness assessments currently used in fitness, rehabilitation, and clinical settings. Prerequisite: MOV 304. Corequisite: EXS 320.

## **EXS 390 - Fieldwork in Exercise Science (2 credits)**

Students will gain an understanding of the exercise science profession through at least one observational experience (90 hours total) at pre-approved sites, in-class discussions, and reflections on their observations. Students must complete health compliance requirements prior

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to enrolling and maintain requirements during fieldwork. Offered fall and winter semesters. Prerequisites: EXS 320 and EXS 321 with at least a B-.

## **EXS 420 - Laboratory Practicum in Exercise Science (3 credits)**

This course will provide the student with exposure to and experience of laboratory and field-based skills needed to investigate physiological mechanisms and responses to exercise, and to assess athletic fitness and performance. Offered fall and winter semesters. Prerequisite: EXS 390.

## **EXS 460 - Strength and Conditioning for Athletic Performance (3 credits)**

This course is designed to provide students with theoretical, practical, and applied knowledge of the physiological and biomechanical aspects of designing and implementing strength and conditioning programs for well-conditioned athletic populations. Offered fall and winter semesters. Prerequisite: EXS 420.

## **EXS 465 - Cardiopulmonary Rehabilitation for the Clinical Exercise Physiologist (3 credits)**

Covers the knowledge and skills required for the clinical exercise physiologist working in a cardiopulmonary rehabilitation setting. ECG rhythm and 12-lead recognition. Exercise testing and prescription for a range of cardiovascular, circulatory, and pulmonary conditions. Skills in clinical exercise stress testing developed. Lecture/lab. Offered fall and winter semesters. Prerequisites: EXS 320 and EXS 321.

## **EXS 470 - Exercise for Special Populations (3 credits)**

Presents information related to exercise for special populations found in clinical and health/fitness settings. Physiological background, health assessment, exercise evaluation, and exercise prescription are studied. Special populations include those with cardiovascular and pulmonary diseases, metabolic and musculoskeletal disorders, as well as youth, elderly, and pregnant populations. Prerequisites: EXS 320 and EXS 321.

## **EXS 490 - Internship in Exercise Science (6, 9, or 12 credits)**

Students will complete a semester-long supervised experience at a pre-approved clinical, health and wellness, or fitness facility, during which they are required to complete an independent activity. Completion of this experience will further students' entry-level knowledge, skills,

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competencies, and abilities required within their profession. Prerequisite: EXS 420 with a minimum grade of B-.

## **EXS 495 - Professionalism in Exercise Science (3 credits)**

This Capstone course is designed to enhance the professional awareness, professional literacy, and skills of the exercise science major. Students apply previous knowledge using oral, written, and computer literacy skills. Networking and involvement in professional organizations is stressed. Offered fall and winter semesters. Prerequisite: EXS 390.

## **FIN 221 - Personal Finance (3 credits)**

Designed for the nonfinance major who wants to improve the management of personal finances. Aspects of finance that individuals are likely to face will be discussed. Specific topics include credit buying and borrowing, insurance, home ownership, stock and bond investment, mutual funds, income taxes, and estate planning. Offered fall and winter semesters.

## **FIN 300 - Fundamentals of Finance for Non-Business Majors (3 credits)**

Introduction to financial concepts, policies, and practices for non-business majors. Major topics include financial statement analysis, time value of money, characteristics of securities, sources and costs of financing, capital budgeting, and risk and return. B.B.A. degree-seeking students may not take this class for credit. Offered every semester. Prerequisites: ACC 212 (or both ACC 201 and ACC 202), and one of MTH 110, MTH 122, MTH 123, MTH 124, MTH 125, or MTH 201.

## **FIN 301 - Personal Finance: Managing Your Money During a Crisis (1 credit)**

This course provides an overview of how to evaluate and improve your own financial planning and decision-making during crises such as a recession, natural disaster, or pandemic. Offered every semester. Prerequisites: ACC 201, or ACC 212, or FIN 221.

## **FIN 320 - Managerial Finance (3 credits)**

This course presents the financial policies and practices that lead to the maximization of the value of the firm. Major topics include financial statement analysis, time value of money, asset valuation, sources and costs of financing, capital budgeting analysis, and risk and return. Offered every semester. Prerequisites: ACC 212, and either CIS 221 or CIS 231, and one of MTH 110, MTH 122, MTH 123, MTH 124, MTH 125, or MTH 201, and admitted to Seidman College of Business or by permit.

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## **FIN 321 - Investments (3 credits)**

This course presents fundamental principles of investment and introduces students to characteristics of various financial assets. Major topics include bond valuation, interest rates, term structure, stock valuation, equity market and efficiency, analysis of risk and return, derivative securities, asset allocation and diversification, and behavioral finance. Offered each semester. Prerequisites: FIN 320, STA 215, and admitted to Seidman College of Business or by permit. Not to be taken concurrently with FIN 320.

## **FIN 322 - Intermediate Managerial Finance (3 credits)**

A second course in financial management required for all finance majors. Deepens concepts of FIN 320 and covers additional topics. Coverage includes analysis of financial statements, financial forecasting, corporate valuations, cost of capital, capital budgeting, and capital structure. The main learning objective is the estimation and maximization of corporate value. Offered each semester. Prerequisites: FIN 320, ACC 213, STA 215, and admitted to Seidman College of Business or by permit.

## **FIN 330 - Ethics in Finance (3 credits)**

This course relates ethical principles to issues faced by financial professionals in fields such as investment analysis, investment sales, corporate finance, and financial institutions. A general background in moral philosophies will be provided. Offered fall and winter semesters. Prerequisites: FIN 320 and admitted to Seidman College of Business or by permit.

## **FIN 331 - Risk and Insurance (3 credits)**

Risk analysis and insurance. Planning personal and business insurance. Business insurance as it relates to business risks and decision-making. Emphasis on business exposures, coverages, and problems of the risk manager. Offered fall and winter semesters. Prerequisites: Junior standing and admitted to Seidman College of Business or by permit.

## **FIN 350 - Real Estate Principles (3 credits)**

An introduction to the basic principles of real estate administration. The legal and economic characteristics of real estate, real estate markets, appraising methods, government and political trends, and regional and local economic influences. Offered fall and winter semesters. Prerequisites: FIN 320, junior standing, and admitted to Seidman College of Business or by permit.

## **FIN 380 - Special Topics in Finance (3 credits)**

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Course content varies. Refer to schedule of classes to determine course description and prerequisites. Students may repeat this course under different topics. Offered on demand. Prerequisite: Admitted to Seidman College of Business or by permit.

## **FIN 420 - Bank Management (3 credits)**

Financial management of commercial banks and other financial intermediaries. Examination of banking structure and current regulatory environment. Specific techniques of evaluating risks, liability management, and determining asset composition. Concepts of capital adequacy and liquidity management. Offered fall and winter semesters. Prerequisites: FIN 320 and admitted to Seidman College of Business or by permit.

## **FIN 422 - Advanced Managerial Finance (3 credits)**

The course demonstrates to students how managers maximize shareholder wealth within the constraints of a situation. This course applies the financial principles to the types of issues faced by managers and to current topics through a variety of financial cases. In addition, students use software to analyze and communicate findings. Offered fall and winter semesters. Prerequisites: FIN 322 and admitted to Seidman College of Business or by permit.

## **FIN 427 - Derivative Assets and Markets (3 credits)**

This course covers the fundamentals of the four important financial derivatives (options, forwards, futures, and swaps), workings of the derivative markets, models for pricing derivative assets, uses of derivatives, Option Greeks, and value at risk. Offered every winter. Prerequisites: FIN 321 and admitted to Seidman College of Business or by permit.

## **FIN 428 - Portfolio Management I (3 credits)**

This course focuses on the practical aspects of portfolio management by applying traditional investment/financial management topics to the management of an active portfolio provided by Grand Valley State University foundation. Topics include investment policy statements and fiduciary standards, financial statement analysis, economic and industry analyses, and security valuation. Offered winter semester. Prerequisites: FIN 321 and admitted to Seidman College of Business or by permit.

## **FIN 429 - International Financial Management (3 credits)**

The traditional areas of corporate finance are explored in an international setting. Topics include international currency markets, macroeconomic relationships between exchange rates and interest rates and inflation, types of economic exposure, and foreign investment strategies for multinational firms. Offered winter semester. Prerequisite: Admitted to Seidman College of Business or by permit.

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## **FIN 438 - Portfolio Management II (3 credits)**

This course emphasizes understanding cyclical macroeconomic trends in asset allocation and stock selection. Global aspects of investing using vehicles such as American Depository Receipts are included along with U.S. stocks in portfolio creation. This course emphasizes report writing, oral presentations, and working in and leading small teams. Offered winter semester. Prerequisite: FIN 428.

## **FIN 480 - Special Topics in Finance (1 to 9 credits)**

Course content varies. Refer to schedule of classes to determine course description and prerequisites. Students may repeat this course under different topics. Offered on demand. Prerequisite: Admitted to Seidman College of Business or by permit.

## **FIN 490 - Finance Internship (1 to 6 credits)**

This course will be used to grant finance credit to students who complete internships in the finance field. Graded credit/no credit. Prerequisites: Junior standing, minimum 2.5 GPA, and admitted to Seidman College of Business or by permit.

## **FIN 499 - Independent Research (1 to 3 credits)**

Students propose an independent study culminating in a written and oral report. The proposal must include learning outcomes and a readings list. Proposals involving primary research should include a detailed description of objectives and methodology. Students must find an interested faculty member to help them prepare the proposal and to supervise the independent research. Offered each semester. Prerequisites: Admitted to Seidman College of Business and written permission of the instructor required.

## **FIN 520 - Statistics and Mathematics of Finance (3 credits)**

Examines probability distributions, confidence intervals, hypothesis testing, analysis of variance, and linear regressions, as well as time value of money valuation models, including present and future cash flows, bond valuation, dividend discount models, NPV, IRR, discount rates, WACC, and the Capital Asset Pricing Model. Offered every semester. Prerequisite: Admission to a graduate business program or permit.

## **FIN 621 - Financial Policy for Managers (3 credits)**

Examines problem-solving, decision-making, and actions leading to optimizing the value of business firms. Methods of incorporating risk analysis into decisions concerning management of working capital, capital budgeting, and capital structure. Analysis of theories and procedures

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regarding financial goals, portfolio concepts, cost of capital, and dividend policy. Offered every semester. Prerequisite: Completion of M.B.A. background equivalents.

## **FIN 624 - Investment and Portfolio Management (3 credits)**

This course examines investment opportunities including equities, derivatives, and debt instruments. Topics include asset markets, asset pricing models, portfolio management, valuation models, market efficiency, and investment strategies. Prerequisite: Completion of M.B.A. background equivalents.

## **FIN 626 - Advanced Managerial Finance (3 credits)**

Application of principles of finance to solving selected business case problems and analyzing current financial events. Prerequisite: FIN 621.

## **FIN 627 - Derivative Assets and Markets (3 credits)**

The course examines options and futures markets and instruments. Options topics include options markets, properties of options, option trading strategies, and derivation and application of various valuation models, including the binomial model and the Black-Scholes model. Other topics include valuation in the forwards, futures, and swaps markets. Offered winter semester of even-numbered years. Prerequisite: Completion of M.B.A. background equivalents.

## **FIN 629 - International Finance (3 credits)**

Consideration of the problems of a world monetary order, including fixed versus floating exchange rates, the role of gold, key currencies, SDRs, balance of payments, etc. Subjects cover the current monetary system and its evolution, including international monetary agencies and the pivotal role of the U.S. dollar. Investigation of the sources of financing for trade and foreign direct investment such as national capital markets, government programs, foreign capital markets, Eurocurrencies, and Eurobonds. Prerequisite: Completion of M.B.A. background equivalents.

## **FIN 680 - Special Topics in Finance (1 to 3 credits)**

Course content varies. Refer to schedule of classes to determine description and prerequisites. Students may repeat this course under different topics.

## **FIN 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

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## **FIN 699 - Independent Study (1 to 3 credits)**

Independent research in the student's area of interest, supervised by a member of the Seidman faculty, and culminating in a written and oral report. Written permission of supervising faculty required.

## **FIT 100 - Self Defense (R.A.D.) for Women (1 credit)**

This course provides a basic introduction to women's self-defense skills, knowledge, and techniques to develop and enhance the options of self-defense. The primary purpose is for protection and risk reduction. This course utilizes the Rape, Aggression, and Defense (R.A.D.) curriculum. Graded credit/no-credit.

## **FIT 101 - Pilates (1 credit)**

This course provides knowledge, skill, and application of methods for basic Pilates techniques and exercises using a floor mat and occasional props. Instruction and activities are designed to strengthen the body within the trunk/torso (abdominal, back, and lumbopelvic regions) and enhance flexibility, posture, and body awareness using the Pilates principles. Graded credit/no-credit.

## **FIT 102 - Personal Self-Defense (1 credit)**

This course provides a basic introduction to skills, knowledge, and techniques to develop and enhance the options for self-defense. The primary purpose is for protection and risk reduction. Course is graded credit/no credit. Offered fall and winter semesters.

## **FIT 103 - Tae Kwon Do (1 credit)**

This course provides students with a survey of the knowledge, skill, and application of methods of Tae Kwon Do. Students will practice the correct breathing, power, balance, rhythm and timing necessary to perform basic movements comprised of blocks, punches, strikes, stretches, kicks, and turns. Graded credit/no-credit.

## **FIT 104 - Recreational Gymnastics (1 credit)**

This course focuses on knowledge, skill, and application of methods in beginning gymnastics. Through a planned, sequential, and safe progression students will learn skills on mats, balance beam, vault, and rings. Graded credit/no-credit.

## **FIT 105 - Boxing (1 credit)**

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This course provides students with the knowledge, skills and application of boxing. Students will learn basic boxing techniques, drills, and the rules of amateur competition. There will be no sparring. Hand wraps and mouthpiece are required. Graded credit/no-credit. Offered fall semester.

### **FIT 106 - Cardio Kickboxing (1 credit)**

This course combines fast-paced cardio and martial arts techniques for fitness. This fitness activity uses techniques from select martial art forms along with boxing to place an emphasis on a cardio workout. Punches and kicks emphasize technique and fitness as they are thrown in the air or onto focus mitts. Graded credit/no-credit. Offered fall and winter semester.

### **FIT 107 - Tai Chi (1 credit)**

This course provides a survey of the knowledge, skill, and application of Tai Chi. Key concepts, terms, and instruction in selected forms and styles will be applied in a basic martial arts context. Graded credit/no-credit.

### **FIT 109 - Yoga (1 credit)**

This course focuses on knowledge, skill, and application in the basic Yoga postures and breathing techniques intended to strengthen the body, relax, and increase concentration of the mind. Posture and breathing will be applied to improve fitness and reduce stress. This course is presented with a secular approach. Graded credit/no-credit.

### **FIT 111 - Training for a 5K Road Race (1 credit)**

This course provides the knowledge of training methods for distance running and the opportunity to apply this toward preparation for a 5K road race. Students will learn to balance training and recovery, running physiology, nutrition, and tapering needed for successful participation in a 5K road race. Graded credit/no-credit. Offered fall semester.

### **FIT 112 - Core Strength (1 credit)**

This course focuses on knowledge, skill, and application to maintain and enhance muscular endurance, strength, and flexibility of core muscles. Core muscles include the abdominal, back, and lumbopelvic regions. Activities incorporate body weight, hand weights, exercise bands, and other associated fitness activities. Graded credit/no-credit. Offered fall and winter semesters.

### **FIT 118 - Archery (1 credit)**

This course focuses on knowledge, skill, and application of target archery. Students will learn the fundamental skills, equipment maintenance, shooting range safety, and etiquette of the sport. Course fees will cover range rental. This course is held off campus. Graded credit/no-credit.

## **FIT 119 - Outdoor Skills (1 credit)**

This course provides instruction in knowledge, skill, and application of outdoor pursuits. Students will learn about proper equipment, navigation, fire building, trip planning, hiking and snowshoeing as the weather permits. This course is conducted in a variety of weather conditions and visits parks surrounding the Grand Valley State University campus. Graded credit/no-credit.

## **FIT 120 - Bowling (1 credit)**

This course provides instruction in knowledge, skill, and methods of bowling. Students will learn the physical and mechanical skills of bowling, as well as strategies, scoring, rules, and etiquette of the sport. Course fees will cover equipment and lane rental. This course meets off campus. Graded credit/no-credit.

## **FIT 121 - Golf: Fundamental Shots (1 credit)**

This course is designed for beginners and those who score 52 or more through nine holes. Students will learn proper grip, stance, and swing used for basic shots along with chipping, pitching, and putting. Students must provide golf clubs. Course fees will cover golf balls and range rental. Graded credit/no-credit.

## **FIT 123 - Golf: Shaping Shots (1 credit)**

This course is designed for golfers who regularly score 51 or less through nine holes on a regulation golf course. The student will learn specialty shots, major rules, and strategies and techniques for course management. Students must provide golf clubs. Course fees will cover golf balls and range rental. Graded credit/no-credit.

## **FIT 124 - Basics of Weight Training (1 credit)**

This course focuses on beginner level knowledge, skill, and application in the use of various machine and free weights in a noncompetitive environment. Attention will be paid to proper techniques, alignment, posture, breathing, and safety. Students will be guided through workout programs and routines to strengthen muscles using weights. Offered fall and winter semesters.

## **FIT 125 - Performance Weight Training (1 credit)**

This course focuses on the application of weight training knowledge and skill using machines and free weights for performance goals. A variety of programs will be presented to develop

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muscular strength for activity specific skills. Students will learn how to develop a personalized workout.

## **FIT 126 - Conditioning and Flexibility (1 credit)**

This course provides knowledge, skill, and application of methods to maintain and improve the body's overall aerobic fitness and flexibility. Various cardiovascular activities, circuit training and static and dynamic stretching will be used. Programs such as high-intensity training, TRX, and other current exercise trends may be incorporated. Graded credit/no-credit.

## **FIT 128 - Rock Climbing (1 credit)**

This course provides knowledge, skill, and methods of rock climbing. This course is designed to develop the skills to move efficiently and safely on an artificial rock wall (specifically bouldering and top roping). Instruction will be given on safe and proper use of ropes, anchors, belay, and aid devices. Graded credit/no-credit.

## **FIT 130 - Volleyball (1 credit)**

This course provides knowledge, skill, and application of volleyball. Students will learn the tactics and fundamental skills including but not limited to passing, blocking, attacking, serving, and defending. Graded credit/no-credit.

## **FIT 131 - Basketball (1 credit)**

This course provides knowledge, skill, and application of basketball. Students will learn tactics and the fundamental skills including but not limited to passing, dribbling, shooting, faking, cutting, footwork, and defending. Graded credit/no-credit.

## **FIT 133 - Softball (1 credit)**

This course provides knowledge, skill, and application of softball. Students will learn tactics and the fundamental skills including but not limited to throwing, catching, position play, batting, and base running. Students must provide their own softball gloves. Graded credit/no-credit.

## **FIT 134 - Soccer (1 credit)**

This course teaches knowledge, tactics and the fundamental skills of soccer. Strategies include but are not limited to passing, receiving, shooting, dribbling, and goalkeeping. Graded credit/no-credit.

## **FIT 139 - Team Sports (1 credit)**

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This course provides instruction on a survey of non-traditional team sports such as Satryan ball, broomball, futsal/indoor soccer, floor hockey, speedball, goal ball, tchoukball, and team handball. Instruction will be on skill, tactics, and rules of the selected sports. Offered winter semester.

### **FIT 140 - Racquetball (1 credit)**

This course focuses on knowledge, skill, and application of racquetball. Students will learn tactics and the fundamental skills including but not limited to forehand, backhand, serve, passing shots, and backwall play. Students must provide own racquet, balls, and safety goggles. Graded credit/no-credit.

### **FIT 142 - Tennis (1 credit)**

This course focuses on instruction on basic skills and tactics of tennis. Students will learn tactics and the fundamental skills including but not limited to forehand, backhand, serve, lobs, and volleys. Students must provide own tennis racquet. Graded credit/no-credit.

### **FIT 143 - Core and Spin (1 credit)**

This course provides instruction on select indoor cycling and core strength methods. Combining a core workout and spin workout complements a well-rounded physical fitness program. Students will learn skills and knowledge in both cycling and core activities during the semester. This is a high intensity work-out. Graded credit/no-credit. Offered every semester.

### **FIT 144 - Badminton (1 credit)**

This course provides instruction on basic skills and tactics of badminton. Students will learn tactics and the fundamental skills including but not limited to forehand, backhand, serves, overhead clear, and the smash. Other net games to be taught may include pickle ball, Speedminton®, Takrawtakraw, and Eclipse Ball™. Graded credit/no-credit.

### **FIT 145 - Total Body Strength (1 credit)**

This course focuses on strengthening various muscle groups using personal body weight and equipment such as hand weights, bands, bars, tubes, balls, and gliders. Instruction includes function and proper use of muscle groups, body awareness and mechanics, and techniques to improve muscle endurance and function. Graded credit/no-credit.

### **FIT 147 - Olympic Weightlifting (1 credit)**

This course provides instruction for experienced lifters in the use of free weights for the proper technique of Olympic style weightlifting. Student will learn the snatch, clean, and jerk and their

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variations. Proper form, breathing, progression, complementary lifts, and safety will be taught. Graded credit/no-credit.

## **FIT 148 - Indoor Fitness Cycling (1 credit)**

This course encompasses the background of a variety of indoor fitness cycling programs and how to implement them to develop personal fitness. Students will learn bike set up and safety, hydration, and measuring intensity of workouts using a variety of methods. Graded credit/no-credit.

## **FIT 150 - Swimming: Strokes and Drills (1 credit)**

This course is designed for beginning swimmers. Instruction will be given to develop techniques and knowledge for basic stroke competency. Water safety will also be taught. Students will engage in drills that will help to strengthen stroke proficiency. Students will need to provide their own swimsuit and goggles. Graded credit/no-credit.

## **FIT 151 - Fitness Swimming (1 credit)**

This course is designed for the intermediate and advanced swimmer with an emphasis on fitness swimming. Students will develop techniques for complex stroke competency in the competitive swim strokes and use these skills toward fitness applications. Students will need to provide their own swimsuit and goggles. Graded credit/no-credit.

## **FIT 152 - Rowing (1 credit)**

This course focuses on instruction on basic knowledge and skills of rowing. Students will learn skills, safety, strategies, rules, and equipment maintenance. The first day of class is held at the GVSU Rowing Training Center. The remaining classes are all held at the GVSU Boathouse on the Grand River. Graded credit/no-credit.

## **FIT 153 - Sailing-Large Boat (1 credit)**

This course focuses on skills, safety, tactics, equipment maintenance, and rules for sailing a large boat. The first two classes are held on campus. Remaining class time is held on the water. On-the-water instruction will be scheduled during the lecture days. There is a course fee. Graded credit/no-credit.

## **FIT 156 - Zumba (1 credit)**

This course focuses on knowledge, skills and application of Zumba. Zumba fuses body strengthening movements with Latin music. Routines feature aerobic interval training and

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combines fast and slow rhythms. Course also incorporates resistance training to improve muscle fitness. Graded credit/no-credit. Offered fall and winter semesters.

### **FIT 157 - Belly Dance (1 credit)**

This course provides students instruction in belly dance history and skills as an artistic, traditional folk dance that strengthens the core and provides endurance and flexibility. Students will be able to apply belly dance as part of their fitness routines. Offered fall semester.

### **FIT 158 - Scuba - Open Water (1 credit)**

This course utilizes PADI Open Water Diver Course. Class meets on campus for four weeks and will be scheduled at inland lakes to qualify for open water certification. You must be able to swim 200 yards and provide your own mask, snorkel, and fins. Course fees cover equipment and certification. Graded credit/no-credit. Offered fall and winter semesters.

### **FIT 160 - Jazz Dance (1 credit)**

This course focuses on the theory, practice, and performance of jazz dance. Instruction consists of a series of stretching, alignment, and flexibility warm-ups in rhythmical application. Body isolations, basic jazz movements and turns, and a variety of these movements in combination are taught. Instructors will make recommendations for appropriate footwear. Graded credit/no-credit.

### **FIT 164 - Modern Dance (1 credit)**

This course focuses on theory, practice, and performance of modern dance. Instruction will take the students through a series of stretching, alignment, and flexibility warm-ups in rhythmical application. Technique and improvisation will be applied to choreography of modern dance. Instructors will make recommendations for appropriate footwear. Graded credit/no-credit.

### **FIT 166 - Ballet Dance (1 credit)**

This course provides theory, practice, and performance of classical ballet dance. Emphasis is placed upon vocabulary, proper posture, and correct body alignment. Warm-ups, barre footwork/sequencing, and center floor adagio and allegro dance will be taught. Instructors will make recommendations for appropriate footwear. Graded credit/no-credit.

### **FIT 168 - Dance for Fitness (1 credit)**

This course teaches dance techniques through a variety of genres to develop and improve fitness. Activities are designed to improve cardiorespiratory endurance, muscle endurance, rhythm, coordination, agility, and proper joint health while enjoying the application of dance skills.

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Instructors will make recommendations for appropriate footwear. Course is graded credit/no-credit.

## **FIT 178 - Ballroom Dance (1 credit)**

This course provides theory, practice, and performance of ballroom dance. Students will learn basic steps, proper frame, follower/lead roles in the partnership, nuances of waiting, arm styling, and dance etiquette. Dances may include swing, rumba, cha cha, waltz, foxtrot, or tango. Instructors will make recommendations for appropriate footwear. Graded credit/no-credit.

## **FIT 180 - Selected Topics in Fitness, Skill, and Activity (1 to 9 credits)**

Lecture, discussion, laboratory, or field study on a topic related to physics education. Graded credit/no-credit. Offered on demand.

## **FIT 280 - Special Topics in Fitness (1 to 3 credits)**

Readings, lectures, and/or discussions in specific topics not normally covered by other courses in the program.

## **FRE 101 - Beginning French I: Language and Culture (4 credits)**

An introduction to the French language and to the cultures of the French-speaking world. Practice in speaking, listening, reading, and writing at the novice level. Supplemented by multimedia and the Language Resource Center. No more than two years of high school French, or permission of instructor. Students are strongly encouraged to take the free placement exam in the Language Resource Center prior to registering. Offered every semester.

## **FRE 102 - Beginning French II: Language and Culture (4 credits)**

Continuation of FRE 101. Practice in speaking, listening, reading, and writing at novice and intermediate levels. French and Francophone culture integrated throughout. Supplemented by multimedia and the Language Resource Center. Students who did not complete FRE 101 at GVSU are strongly encouraged to take the free placement test in the Language Resource Center prior to registering. Students may not receive credit for both FRE 150 and FRE 102. Offered every semester. Prerequisite: C (not C-) or better in FRE 101, or credit, or appropriate placement test score.

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## **FRE 150 - Accelerated Beginning French I and II: Language and Culture (4 credits)**

One semester accelerated review of beginning French for students with prior study. Covers the same material as FRE 101 and FRE 102. Not open to students with credit in FRE 101, FRE 102 or their equivalent. Offered fall and winter semesters. Prerequisites: Minimum of two years of high school French and appropriate placement test score (free in Language Resource Center).

## **FRE 180 - Special Topics in French (1 to 4 credits)**

Course content varies. Expectations of students approximate those in other 100-level courses. May be repeated for credit when content differs. Offered on sufficient demand.

## **FRE 201 - Intermediate French I: Language and Culture (4 credits)**

Continuation of FRE 102 or FRE 150. Practice in speaking, listening, reading, and writing at the intermediate level. French and Francophone cultures integrated throughout. Supplemented by multimedia and the Language Resource Center. Offered every semester. Prerequisite: C (not C-) or better in FRE 102 or FRE 150, or credit, or appropriate placement test score (free in the Language Resource Center).

## **FRE 202 - Intermediate French II: Language and Culture (4 credits)**

Continued practice in speaking, listening, reading, writing at the intermediate level. Review of grammar and expansion of vocabulary. Focus on French and Francophone culture through authentic texts and multimedia materials. Counts toward the French minor (noneducation). Fulfills Cultures - Global Perspectives. Offered fall and winter semesters. Prerequisite: C (not C-) or better in FRE 201, or credit, or appropriate placement test score (free in the Language Resource Center).

## **FRE 280 - Special Topics in French (1 to 6 credits)**

Course content varies. Expectations of students approximate those in other 200-level courses. May be repeated for credit when content differs. No more than four credits can be applied to the minor or major. Offered on sufficient demand. Prerequisite: FRE 201.

## **FRE 315 - French Conversation (3 credits)**

Extensive practice in oral communication through exposure to French and Francophone cultures. Introduction to the proficiency guidelines of ACTFL (American Council on the Teaching of

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Foreign Languages). Course may be taken concurrently with FRE 316 - Advanced Grammar. Offered every semester. Prerequisite: C (not C-) or better in FRE 202 or permission of instructor.

### **FRE 316 - Advanced French Grammar (3 credits)**

Detailed study of French grammar with a focus on areas of difficulty for speakers of English. Extensive written and in-class oral practice. Course may be taken concurrently with FRE 315 - French Conversation. Prerequisite: C (not C-) or better in FRE 202, or permission of instructor.

### **FRE 317 - Writing in French (3 credits)**

Extensive practice in writing. Study of various stylistic techniques using texts from multiple sources. Review of the finer points of grammar and usage. Offered for SWS credit. Offered fall and winter semesters. Prerequisite: C (not C-) or better in FRE 202; recommended after FRE 315 and FRE 316.

### **FRE 318 - Introduction to French Literature (3 credits)**

An introduction to French and Francophone literature. Emphasis on development of reading strategies and learning to analyze literary texts and poetry. A French core curriculum course required for advanced study. Offered fall and winter semesters. Prerequisite: C (not C-) or better in FRE 202; recommended after FRE 315, FRE 316, and FRE 317.

### **FRE 321 - Survey of French Literature I (3 credits)**

A survey of French literature of the Middle Ages and the Renaissance. Offered winter semester in even-numbered years. Prerequisites: C (not C-) or better in all core curriculum courses (FRE 315, FRE 316, FRE 317, and FRE 318) or permission of instructor.

### **FRE 322 - Survey of French Literature II (3 credits)**

A survey of French literature of the 17th and 18th centuries. Offered winter semester of odd-numbered years. Prerequisites: C (not C-) or better in all core curriculum courses (FRE 315, FRE 316, FRE 317, and FRE 318) or permission of instructor.

### **FRE 323 - Survey of French Literature III (3 credits)**

A survey of French literature of the 19th, 20th, and 21st centuries. Offered fall semester in even-numbered years. Prerequisites: C (not C-) or better in all core curriculum courses (FRE 315, FRE 316, FRE 317, and FRE 318) or permission of instructor.

### **FRE 331 - French Phonetics (3 credits)**

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Study of the basic principles of French phonetics with emphasis on improving pronunciation and aural comprehension. Introduction to the International Phonetic Alphabet and phonetic transcription. Intensive exposure to spoken French through a variety of media, including the Language Resource Center, and practice with each major phoneme. Offered fall semester. Prerequisites: FRE 202 and one other course at the 300-level with C (not C-) or permission of instructor.

### **FRE 332 - Introduction to French Linguistics (3 credits)**

Analysis of the evolution of the French language, phonology, sociolinguistics and dialectology, applied linguistics, bilingualism, and language contact. Prerequisites: C (not C-) or better in all: FRE 315, FRE 316, and FRE 317, or permission of instructor.

### **FRE 333 - Theory and Practice of Translation (3 credits)**

Theory and practice of translation with an emphasis on French to English. Course highlights theoretical concepts, specific translation problems, and development of techniques for dealing with certain structures. Topics may also include profession related issues such as reader's reports, queries, publishing, and strategies to establish and manage a translation business. Prerequisites: C (not C-) or better in all core curriculum courses (FRE 315, FRE 316, FRE 317, and FRE 318), or permission of instructor.

### **FRE 334 - Foreign Language Acquisition and Pedagogy (3 credits)**

Provides prospective French and German high school teachers with an introduction to foreign language acquisition theory and practical applications of language teaching pedagogy. Students will also observe language teachers in local high schools. Cross-listed with GER 314. Offered winter semester. Prerequisite: Instructor permission.

### **FRE 341 - French History and Civilization (3 credits)**

A study of the main themes of French civilization and culture with their implications for contemporary France and their literary manifestations. Taught in French. Offered fall semester of even-numbered years. Prerequisite: C (not C-) or better in FRE 315 or permission of instructor.

### **FRE 342 - Contemporary French Culture and Society (3 credits)**

Analysis of French contemporary civilization and culture using a variety of multimedia sources. Discussion of current events. Offered winter semester of odd-numbered years. Prerequisite: C (not C-) or better in FRE 315 or permission of instructor.

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## **FRE 343 - Francophone Civilization (3 credits)**

The study of Francophone culture, including topics such as language and communication, marriage, the family and gender roles, immigration and colonization, sociopolitical institutions, and the arts. Materials are drawn from novels, short stories, plays, music, cinema, and multimedia. Offered fall semester of odd-numbered years. Prerequisites: C (not C-) or better in all French core curriculum courses (FRE 315, FRE 316, FRE 317, and FRE 318) or permission of instructor.

## **FRE 351 - Business French (3 credits)**

Study of the French economy and business practices. Focus on French business vocabulary, cultural differences, and new technologies. Preparation for the Chambre de Commerce et d'Industrie de Paris examination (French business proficiency: optional upon completion of course). Recommended for international business majors with a minor in French. Taught in French. Offered fall semester in odd-numbered years. Prerequisites: C (not C-) or better in all core curriculum courses (FRE 315, FRE 316, FRE 317, and FRE 318), or permission of instructor.

## **FRE 380 - Special Topics in French (1 to 6 credits)**

Course content varies. Expectations of students approximate those in other 300-level courses. May be repeated for credit. Course offered on sufficient demand. Prerequisites: C (not C-) or better in core curriculum courses (FRE 315, FRE 316, FRE 317, and FRE 318) or permission of instructor.

## **FRE 385 - French Language (3 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only. Credit may vary.

## **FRE 386 - French Culture Abroad (3 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. Takes place in France (or another French-speaking country) as part of an approved study abroad program. Course is conducted in French. By permit only.

## **FRE 387 - EUSA Paris-Language (3 credits)**

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Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only.

### **FRE 388 - EUSA Paris-Internship (3 to 6 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only.

### **FRE 395 - Advanced Speaking Strategies and Skills (3 credits)**

Focus is on the development and assessment of speaking skills in French at the advanced level as defined by the American Council on the Teaching of Foreign Languages (ACTFL), with extensive practice in both interpersonal and presentational speaking. Offered winter semester of odd-numbered years. Prerequisites: C (not C-) or better in all French core curriculum courses (FRE 315, FRE 316, FRE 317, and FRE 318) or permission of the instructor.

### **FRE 399 - Independent Study (1 to 4 credits)**

Content is decided jointly by instructor and student. Student must arrange for supervision by a faculty member before registration.

### **FRE 421 - Medieval French Literature (3 credits)**

Study of representative French medieval works. Readings include poetry, courtly literature, fables, farces, and theater. Offered fall semester of even-numbered years. Prerequisites: C (not C-) or better in all core curriculum courses (FRE 315, FRE 316, FRE 317, and FRE 318) and completion of one 300-level literature elective, or permission of instructor.

### **FRE 422 - Renaissance French Literature (3 credits)**

Study of representative literary authors and texts of the French Renaissance period. This course also explores historical and cultural topics and their impact on the development of 16th century French literature. Offered fall semester. Prerequisites: C (not C-) or better in all core curriculum courses (FRE 315, FRE 316, FRE 317, and FRE 318) and completion of one 300-level literature elective, or permission of instructor.

### **FRE 423 - 17th Century French Literature (3 credits)**

Study of representative literary authors and texts from the 17th century. This course also explores historical and cultural topics and their impact on the development of 17th century

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French literature. Offered winter semester. Prerequisites: C (not C-) or better in all core curriculum courses (FRE 315, FRE 316, FRE 317, and FRE 318) and completion of one 300-level literature elective, or permission of instructor.

### **FRE 424 - 18th Century French Literature (3 credits)**

Survey of French literature of the 18th century. Focus on writers whose ideas and militant prose provoked the intellectual and social ferment leading to the French Revolution. Criticism of the monarchy, the social order, education, and civilization. May not be repeated for credit. Offered fall semester of odd-numbered years. Prerequisites: C (not C-) or better in all core curriculum courses (FRE 315, FRE 316, FRE 317, and FRE 318) and completion of one 300-level literature elective, or permission of instructor.

### **FRE 425 - French Literature of the 19th Century (3 credits)**

Study of the literature of the 19th century with special emphasis on the novel. Offered winter semester in even-numbered years. Prerequisites: C (not C-) or better in all core curriculum courses (FRE 315, FRE 316, FRE 317, and FRE 318) and completion of one 300-level literature elective, or permission of instructor.

### **FRE 426 - Modern French Literature (3 credits)**

Study of 20th and 21st century French literature with representative works in poetry, theater, and novel. Offered winter semester in odd-numbered years. Prerequisites: C (not C-) or better in all core curriculum courses (FRE 315, FRE 316, FRE 317, and FRE 318) and completion of one 300-level literature elective, or permission of instructor.

### **FRE 427 - Francophone Literatures and Cultures (3 credits)**

Readings of novels, plays, and poetry from the Francophone world. Regions chosen vary according to instructor's field of specialization. Close readings emphasizing the distinctive cultures of the Francophone world and discussion of the important issues raised by these texts, in particular: racism, the colonial past, present corruption, and memory. Offered fall semester in even-numbered years. Prerequisites: C (not C-) or better in all core curriculum courses (FRE 315, FRE 316, FRE 317, and FRE 318) and completion of one 300-level literature elective, or permission of instructor.

### **FRE 480 - Special Topics in French (1 to 4 credits)**

Course content varies. Expectations of students approximate those in other 400-level courses. May be repeated for credit when content differs. Offered on sufficient demand. Prerequisites: C (not C-) or better in all core curriculum courses (FRE 315, FRE 316, FRE 317, and FRE 318), and completion of one 300-level literature elective, or permission of instructor.

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## **FRE 495 - Advanced Topics in French (Capstone) (3 credits)**

Capstone course for the French major. Content varies according to the instructor: An in-depth exploration of French literature, linguistics, and civilization. Offered winter semester.

Prerequisites: C (not C-) or better in all core curriculum courses (FRE 315, FRE 316, FRE 317, and FRE 318), and senior standing or permission of instructor.

## **FRE 499 - Independent Research (1 to 4 credits)**

Content of the Independent Research is decided jointly by instructor and student upon special circumstances. FRE 499 involves in-depth research and/or extensive analysis on a specific linguistic, cultural, or literary topic. Offered every semester.

## **FVP 123 - Survey of Media Production Modes (3 credits)**

This introductory course in the critical study of the various modes of film/video/animation/new media production. examines distinctive formal elements of each mode as well as the economic and cultural context of production and reception. A prerequisite course for film and video production. Offered fall and winter semesters. Prerequisite: Restricted to film and video, communication studies, health communication, multimedia journalism, photography, advertising/public relations, and theatre majors.

## **FVP 125 - Media Production I (3 credits)**

The fundamentals of video production, including the techniques and the aesthetics of shooting, lighting, and editing are covered, with an emphasis on hands-on production experience using digital video. A preadmission course for film and video production. Offered fall and winter semesters. Prerequisite: Restricted to film and video, communication studies, health communication, multimedia journalism, photography, advertising/public relations, and theatre majors.

## **FVP 225 - Film Culture (3 credits)**

This is an introductory course on film as a significant cultural form. It examines the formal elements through which films tell stories, and the kind of stories they tell in response to audience needs and desires. Focuses on how audience interaction shapes narrative filmmaking. Fulfills Foundations - Arts. Offered every semester.

## **FVP 226 - Media Production II (3 credits)**

This is the second course in the video production sequence, emphasizing the techniques and aesthetics of shooting and editing. Additional emphasis placed on concept development and production management. Offered fall and winter semesters. Prerequisite: Admission to major.

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## **FVP 227 - Post-Production Techniques (3 credits)**

Intermediate-level post-production techniques are explored and applied including editing, motion graphics, visual effects, and color correction. Tutorials and workshops are designed to advance technical skills in support of course-related projects and upper-level production courses within the film and video production program. Offered fall and winter semesters. Prerequisite: Admission to the major.

## **FVP 261 - Scriptwriting I (3 credits)**

Writing for film, video, radio, and mixed media. Writing exercises include dramatic, informational, documentary, public service announcements, and commercial formats. Offered fall and winter semesters. Prerequisite: Restricted to film/video majors.

## **FVP 282 - Audio Production I (3 credits)**

Introduction to the general principles of sound, to the hardware and software of radio, and to other major media uses of sound. This is a production course. Offered every semester. Prerequisite: Restricted to film/video, communication studies, and multimedia journalism majors.

## **FVP 321 - Fiction Filmmaking I (3 credits)**

This is an intermediate-level production course using class members as the production unit focusing on fiction filmmaking, including story development, production/post techniques, directing, and interpretation of drama from script to screen. Offered fall and winter semesters. Prerequisites: FVP 226 and FVP 227.

## **FVP 322 - Documentary Production I (3 credits)**

Working in production teams, students produce a documentary video about a substantial topic of their choice. Includes viewings and readings. Offered every year. Prerequisite: FVP 226.

## **FVP 323 - Media Technologies (3 credits)**

Basic electronics theory, audio and video recording, synthesizing on audio or video signal, and signal processing are discussed. Offered fall semester. Prerequisite: FVP 226 or FVP 282.

## **FVP 324 - 3-D Computer Animation (3 credits)**

Introduction to 3-D modeling and animation using computers. Students will demonstrate proficiency at basic modeling skills, surfacing, lighting, and animation. There will be consideration of how color, shape, lighting, and texture influence meaning. Work in critical

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analysis provides a context for the animation process. Offered winter semester. Prerequisite: Admission to FVP major or permission from instructor.

### **FVP 325 - Animation I (3 credits)**

An introductory course in animation filmmaking. Students will work in small groups on animation and movement exercises and will individually produce a short final film. Readings will be assigned; films will be viewed and discussed. Offered fall semester. Prerequisite: Admission to major.

### **FVP 326 - New Media I (3 credits)**

An introduction to theory and practice of new media production as a means for storytelling and creative expression. Explores the practice of user-testing and participation, image manipulation, and multimedia production with a focus on emerging and traditional forms of media production. Offered fall semester. Prerequisite: FVP 226 or permission from instructor.

### **FVP 327 - Film and Video Art (3 credits)**

A practical examination of the elemental codes and structures of film and video. Exercises in lighting, sequencing, sound, color, and composition are included. Viewings and readings. Offered winter semester. Prerequisites: Admission to major and FVP 226.

### **FVP 328 - Intermediate Film Practicum (3 or 6 credits)**

Explores the craft of narrative drama in motion pictures. Students with some background in film, video, and/or audio gain an understanding of the professional model of media production by assisting in the planning and shooting of a dramatic film. Offered spring/summer semester. Prerequisite: Permission of instructor.

### **FVP 330 - Digital Post Production (3 credits)**

Explores conceptual issues in editing images and sound in a digital production environment. Offered fall and winter semesters. Prerequisites: Admission to major and FVP 226.

### **FVP 348 - Film Theories (3 credits)**

This course will introduce various perspectives on the study of film in order to explore and explain how films generate meaning and pleasure. Students will gain a historical understanding of film, and learn to write in the language of scholarly film criticism. Offered fall and winter semesters. Prerequisite: FVP 123.

### **FVP 362 - Scriptwriting II (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

A seminar in which students work on individual scripting projects of substantial length, using class and instructor for critical analysis. Offered fall semester. Prerequisites: Admission to the major and FVP 261.

## **FVP 368 - Lighting for Film and Video Productions (3 credits)**

The process of studio and location lighting for film and video, principles, instruments, measurement tools, filters/diffusers, and single/multiple setups. Offered fall and winter semesters. Prerequisites: Admission to major and FVP 226.

## **FVP 370 - American Cinema (3 credits)**

A historical survey of American cinema that examines the cultural and aesthetic significance of film, as well as the changing economic and technological contexts of the U.S. film industry. Offered fall semester. Prerequisite: FVP 123.

## **FVP 371 - History of Animation (3 credits)**

A global historical survey of animated film and video production that examines styles of animation, how animation techniques evolved as technology changed, and the economic determinants of the production and reception of animated films. Offered fall semester of even-numbered years. Prerequisite: FVP 123.

## **FVP 372 - History of Documentary Film (3 credits)**

A historical survey of nonfiction film and video that examines the theoretical context for documentary production, the varied functions and styles of documentary work, how documentary technique evolved as technology changed, and the economic determinants of documentary production. Offered fall semester of odd-numbered years. Prerequisite: FVP 123.

## **FVP 373 - Issues of Representation (3 credits)**

This course investigates the representation of gender, race and ethnicity, sexual orientation and identity, and class in contemporary cinema. It focuses on the role cinematic representation plays in the construction of identity and stereotypes, and ways in which film can also challenge conventional representations. Offered winter semester of odd-numbered years. Prerequisite: FVP 123.

## **FVP 374 - Experimental Film and Video (3 credits)**

This course examines the international history of experimental film and video and contemporary practice within the mode. The course emphasizes the theoretical and critical analysis of

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significant work in its historical context. Offered winter semester of even-numbered years.  
Prerequisite: FVP 123.

### **FVP 375 - World Cinema (3 credits)**

Explores the economic, historical, and cultural context for film production and exhibition in several countries to understand the relationship between cinema and national culture. Examines the influence and significance of films that have constituted alternatives to the Hollywood entertainment model. Close textual readings of foreign films. Offered winter semester.  
Prerequisite: FVP 123.

### **FVP 376 - Latin American Cinema (3 credits)**

A survey of cinema in Latin America. The course will analyze representative films as works of art and examine them as cultural, historical, political, and economic products that characterize and reveal diverse perspectives from significant film-producing countries in Latin America. Cross-listed with LAS 376. Offered fall semester.

### **FVP 380 - Special Topics in Film and Video (3 credits)**

A study of special topics not regularly covered in the curriculum. Expectations of the student in this course approximate those in other 300-level courses. May be repeated for credit when content varies. Prerequisite: Admission to major.

### **FVP 382 - Audio Production II (3 credits)**

A two-part course: First, core topics that are the foundation of all audio production are covered. Second, topics of special interest, such as radio, TV, film, music recording, and digital audio are covered. Throughout the course, professionalism will be stressed both in the final products and in the individual performance. Offered winter and spring/summer semesters. Prerequisites: FVP 282 and restricted to film/video, communication studies, and multimedia journalism majors.

### **FVP 399 - Independent Study (1 to 6 credits)**

An experience of an essentially scholarly and/or creative nature undertaken by a student under the supervision of one or more faculty members. Initiated by the student who has a special interest in a subject that is not available in the current curriculum. The student and the faculty sponsor agree on the scope of the study, its components, and methods of evaluation. Prerequisite: Admission to major.

### **FVP 421 - Fiction Filmmaking II (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

In this advanced workshop, students will work in large production crews to produce short, dramatic fiction motion pictures from their original scripts. Offered fall and winter semesters. Prerequisites: Admission to major and FVP 321.

## **FVP 422 - Documentary Production II (3 credits)**

Working in production teams, students produce a documentary video about a socially significant topic of their choosing. Readings and assignments will develop an understanding of the methods for producing independent documentary and the accompanying issues commonly encountered. Offered winter semester. Prerequisites: Admission to the major and FVP 322.

## **FVP 425 - Animation II (3 credits)**

Continued work in animation production for character and graphic animation. Introduction to 3-D computer animation and current technologies for special effects in motion pictures. Students will design, storyboard, and complete an animation project. Offered winter semester. Admission to FVP major and FVP 325, or permission from instructor.

## **FVP 426 - New Media II (3 credits)**

A continuation of theory and practice of new media production as a means for storytelling and creative expression. This course further expands the focus on conceptual and technical skills in emerging and traditional forms of media production. Offered winter semester. Prerequisite: FVP 326 or permission of the instructor.

## **FVP 428 - Advanced Film Practicum (3 or 6 credits)**

Explores the craft of narrative drama in motion pictures. At an advanced level, film students gain theoretical and practical experience in the production of a dramatic film. Students fill skilled positions on the film's crew. Offered spring/summer semester. Prerequisites: Admission to major and FVP 421.

## **FVP 429 - Post Production Practicum (3 credits)**

The process of audio, film, and video postproduction, emphasizing the draft/revision process. Editing will proceed in a nonlinear digital environment. Offered fall semester. Prerequisites: FVP 261 and either FVP 330 or FVP 282.

## **FVP 470 - Producing for Clients (3 credits)**

Students produce media solutions to meet the goals of nonprofit clients. Projects are field-tested to ensure professional-level media production standards. Offered fall semester. Prerequisites: Admission to major and one intermediate video production course, FVP 320 or higher.

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## **FVP 482 - Sound Design for Film and Video (3 credits)**

In-depth study of recording and manipulating sound to enhance visual communications. Students sharpen their skills in adapting standard recording tools to the requirements of video/film. The class encourages critical thinking about how sounds conveys meaning and transforms the meaning of the image. Offered winter semester. Prerequisites: Admission to major and FVP 282.

## **FVP 490 - Internship (1 to 6 credits)**

A supervised work experience in an area of a student's potential career interest. Initiated by the student, who plans the work experience with the advisor, the faculty sponsor chosen to supervise the internship, and the supervisor at the worksite. Credit is awarded only when the student, the faculty sponsor, and the work supervisor have completed evaluations of the internship. Offered every semester. Prerequisite: Admission to the major.

## **FVP 495 - Issues in Film and Media Arts (3 credits)**

A culminating course in which students demonstrate their conceptual understanding and creative abilities as they relate to film and media arts. Each student completes a thesis presentation for peer critique in a public forum and prepares a portfolio of creative or scholarly work. Offered fall and winter semesters. Prerequisites: Admission to the film and video major and senior standing.

## **FVP 498 - Senior Thesis/Project (1 to 6 credits)**

The senior thesis/project demonstrates both depth and sophistication in the major. Offered fall and winter semesters. Prerequisite: Admission to the major.

## **FVP 499 - Independent Study (1 to 5 credits)**

An independent research project of an interdisciplinary nature based on knowledge acquired in other courses, the internship experience, or courses taken in the program. The research will be in the area of the student's interest. Prerequisite: Permission of instructor.

## **GEO 100 - Environmental Geology (3 credits)**

The relationship between people and their physical geological environment. Topics include geologic hazards, hydrology and human health, mineral and energy resources, and land use planning. Primarily for non-science majors; not for geology or earth science majors. Lectures and field trips. Fulfills Foundations - Physical Sciences. (3-0-0) Offered every semester.

## **GEO 103 - Oceans (3 credits)**

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Scientific investigation of the oceans and interactions among ocean, atmosphere, and lithosphere. Introduction to the chemistry of seawater, physics of water movement, coastal processes, geological oceanography, changes in the oceanic system through geologic time, and the role of oceans in earth's geologic evolution. Lectures and field trips. Fulfills Foundations - Physical Sciences. (3-0-0) Offered fall and spring/summer semesters.

### **GEO 105 - Living with the Great Lakes (3 credits)**

Introduction to earth science using the Great Lakes as a theme and Lake Michigan as a natural laboratory. Review of the lakes' geologic setting, origin, and history; climatology and lake levels; physical processes including erosion; water chemistry as a function of geology; human interactions with the lakes. Lectures and field trips. Fulfills Foundations - Physical Sciences. (3-0-0) Offered fall and spring/summer semesters.

### **GEO 111 - Exploring the Earth (4 credits)**

Introduction to the study of earth materials and processes, including minerals, rocks, mineral deposits, weathering, erosion, volcanism, and mountain building. Lectures, laboratories, and field trips. Fulfills Foundations - Physical Sciences with a lab. (3-0-2) Offered every semester.

### **GEO 112 - Earth History (4 credits)**

Introduction to major principles of geologic time, inferring the evolution of the solid and liquid Earth through the rock record using conceptual frameworks of sedimentation, stratigraphy, paleontology, and tectonics and developing spatial comprehension through 2-D and 3-D visualization of rock geometries. Lectures, laboratory, and required field trip. Prerequisite: GEO 111 (preferred) or GEO 100 or GEO 103 or GEO 105.

### **GEO 175 - Research Tools for Geosciences (1 credit)**

An introduction to the research tools and skills essential to a successful geoscientist. Emphasis on hands-on activities to develop information, numerical, and spatial literacy. Intended for first- or second-year students in geosciences-related disciplines. Projects and computer laboratories. Offered fall and winter semesters. Prerequisites: GEO 111 and GEO 112 (can be taken concurrently).

### **GEO 180 - Special Topics in the Geological Sciences (1 to 4 credits)**

Topics covered will reflect special interests of students and the instructor. Offered on sufficient demand. Prerequisites: Variable depending on topic.

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## **GEO 201 - The Geosphere for K-8 Pre-Service Teachers (4 credits)**

A study of those aspects of earth science that are related to the earth's lithosphere. Topics covered include geologic materials, geologic time, volcanoes, earthquakes, and plate tectonics. Hands-on investigation of the natural world is emphasized. Course is intended for integrated science majors. Does not count toward a geology major. (3-0-3) Offered fall and winter semesters.

## **GEO 202 - Hydrosphere for Teachers (4 credits)**

Introduction to how the hydrosphere works emphasizing a descriptive approach. Includes river, groundwater, glacial, ocean, and shoreline systems and human interaction with those systems. Course is intended for integrated science majors. Does not fulfill requirements for other majors or minors. Content reflects national and Michigan science standards. Lectures and laboratory (3-0-3). Offered fall and winter semesters.

## **GEO 203 - Weather and Climate for Pre-Service Teachers (3 credits)**

Introduction to weather and climate. Includes daily, seasonal, and long-term changes, weather patterns, mechanisms and evidence for climate change, and impact of human activities. Course is for integrated science and secondary science education majors and does not fulfill requirements for other majors or minors. Content reflects national and state standards. Lecture and laboratory (1-0-2). Offered fall and winter semesters.

## **GEO 214 - Solid Earth Materials and Systems (4 credits)**

Exploration of common rock-forming/economic minerals, igneous/metamorphic rocks comprising the solid earth in the context of evolving earth chemical and plate tectonic systems. Course develops skills and tools for observation, classification, interpretation of minerals and rocks. Lectures, laboratory, and required field trip. Offered fall and winter semesters. Prerequisites: GEO 111, CHM 115, GEO 112, and GEO 175 (GEO 112 and GEO 175 may be taken concurrently).

## **GEO 220 - Earth Surface Materials and Systems (4 credits)**

A comprehensive analysis of biogeochemical, pedological, hydrologic and geological systems that produce, maintain, and change the Earth's surface. Lecture, lab, and fieldwork. Offered fall and winter semesters. Prerequisites: GEO 111, CHM 115, GEO 112, and GEO 175 (GEO 112 and GEO 175 may be taken concurrently).

## **GEO 280 - Special Topics in the Geological Sciences (1 to 4 credits)**

Topics covered will reflect special interests of students and the instructor. Offered on sufficient demand. Prerequisites: Variable depending on topic.

## **GEO 311 - Structural Geology (4 credits)**

Fundamentals of deformation theory; description and origin of rock micro-, meso-, and macro-structures; and selected techniques of structural analysis. Lectures, laboratory, and three-day required field exercise. Offered fall semester. Prerequisites: GEO 214 and MTH 123.

## **GEO 312 - Sedimentation-Stratigraphy (4 credits)**

Principles and processes of sedimentation. Petrologic interpretation and basic laboratory techniques in the analysis of sediments. Study of layered rocks in terms of description of the local section, correlation of sections using petrology and paleontology, and reconstruction of paleoenvironments. Lectures, laboratory, and field trips (3-1-2). Offered winter semester. Prerequisite: GEO 112.

## **GEO 314 - Petrography: Mineral and Rock Analysis (2 credits)**

This course develops skills in mineral and rock description, identification and interpretation using polarizing light microscopy and X-ray diffraction as tools for mineral identification, textural descriptions and interpretation of igneous and metamorphic rocks, drawing on concepts of crystallography, crystal chemistry, and optical mineralogy. Laboratory and lecture/discussion. Offered winter semester. Prerequisite: GEO 214 or permission of instructor.

## **GEO 315 - Geological Field Methods (3 credits)**

This course provides students repeated practice in field mapping methods. Students will use common tools for field location, effectively making and recording field observations and creating and compiling accurate products (maps, cross sections, stratigraphic sections) and reports. Offered fall semester of even-numbered years. Prerequisites: GEO 112; GEO 214 or GEO 220; or permission of instructor.

## **GEO 320 - Geomorphology (4 credits)**

The patterns and genesis of landforms with emphasis on fluvial processes, climatic factors, and environmental implications. Independent study project or research paper required. Lectures,

laboratory, and field trips. (3-1-2) Offered winter semester of even-numbered years. Prerequisite: GEO 112.

## **GEO 360 - Earth Resources in Transition: Conventional to Sustainable (3 credits)**

Exploration of transition from conventional to sustainable earth resource issues, technologies, and science. Focuses on one, or a combination, of earth resources: water, energy, or earth materials (minerals and metals). Topics may include water resources, treatment and usage; oil and gas origins, exploration, recovery, and refining; and mining and metals recovery. Part of the Sustainability Issue. Offered fall and winter semesters. Prerequisite: Junior standing.

## **GEO 380 - Special Topics in the Geological Sciences (1 to 4 credits)**

Topics covered will reflect special interests of students and the instructor. A maximum of three GEO 380 credits may be applied toward either the geology or earth science major or minor. Offered on sufficient demand. Prerequisites: Variable depending on topic.

## **GEO 399 - Readings in Geology (1 to 4 credits)**

Independent study of geological literature. Topics to be prearranged with appropriate staff members. Discussion and seminar. Term paper required. Must be prearranged with supervising faculty. Offered all semesters.

## **GEO 411 - Global Tectonics (3 credits)**

Principles and processes of continental drift, sea floor spreading, and plate tectonics, including paleomagnetic, geodetic, sedimentologic, paleontologic, seismic, petrologic, and structural approaches to the study of moving lithospheric plates. The relationships between plate tectonics and the evolution of selected mountain systems. (3-0-0) Offered winter semester. Prerequisites: GEO 214 and GEO 220.

## **GEO 414 - Advanced Petrology (2 credits)**

This course explores solid earth dynamics as the context for understanding petrologic systems, using principles of geochemistry and thermodynamics to understand and solve petrologic problems, with a focus on magmatic, volcanic, and metamorphic systems. Lecture/discussion, laboratory, and field trip. Offered winter semester. Prerequisites: CHM 116 and GEO 314 (may be taken concurrently)

## **GEO 415 - Invertebrate Paleontology (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

A study of the invertebrate fossil record, including a systematic review of important phyla, types of fossilization, and specimen description. Lectures and laboratory. (2-1-2) Offered winter semester of even-numbered years. Prerequisite: GEO 112; GEO 312 strongly recommended.

## **GEO 420 - Glacial and Quaternary Geology (4 credits)**

A study of the physical characteristics of glaciers, their deposits, and their history. Lectures, laboratory, and field trips. (3-1-2) Offered winter semester of odd-numbered years. Prerequisite: GEO 112; GEO 312 strongly recommended.

## **GEO 425 - GIS Applications in Geology (3 credits)**

Applied geographic information systems (GIS) in geology. Students already familiar with GIS will learn advanced skills and apply GIS skills to specific geology problems in hydrology, field mapping, mineral and land resources, water quality, and other topics based on student interest and background. Offered winter semester of even-numbered years. Prerequisite: GPY 307 or NRM 395 or equivalent course.

## **GEO 430 - Oceanography (3 credits)**

A comprehensive analysis of oceanographic processes, systems, and the interaction of the ocean with the atmosphere and lithosphere in the modern world, as well as over geological time (paleoceanography). Emphasis on chemical, physical, and geological oceanography (3-0-0). Offered fall semester of even-numbered years. Prerequisite: GEO 112.

## **GEO 440 - Geohydrology (3 credits)**

A study of the geologic principles that govern the occurrence, movement, and quality of groundwater. Lectures, laboratory, and field trip. (3-0-0) Offered fall semester of odd-numbered years. Prerequisite: GEO 220.

## **GEO 445 - Introduction to Geochemistry (3 credits)**

Topics include crystal chemistry (nuclear/solid-state chemistry), water geochemistry (kinetics), and mineral stability (thermodynamics). Lectures and laboratory. (2-0-3) Offered fall semester of even-numbered years. Prerequisites: GEO 220; MTH 122 and CHM 116 (may be taken concurrently); MTH 201 strongly recommended.

## **GEO 470 - Geophysics (4 credits)**

Concepts of earth physics are introduced. The principles of physics are applied to explore the subsurface. Modern geophysical methods, including gravity, magnetism, seismics, magnetotellurics, radar, electrical, well-logging, and remote sensing are discussed in lecture and

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applied in laboratory experiments and field measurements. (3-0-3) Offered winter semester of even-numbered years. Prerequisite: MTH 201 or permission of instructor; PHY 220 or PHY 230 recommended.

## **GEO 480 - Special Topics in the Geological Sciences (1 to 4 credits)**

Topics covered will reflect special interests of students and the instructor. Offered on sufficient demand. Prerequisites: Variable depending on topic.

## **GEO 485 - Geology Research and Writing Seminar (1 credit)**

Students master research skills and written and oral communication of a research problem that they define and explore with a faculty mentor. Problems are based on original investigation or literature review. Students must secure a mentor and define a research question before enrolling in the course. Permit required. Seminar and discussion. (0-1-0) Offered fall semester. Prerequisites: GEO 214, GEO 220; geology, geology-chemistry, or earth science major or geology minor; and junior standing in the major; or permission of instructor.

## **GEO 486 - Geology Reading Seminar (1 credit)**

Students master critical evaluation of the geologic literature through reading, writing, dialogue and presentation. Thematic elements during the semester may include exploration of paradigms, regional geology, classic/discovery papers, or hot topics/big ideas. The course will feature outside speakers and development of professional skills. Offered winter semester. Prerequisites: GEO 214, GEO 220; geology, geology-chemistry, or earth science major or geology minor; and junior standing; or permission of instructor.

## **GEO 490 - Geology Internship (1 to 10 credits)**

Practical and applied geology carried out as independent study in specialized areas of geology or earth science. Work will be carried out under the supervision of a faculty advisor and/or a supervisor at the institution where the work is done. Course structure must be arranged with faculty supervisor before registration. (GEO 490 may be substituted on approval for the field camp requirement of the major.) Offered on request. Prerequisites: Major in geology or earth science, GEO 112, and permission of supervisor.

## **GEO 493 - Applied Field Geology (1 to 8 credits)**

This course offers students hands on geological field experience to fulfill the field camp requirement for the geology major. This can be satisfied by participation in an external field camp or a field course offered through GVSU. May be repeated for credit. Offered

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spring/summer semester. Prerequisites: Major in geology (geology B.S. or geology B.S. - environmental emphasis); registration permit required.

## **GEO 499 - Independent Study or Research in Geology (1 to 4 credits)**

Supervised experiments, discussions, and report writing. Topics and hours by arrangement. Recommended for geology and earth science majors. Offered each semester. Prerequisite: Permission of supervisor.

## **GEO 580 - Special Topics in the Geological Sciences (1 to 4 credits)**

Course content varies. Refer to schedule of classes to determine course description and prerequisites. Students may repeat this course under different topics.

## **GEO 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

## **GER 101 - Beginning German I: Language and Culture (4 credits)**

An introduction to German language and culture. Practice in speaking, listening, reading, writing at the novice level. Supplemented by multimedia and the Language Resource Center. Offered fall and winter semesters.

## **GER 102 - Beginning German II: Language and Culture (4 credits)**

Continuation of GER 101. Practice in speaking, listening, reading, and writing at novice and intermediate levels. German culture integrated throughout. Supplemented by multimedia and the Language Resource Center. Students may not receive credit for both and GER 102. Prerequisite: C (not C-) or better in GER 101, credit, or appropriate placement test score.

## **GER 180 - Special Topics in German (1 to 4 credits)**

Course content varies. Expectations of students approximate those in other 100-level courses. May be repeated for credit when content differs. Offered on sufficient demand.

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## **GER 201 - Intermediate German I: Language and Culture (4 credits)**

Continuation of GER 102. Practice in speaking, listening, reading, and writing at the intermediate level. German culture integrated throughout. Supplemented by multimedia and the Language Resource Center. Offered fall and winter semesters. Prerequisite: C (not C-) or better in GER 102, credit, or appropriate placement test score.

## **GER 202 - Intermediate German II: Language and Culture (4 credits)**

Continuation of GER 201. Continued practice in speaking, listening, reading, and writing at the intermediate level. Review of grammar and expansion of vocabulary. Focus on German culture through authentic texts and multimedia materials. Students who did not complete GER 201 at GVSU are strongly encouraged to take the free placement test in the Language Resource Center prior to registering. Counts toward the German minor (non-Education). Fulfills Cultures - Global Perspectives. Offered fall and winter semesters. Prerequisite: C (not C-) or better in GER 201, credit, or appropriate placement test score.

## **GER 280 - Special Topics in German (1 to 4 credits)**

Course content varies. Expectations of students approximate those in other 200-level courses. May be repeated for credit when content differs. No more than four credits may be applied to the major or minor. Offered on sufficient demand. Prerequisite: GER 201.

## **GER 301 - German Composition (3 credits)**

This course provides extensive practice in written composition. Students review the finer points of German grammar and write texts in different genres. Students spend much of their time in class writing, peer editing, and revising their own work. Extensive reading assignments and work on reading strategies will expand reading skills. Offered fall and winter semesters. Prerequisite: GER 202 with a C (not C-) or better, or by appropriate placement.

## **GER 302 - German Conversation (3 credits)**

This course provides extensive practice in speaking and listening to German. Students will learn to negotiate a variety of social situations and make effective presentations. Vocabulary building and development of communicative strategies are also incorporated. Listening skills will also be expanded through regular exercises featuring a variety of media. Offered fall and winter semesters. Prerequisite: GER 202 with a grade of C (not C-) or better, or appropriate placement.

## **GER 303 - Introduction to German Literature I (3 credits)**

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A brief survey of German literature from the Germanic period to the end of the 17th century. Offered winter semester in odd-numbered years. Prerequisites: GER 301 and/or GER 302. Corequisite: GER 301 or GER 302 should be taken concurrently if not already completed.

## **GER 304 - Introduction to German Literature II (3 credits)**

A survey of German literature from the 18th century to 1945. Offered winter semester in even-numbered years. Prerequisites: GER 301 and/or GER 302. Corequisite: GER 301 or GER 302 should be taken concurrently, if not already completed.

## **GER 311 - The Long 19th Century (3 credits)**

Examines Germany during the "long 19th century" -- from the French Revolution to the onset of World War I. Considers the "German Question" and the development of Germany from an agrarian-based economy and a fragmented conglomeration of small states into a technologically advanced, modern national state. Offered fall semester in odd-numbered years. Prerequisites: GER 301 and GER 302 (one can be taken concurrently).

## **GER 312 - Contemporary German Culture (3 credits)**

The study of aspects of the culture of German-speaking countries from the postwar period to the present day. Topics include the separate development and subsequent reunification of two German states, coming to terms with the past, changing family and gender roles, and the arts. Offered winter semester in even-numbered years. Prerequisites: GER 301 and/or GER 302. Corequisite: GER 301 or GER 302 should be taken concurrently, if not already completed.

## **GER 314 - Foreign Language Acquisition and Pedagogy (3 credits)**

Provides prospective French and German high school teachers with an introduction to foreign language acquisition theory and practical applications of language teaching pedagogy. Students will also observe language teachers in local high schools. Cross-listed with FRE 334. Offered winter semester. Prerequisite: Instructor permission.

## **GER 315 - German Cinema (3 credits)**

Examines major developments of German cinema, focusing primarily on postwar issues such as the separate West and East German states, reunified Germany, and coming to terms with the past. The course provides an overview of important movements, directors, and studios, and it introduces the tools of film analysis. Offered fall semester of even-numbered years. Prerequisites: GER 301 and/or GER 302. Corequisite: GER 301 or GER 302 should be taken concurrently, if not already completed.

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## **GER 321 - Improving German Pronunciation (3 credits)**

This course is designed to help students sound more native like in their pronunciation of German. We will begin with difficult sounds and progress to word stress and sentence intonation. Listening comprehension will also be improved through targeted exercises. Offered fall semester. Prerequisite: GER 202 with a C (not C-) or better.

## **GER 322 - Introduction to German Linguistics (3 credits)**

An introduction to general linguistics through modern German. Covers phonology, morphology, syntax, applied linguistics, dialectology, sociolinguistics, and language change. Offered winter semester in odd-numbered years. Prerequisites: GER 301 and/or GER 302. Corequisite: GER 301 or GER 302 should be taken concurrently, if not already completed.

## **GER 331 - Business German (3 credits)**

Focuses on the language and culture of business in German-speaking countries in their European and global contexts. Topics covered include foreign trade, the European Union, globalization, commerce, banking, trade fairs, geographic aspects of business, and the environment. Practice in writing business documents such as resumes, letters, and company profiles. Offered fall semester of odd-numbered years. Prerequisites: GER 301 and GER 302 (one may be taken concurrently).

## **GER 341 - Advanced German Grammar (3 credits)**

This course focuses primarily on reinforcing command of basic grammar and increasing understanding and mastery of advanced structures. Students will also improve their written and spoken fluency and expression through vocabulary learning, in-class discussions, and extensive reading and writing. Offered winter semester. Prerequisites: GER 301 and GER 302.

## **GER 342 - Advanced Speaking Strategies and Skills (3 credits)**

Development and assessment of speaking skills in German at the advanced level. Students engage in intensive practice of advanced-level functions such as narrating in various time frames, producing extended discourse, stating and defending opinions, as well as advanced communicative strategies. Offered winter semester of odd-numbered years. Prerequisites: GER 301 and GER 302.

## **GER 380 - Special Topics in German (1 to 9 credits)**

Course content varies. Expectations of students approximate those in other 300-level courses. May be repeated for credit when content differs. Offered on sufficient demand. Prerequisites:

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GER 301 and/or GER 302. Corequisite: GER 301 or GER 302 should be taken concurrently, if not already completed.

### **GER 385 - German Language (3 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only. Credit may vary.

### **GER 386 - German Culture and Society (3 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only. Credit may vary.

### **GER 399 - Independent Reading (1 to 4 credits)**

Hours, credits, topics, and time to be arranged with individual faculty members with approval of the department. Offered fall and winter semesters.

### **GER 401 - Modern German Literature (3 credits)**

Continuation of GER 304. Covers writings from the latter half of the 20th century to the present day and places them in their socio-cultural context. Poems, short stories, novellas, and longer novels will be supplemented by clips from movies. Offered fall semester of even-numbered years. Prerequisites: Two 300-level courses beyond GER 301 and GER 302 or permission of the instructor.

### **GER 402 - German Authors (3 credits)**

Reading and analysis of selected German authors within their cultural and historical context. The course is conducted in German. Class discussion and written assignments advance students' language and cultural competency in German. This course may be repeated for credit if the content is different. Prerequisites: Two 300-level courses beyond GER 301 and GER 302 or permission of the instructor.

### **GER 421 - History of the German Language (3 credits)**

Presents the historical development of the German language and its dialects within the socio-historical context. Topics covered include the position of German within the Indo-European and Germanic language families, periods in the development of German, with representative literary genres and works, and the development of dialects of German. Offered fall semester of odd-

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numbered years. Prerequisites: Two 300-level courses beyond GER 301 and GER 302 or permission of the instructor.

## **GER 480 - Special Topics in German (1 to 4 credits)**

Course content varies. Expectations of students approximate those in other 400-level courses. May be repeated for credit when content differs. Offered on sufficient demand.

## **GER 495 - Advanced Topics in German (3 credits)**

An in-depth exploration of German literature, linguistics, and/or civilization. The culminating course for the German major; content varies according to instructor. Offered winter semester. Prerequisites: Senior standing with a major in German.

## **GER 499 - Independent Study and Research (1 to 4 credits)**

Hours, credits, topics, and time to be arranged with individual faculty members with approval of the department. Offered fall and winter semesters.

## **GPY 100 - Physical and Environmental Geography (3 credits)**

Explores the spatial patterns of weather and climate, landforms, vegetation, soils, and water resources, and their changes, interactions, and impacts on human life and society. Designed to increase awareness of the physical environment, geographic patterns of human environmental interactions, and the interrelationships of natural phenomena. Offered every semester.

## **GPY 101 - Sustainability and Place (1 credit)**

The concept of sustainability holds that the social, economic, and environmental factors within human communities must be viewed in the context of their geographic locations. Strategies and decisions for sustainable development require understanding of the spatial patterns of human-environmental interactions, scale, and place. GPY 101 provides important place-based perspectives on sustainability. Offered every semester.

## **GPY 111 - Cities, Towns, and Villages (3 credits)**

An investigation into cities, towns, and villages as physical phenomena, focusing on the role built environments play in the future of human civilization. Methods and theories from sustainability science are used to examine the relationship between the built environment and topics such as public health, economic inequality, and environmental quality. Fulfills one the Foundations - Social and Behavioral Sciences requirements.

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## **GPY 112 - Global Climate Crisis (1 credit)**

An introductory geographic survey of climate change impacts and vulnerabilities around the world. Attention will be given to causes of the unfolding global climate crisis, climate change scenarios through the end of this century, and mitigation, adaptation, and resiliency-planning strategies.

## **GPY 200 - Computer Cartography (3 credits)**

This course provides an introduction to the fundamentals of computer cartography. We explore various techniques for the analysis, manipulation, and visualization of spatial data. Topics include earth models, datums, map projection, coordinate systems, map types, spatial and statistical data analysis, cartographic generalization/symbolization, data classification, cartographic design, and thematic mapping. Fulfills Foundations - Mathematical Sciences. Offered fall and winter semesters. Prerequisite: MTH 110.

## **GPY 209 - Introduction to Urban and Regional Planning (3 credits)**

An introductory course for people interested in planning, sustainability, public administration, and community development. The course critically explores the practice of urban and regional development, the various barriers to effective practice, and the theories, techniques, and tools used. Cross-listed with PNH 209.

## **GPY 220 - Cultural Geography (3 credits)**

The distinctive spatial patterns of culture around the world will be investigated. Examines the distributions of population, language, religion, race, agriculture, industry, urbanization, and development and how these distributions change over time. Fulfills one of the Foundations - Social and Behavioral Sciences. Offered every semester.

## **GPY 235 - Geography for a Changing World (3 credits)**

Examines a world that is undergoing political, economic, social, and environmental changes at many different spatial scales. Using geographic concepts, this course examines national, regional, and global interaction and development, and the diverse and complex processes that both hinder and help forge a global community. Fulfills one of the Foundations - Social and Behavioral Sciences. Fulfills Cultures - Global Perspectives. Offered every semester.

## **GPY 307 - Introduction to Geographic Information Systems (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Introduces basic concepts and techniques of Geographic Information Systems (GIS) and their essential role in geographic research. Provides hands-on experience in spatial analysis and the use of GIS software. Offered every semester.

### **GPY 310 - Land Use Planning (3 credits)**

This course deals with the fundamental concepts, principles, strategies, and tools of city and regional land use planning. The focus is on the real-world and sustainable land use planning process and implementation. Cross-listed with PNH 313. Offered every semester.

### **GPY 312 - Urban and Regional Environmental Planning (3 credits)**

An introduction to the urban planning strategies that help towns and cities preserve, restore, and even capitalize on their natural resources. This course investigates threats to clean air, water, and healthy ecosystems in our communities and examines solutions in the form of governmental policies, green designs, and urban inventiveness. Offered winter semester of odd-numbered years.

### **GPY 314 - Land Use and Planning Law (3 credits)**

This course surveys federal and Michigan statutes relevant to planning. It provides a background of federal and Michigan statutory land use controls. Awareness and understanding of these statutes is essential when executing existing land use and planning policies or when altering or proposing new land use and planning policies. Offered winter semester of even-numbered years.

### **GPY 316 - Introduction to Transportation Planning (3 credits)**

This course is an introduction to transportation planning. It explores the planning, land use, and policy implications of city and regional transportation as it relates to urbanism, energy use, public health and safety, sustainability, and economic development. Offered winter semester of odd-numbered years.

### **GPY 324 - Urbanization (3 credits)**

Examines the process of urbanization, its impact on various cultures, and its long-term sustainability. Considers the rapid urbanization in the developing countries and the dynamic growth of global urban systems, emphasizing the evolution of cities over time, space, and vastly different social, political, and cultural environments. Fulfills Cultures - Global Perspectives. Part of the Sustainability Issue. Cross-listed with PNH 324. Offered fall semester. Prerequisite: Junior standing.

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## **GPY 335 - Globalization and Development (3 credits)**

Development involves positive and negative social, political, economic, cultural, and environmental changes for people living in a region or a country. GPY 335 explores the complex geography of the processes associated with development and in particular global development. Part of the Globalization Issue. Offered winter semester. Prerequisite: Junior standing.

## **GPY 345 - The Geography and Land Use Management of Michigan and the Great Lakes Area (3 credits)**

A survey of Michigan's physical resources, such as climate, soils, hydrology, and flora as related to land use and land use management, exemplified in settlement patterns, demography, economic development, infrastructures, industrialization, urbanization, and jurisdictional structures. Offered fall semester.

## **GPY 350 - Geopolitics, Energy and Environment of Russia and Central Eurasia (3 credits)**

This course examines the unique role of Russia and Central Eurasia in the world's energy, water, and food security and many global geopolitical processes of the 21st century. With its complex ethno-cultural composition and vast deposits of oil, gas, coal, and uranium, this region is strategically important for the U.S. Fulfills Cultures - Global Perspectives. Part of the Globalization Issue. Offered fall semester. Prerequisite: Junior standing.

## **GPY 351 - Geography of Africa (3 credits)**

Africa is one of the most fascinating world regions yet paradoxically one of the least known. The focus of this course is on the rich cultural (language, religion, agriculture, cities, health, economy) and physical (climate, vegetation, landforms) geographies of this vast region and how they have changed over time. Fulfills Cultures - Global Perspectives. Offered winter semester of odd-numbered years.

## **GPY 352 - Geography of Latin America (3 credits)**

The growth and development of Latin America has a significant impact on most activities in North America. Examines those effects and studies the cultural and physical development of Latin America. Fulfills Cultures - Global Perspectives. Cross-listed with LAS 352. Offered winter semester.

## **GPY 353 - Geography of the United States and Canada (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

A comparative study of the cultural and physical geographies of primarily the United States' population, cultural diversity, migration, resources, and economy, with those of Canada. Fulfills Cultures - U.S. Diversity. Offered winter semester.

### **GPY 354 - Geography and Globalization of Asia (3 credits)**

Introduction and survey of the physical and cultural geographies of Asia, their influence on the globalization of Asian economies, and the migration of Asian peoples. Part of the Globalization Issue. Offered fall semester. Prerequisite: Junior standing.

### **GPY 356 - The Geography, Culture and Land Use Management of Europe (3 credits)**

A survey of Europe's distribution and regional interactions of physical and human resources such as climate, soils, hydrology, and coastal geomorphology, along with cultural elements such as settlement patterns, language, ideology, economic development, infrastructure evolution, industrialization, urbanization, human capital, and jurisdictional developments and the associated land use management approaches. Fulfills Cultures - Global Perspectives. Offered winter semester.

### **GPY 361 - People, Environment, and Development in the Amazon (3 credits)**

This course explores natural resource use and human settlement over time in the Amazon Basin, from early tribal societies to the present. Topics include extractive economies, trade in animal and forest products, conservation and development initiatives, and the changing demands for resources in urban centers of Amazonia today. Part of the Sustainability Issue. Offered fall semester. Cross-listed with LAS 361. Prerequisite: Junior standing.

### **GPY 362 - Farmers, Crops, and Our Challenging Agricultural World (3 credits)**

A geography of the world's agricultural practices and development at different scales, from traditional methods to industrial agriculture with an emphasis on farming societies. Topics include indigenous agriculture and crop domestication, agroforestry and plantation systems, land use and rural societies, export crops, aquaculture and livestock, and drug cultivation. Fulfills Cultures - Global Perspectives. Part of the Globalization Issue. Offered fall semester. Prerequisite: Junior standing.

### **GPY 363 - World Forests and Their Use (3 credits)**

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Geography of the world's forests and their use, from traditional to industrial practices over space and time. Topics include the local, national, and international exploitation of forests, forest societies, foods, fuel and medicines, timber, protected areas, and the challenge of sustainable forest use in different regions and environments. Part of the Sustainability Issue. Offered fall semester. Prerequisite: Junior standing.

## **GPY 365 - GIS for Economic and Business Decision-Making (3 credits)**

Explores the use of Geographic Information Systems (GIS) technology in economic and business decision-making, including market area analysis, geodemographic segmentation, site selection, routing, customer profiling, sales territory management, and location strategies. Emphasis on hands-on activities. Problem-based learning approach. Part of the Information, Innovation, or Technology Issue. Cross-listed with MKT 365. Offered every semester. Prerequisite: Junior standing.

## **GPY 370 - Introduction to Remote Sensing (3 credits)**

This course provides an introduction to the fundamentals of remote sensing and digital image processing technology. Topics include the remote sensing process, physical principles of remote sensing, major remote sensing systems, remote sensing data formats, image processing, and remote sensing applications in geography and other social sciences. Offered every semester.

## **GPY 380 - Special Topics in Geography (3 credits)**

Provides an interdisciplinary opportunity for students to pursue advanced study in special topics related to geography. Topics vary each term. May be taken more than once when the topic is different. Offered on sufficient demand.

## **GPY 381 - Study Abroad I (3 to 9 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only. Credit may vary.

## **GPY 385 - GIS in Urban and Regional Analysis (3 credits)**

Focus on applications of Geographic Information Systems (GIS) techniques in urban and regional analysis. Using a hands-on approach, students will explore how to use GIS techniques and large data sets to analyze economic, demographic and social change in the knowledge-based economy. Part of the Information, Innovation, or Technology Issue. Cross-listed with ECO 385. Offered every semester. Prerequisite: Junior standing.

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## **GPY 399 - Independent Readings (1 to 3 credits)**

Independent supervised readings in selected topics. Offered every semester. Graded credit/no-credit. Prerequisite: Permission of program coordinator.

## **GPY 407 - Advanced GIS (4 credits)**

An advanced level GIS course emphasizing decision analysis through applications of spatial statistics and geospatial modeling. Topics include multivariate statistics, error assessment and propagation, fuzzy logic, uncertainty, and decision risk in GIS modeling, location analysis, and terrain modeling using industry standard GIS software. Offered winter semester. Prerequisite: GPY 307.

## **GPY 410 - Landscape Analysis and Green Infrastructure (3 credits)**

This course examines applications of landscape ecology concepts in land-use, urban, and regional planning. Attention is given to system analysis, integration of physical, biological, and cultural elements in landscape systems. Applications of sustainable landscape design and resiliency planning through integration of green and blue infrastructure are examined through case studies. Part of the Sustainability Issue. Offered fall semester. Prerequisite: Junior standing.

## **GPY 412 - Global Climate and Environmental Change (3 credits)**

This course introduces students to natural and human causes of climate change and geographic patterns of climate change impacts, human vulnerabilities, and adaptation and mitigation strategies. Global climate modeling scenarios are examined in the context of international and national climate change policies, national security, climate preparedness, and resiliency planning. Part of the Sustainability Issue. Cross-listed with ENS 412. Offered winter semester. Prerequisites: Junior standing, and either GPY 100 or ENS 201 or at least one course from Foundations - Natural Sciences.

## **GPY 470 - Digital Image Processing (3 credits)**

Provides theory and applications of digital image processing techniques. Focuses on the methodologies of thematic extraction of environmental information using computer-based image processing systems and interface between GIS and remote sensing. Topics include image enhancement, multispectral classification algorithms, and model development. Offered winter semester of odd-numbered years. Prerequisite: GPY 370.

## **GPY 490 - Internship (1 to 9 credits)**

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Supervised work experience in an area related to geography. Offered every semester. Graded credit/no-credit. Prerequisite: Permission of program coordinator.

### **GPY 495 - Senior Thesis (3 credits)**

Working under the guidance of the course instructor, students will conduct original research in a topical area of their choice within the disciplines of geography and planning or their subdisciplines, write a senior thesis, and present their findings to a university audience. Offered winter semester. Prerequisite: Junior standing.

### **GPY 496 - Field Research Project (3 credits)**

Practical and applied geography carried out as a field research project. Emphasizes methods and techniques useful for professional geographers with application of interdisciplinary knowledge in an intercultural environment. Research skills built through field research in topics of special interest. Substitutes for Capstone GPY 495 - Senior Thesis. Offered spring/summer semester. Prerequisites: Junior standing and permission of instructor.

### **GPY 499 - Independent Research (1 to 3 credits)**

Research conducted individually with faculty supervision. Attention given to written and oral presentation of research findings. Offered every semester. Prerequisite: Permission of program coordinator. Graded credit/no-credit.

### **GRK 101 - Elementary Ancient Greek I (4 credits)**

An introduction to ancient Greek vocabulary, grammar, and syntax with an emphasis on reading works from the Homeric and classical periods. Offered fall semester.

### **GRK 102 - Elementary Ancient Greek II (4 credits)**

Continuation of GRK 101. Language work will be supplemented with discussions of ancient Greek history and culture. Offered winter semester. Prerequisite: GRK 101.

### **GRK 201 - Intermediate Ancient Greek I (4 credits)**

Continuation of GRK 102. Reading of an entire dialogue by Plato, such as the Apology or Crito. Offered fall semester. Prerequisite: GRK 102.

### **GRK 202 - Intermediate Ancient Greek II (3 credits)**

Readings from Homer's Iliad or Odyssey, supplemented by study of early Greek history and culture. Fulfills Cultures - Global Perspectives. Offered winter semester. Prerequisite: GRK 201.

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## **GRK 285 - Study Abroad: Intermediate Ancient Greek (1 to 6 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only. Credit may vary.

## **GRK 350 - Greek Prose (3 credits)**

Reading of texts representative of such genres as the philosophical dialogue (Plato), forensic and political oratory (Demosthenes, Lysias), historiography (Thucydides, Xenophon), or pastoral/homiletic/apocalyptic (the Pauline epistles, Revelation). Emphasis on the forms of prose that helped shape the Western tradition. Offered fall semester of even-numbered years. May be repeated for credit when topics vary. Prerequisite: GRK 202.

## **GRK 351 - Greek Poetry (3 credits)**

Study of ancient Greek poetry such as the Homeric Hymn to Demeter, Hesiod's Theogony, Greek dramatic poets, or the lyric poetry of Archilochus, Sappho, and Simonides. Special attention to the meter, meaning, and context of poetry designed for public performance. May be repeated for credit when topics vary. Offered fall semester in odd-numbered years. Prerequisite: GRK 202.

## **GRK 385 - Study Abroad: Advanced Ancient Greek (1 to 6 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only. Credit may vary.

## **GRK 399 - Independent Reading (1 to 3 credits)**

Supervised independent reading in Greek. Topic, credit, and time must be arranged with individual faculty member before registration. Offered fall and winter semesters.

## **GRK 400 - Advanced Greek Prose (3 credits)**

Reading of texts representative of such genres as the philosophical dialogue (Plato), forensic and political oratory (Demosthenes, Lysias), historiography (Thucydides, Xenophon), or pastoral/homiletic/apocalyptic (the Pauline epistles, Revelation). Emphasis on the forms of prose that helped shape the western tradition. Special attention to electronic resources in classics and to

textual criticism. May be repeated for credit when topics vary. Offered winter semester in odd-numbered years. Prerequisite: One 300-level Greek course.

## **GRK 401 - Advanced Greek Poetry (3 credits)**

Study of ancient Greek poetry such as the Homeric Hymn to Demeter, Hesiod's Theogony, Greek dramatic poets, or the lyric poetry of Archilochus, Sappho, and Simonides. Special attention to the meter, meaning, and context of poetry designed for public performance. Special attention to electronic resources in classics and textual criticism. May be repeated for credit when topics vary. Offered winter semester in even-numbered years. Prerequisite: One 300-level Greek course.

## **GSI 201 - (Dis)Order and (In)Justice: An Introduction to Global Studies (3 credits)**

An interdisciplinary introduction to global studies using themes of order/disorder and justice/injustice to explore problems and issues affecting people globally. Focuses on interconnectedness of global concerns and links between the local and global, primarily from a social science perspective. Possible topics: migration, human trafficking, food security, anti-globalization movements, and infectious disease. Fulfills one of the Foundations - Social and Behavioral Sciences. Fulfills Cultures - Global Perspectives. Offered fall and winter semesters.

## **GSI 202 - History of Global Change and Social Transformation (3 credits)**

A historical inquiry into long-term processes of global change and social transformation. Focus is on increasing interconnectedness of human communities from the deep past to the present, including spread of cultural, market and ecological exchanges, transport and communication technologies, developing ideas of social justice, and their connections to contemporary times. Fulfills Foundations - Historical Perspectives. Fulfills Cultures - Global Perspectives. Cross-listed with HST 202. Offered fall and winter semesters.

## **GSI 215 - Global Migration (3 credits)**

An interdisciplinary analysis of the global movement of immigrants and refugees and its relationship with the economy, politics, development, and culture. Students learn about migration as a key feature of globalization. Possible topics: migration history, immigration policies, border control, integration, citizenship, migrant transnationalism, diaspora, remittances, child migrants, and migration theories. Fulfills Cultures - Global Perspectives. Fulfills one of the Foundations - Social and Behavioral Sciences. Cross-listed with PLS 215. Offered fall semester.

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## **GSI 290 - Changemakers! Introduction to Social Impact (3 credits)**

This course gives a broad overview of global and local, formal and informal initiatives that are meant to tackle urgent issues such as poverty alleviation, gender equality, education, access to water, etc. It teaches basic skills to design interventions, measures the success/failure of initiatives, and develop advocacy for social change. Fulfills one of the Foundations - Social and Behavioral Sciences.

## **GSI 399 - Independent Reading (1 to 3 credits)**

Hours, credit, topics, and time to be arranged with individual faculty members with approval of the department.

## **GSI 490 - Global Studies Internship (1 to 3 credits)**

The global studies and social impact (GSI) internship places GSI majors with an organization that addresses global issues in fields such as immigration, the environment, public health, business, or media. Enables students to apply GSI theoretical knowledge to professional contexts. Up to three credits can be applied to the major. Offered every semester. Prerequisites: GSI major and permission of the GSI coordinator/Internship coordinator.

## **GSI 491 - Practicum: Immigrants and Refugees in the Community (3 credits)**

Students engage in experiential learning by working with immigrant and refugee community organizations. The practicum emphasizes a hands-on and grassroots approach to the complex dynamics and relationships between immigrants and the local community. Areas of experiential learning include: immigrant rights' advocacy, refugee resettlement, integration, economic empowerment, and cultural heritage. Offered every semester. Prerequisite: GSI 215 or PLS 215.

## **GSI 495 - Global Studies and Social Impact (3 credits)**

A culminating course for global studies and social impact majors and a venue for producing an original interdisciplinary research project. Taught in a seminar format, students will select, share, and discuss readings relevant to their research topics, and finish with oral and written versions of their research. Offered fall semester. Prerequisites: GSI 201, GSI 202, and senior standing in the global studies and social impact major.

## **HIM 301 - Introduction to Health Information Management (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

This course provides an overview of the health information management (HIM) profession. Topics include analysis, licensing, certification, and accreditation documentation standards. Explores topics of patient confidentiality, form design, numbering systems, health information storage and retention systems, and computerization of health records. Offered fall semester. Includes two hours laboratory time. Prerequisite: Admission to the health information management program.

## **HIM 302 - Health Care Law (3 credits)**

This course introduces the legal issues facing the health care industry. Topics include confidentiality, release of health information, subpoenas, liability issues, patient rights, fraud and abuse, and ethics of health information. Students will study federal and Michigan-specific laws and regulations related to protected health information through case studies. Offered spring/summer semester. Prerequisite: HIM 301.

## **HIM 304 - Advanced Med Terms of Disease (3 credits)**

This course will build upon the student's knowledge of medical terminology as it relates to disease processes. Students will study the terminology related to etiology, manifestations, comorbidities and complications, and treatment options that occur with disease processes. Offered fall semester. Prerequisites: AHS 100 and BMS 251.

## **HIM 310 - Functional and Administrative Practices in Health Information Management (3 credits)**

This course introduces the functional and administrative HIM practices including capital/operational budgeting, procurement, and regulatory issues of the HIM department. Students will analyze budgetary reports common to HIM and health care compliance needs. Students evaluate human resource positional analysis, recruitment, supervision/retention, and project management duties related to the HIM department. Offered fall semester. Prerequisite: HIM 301.

## **HIM 311 - CPT/HCPCS Coding (3 credits)**

This course introduces all aspects of CPT Coding and HCPCS Level II Coding. Coursework will focus on introductory outpatient coding with emphasis on Evaluation and Management (E and M) leveling and surgical procedures by interpreting chart documentation. Ethical coding principles will be presented along with 3M Encoder. Includes two hours laboratory time. Offered fall semester. Prerequisites: AHS 100, BMS 251, HIM 301, and HIM 304.

## **HIM 320 - Applications of Organizational Planning for Health Information Management (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Introduction to techniques involved in the departmental strategic and project planning processes in HIM, along with supply chain management specific to health care facilities. In addition, the techniques of benchmarking and evidence-based practice for quality improvement will be discussed. Offered fall semester. Prerequisite: HIM 301.

## **HIM 345 - Orientation to Health Information Management Practicum (1 credit)**

This course will provide students the expectations, responsibilities, and requirements of the field practicum. Students will create a cover letter and resume to obtain a field practicum within the health information management setting. Offered fall semester. Prerequisites: Senior standing and admission to health information management program.

## **HIM 361 - Disease Classification System I (3 credits)**

This course introduces students to the International Classification of Diseases 10 Edition, Clinical Modification (ICD-10-CM), and Procedural Classification System (ICD-10-PCS). Emphasis on understanding and applying the coding rules and guidelines for the specific body systems will be demonstrated through the hands-on practice of both inpatient and outpatient coding scenarios. Offered fall semester. Prerequisites: HIM 301 and HIM 304.

## **HIM 362 - Disease Classification System II (3 credits)**

This course is a continuation of HIM 361 - Disease Classification System I. The emphasis of understanding and applying the coding rules and guidelines for the specific chapters will continue. Students also gain knowledge of how properly code assignment impacts reimbursement and Medicare Severity Diagnostic Related Groups (MS-DRG) assignment. Offered winter semester. Prerequisite: HIM 361.

## **HIM 364 - Financial Reimbursement (3 credits)**

This course will provide an overview of how health care services are reimbursed through U.S. public and private third-party payers compared to reimbursement in international health care systems. Students will complete both paper and electronic claim forms showing how to maximize reimbursement through payer systems. Offered winter semester. Prerequisites: AHS 100 and HIM 301.

## **HIM 365 - Quality Management in Health Care (3 credits)**

This course will introduce students to the different techniques used to define, implement, and monitor total quality management (TQM) in health care. Students will learn the procedures that comprise the utilization review process. This course will provide students with the opportunity to

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collect and analyze data through a team-based approach. Offered winter semester. Prerequisites: AHS 100 and HIM 301.

## **HIM 366 - Health Information Data Systems and Statistics (3 credits)**

This course will provide students with an overview of health information management practices, secondary data sources, registries, and indices. Students will also receive an overview of health information exchange, medical informatics, database design, health information technologies, electronic health record, and health information statistics. Offered fall semester. Prerequisites: AHS 100 and HIM 301.

## **HIM 402 - Health Information Management Review (1 credit)**

A comprehensive review of health information management concepts related to information technology, data security, quality management, revenue cycle and reimbursement, coding, health law, strategic planning, and project and operations management. This course will provide test-taking methods and preparation for the national registered health information administrator certification exam. Offered winter semester. Prerequisites: Senior standing and satisfactory completion of the HIM core courses.

## **HIM 470 - Field Practicum in Health Information Management (11 credits)**

The HIM practicum is a supervised professional practice experience within a health care setting. Students will engage in the management and supervision of the Health Information Management department by completing various projects. An appropriate faculty member and the placement site supervisor will evaluate the student's performance (Capstone). Offered winter semester. Prerequisites: Senior standing and satisfactory completion of all prior HIM core courses.

## **HNR 151 - First Year Interdisciplinary Sequence 1 (3 credits)**

The first course in an integrated two-semester sequence. Students explore a significant topic while making connections between ideas, disciplines, worldviews, and ways of engaging. The sequence as a whole emphasizes inquiry, integrity, inclusion, interdisciplinarity, innovation, and internationalization. Offered fall semester. Prerequisite: Enrollment in Meijer Honors College. Corequisite: HNR 152.

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## **HNR 152 - First Year Interdisciplinary Sequence 2 (3 credits)**

The second course in an integrated two-semester sequence. Students explore a significant topic while making connections between ideas, disciplines, worldviews, and ways of engaging. The sequence as a whole emphasizes inquiry, integrity, inclusion, interdisciplinarity, innovation, and internationalization. Offered fall semester. Prerequisite: Enrollment in Meijer Honors College. Corequisite: HNR 151.

## **HNR 153 - First Year Interdisciplinary Sequence 3 (3 credits)**

The third course in an integrated two-semester sequence. Students explore a significant topic while making connections between ideas, disciplines, worldviews, and ways of engaging. The sequence as a whole emphasizes inquiry, integrity, inclusion, interdisciplinarity, innovation, and internationalization. Offered winter semester. Prerequisites: HNR 151 and HNR 152. Corequisite: HNR 154.

## **HNR 154 - First-Year Interdisciplinary Sequence 4 (3 credits)**

The fourth course in an integrated two-semester sequence. Students explore a significant topic while making connections between ideas, disciplines, worldviews, and ways of engaging. The sequence as a whole emphasizes inquiry, integrity, inclusion, interdisciplinarity, innovation, and internationalization. Offered winter semester. Prerequisites: HNR 151 and HNR 152. Corequisite: HNR 153.

## **HNR 200 - Campus/Community Engagement (3 credits)**

A second-year honors course. Students actively engage their surrounding communities in ways that promote listening to and understanding cultural differences, working with shared communal concerns, and promoting the importance of mutual understanding. Periodic discussions with coordinator of activity are included. Offered every semester. Prerequisite: Admission to Meijer Honors College.

## **HNR 201 - Live. Learn. Lead. (3 credits)**

Structured around a series of campus/community lectures, exhibits, or other events, this course exposes students to learning outside the classroom and provides the opportunity to think deeply and critically about those experiences, and to derive meaning from them. Students will learn to engage in and participate thoughtfully in public dialogues. Offered fall semester. Prerequisite: Acceptance into the honors program.

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## **HNR 209 - The Middle East Beyond the Headlines 1 (3 credits)**

Course examines the historical and literary context from the preIslamic period through the Ottoman era. It begins with a background of history, religions, and literature before the birth of Muhammad, then focuses on the impact of Islam in Arabia and, later, on the Middle East and beyond. Fulfills Foundations - Writing. Fulfills Foundations - Historical Perspectives. Offered fall semester. Corequisites: HNR 209 and HNR 210.

## **HNR 210 - The Middle East Beyond the Headlines 2 (3 credits)**

Course examines the historical and literary context from the pre-Islamic period through the Ottoman era. It begins with a background of history, religions, and literature before the birth of Muhammad, then focuses on the impact of Islam in Arabia and, later, on the Middle East and beyond. Fulfills Foundations - Philosophy and Literature. Offered fall semester. Corequisites: HNR 209 and HNR 210.

## **HNR 211 - The Worlds of Greece and Rome 1 (3 credits)**

Course deals with the history, literature, intellectual history, philosophy, and arts of the Classical period with emphasis on Greeks and Romans. Fulfills Foundations - Writing. Fulfills Foundations - Historical Perspectives. Offered fall semester. Corequisites: HNR 211 and HNR 212.

## **HNR 212 - The Worlds of Greece and Rome 2 (3 credits)**

Course deals with the history, literature, intellectual history, philosophy, and arts of the Classical period with emphasis on Greeks and Romans. Fulfills Foundations - Philosophy and Literature. Offered fall semester. Corequisites: HNR 211 and HNR 212.

## **HNR 213 - American Civilization 1 (3 credits)**

Course provides a survey of American history, literature, and intellectual progress from European Colonization through Reconstruction. Fulfills Foundations - Writing. Fulfills Foundations - Historical Perspectives. Offered fall semester. Corequisite: HNR 214.

## **HNR 214 - American Civilization 2 (3 credits)**

Course provides a survey of American history, literature, and intellectual progress from European Colonization through Reconstruction. Fulfills Foundations - Philosophy and Literature. Offered fall semester. Corequisite: HNR 213.

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## **HNR 215 - Europe: The Center and the Margins 1 (3 credits)**

Course deals with European history, philosophy, and culture from the Middle Ages through the early modern period. The period emphasized varies with faculty expertise. Fulfills Foundations - Writing. Fulfills Foundations - Historical Perspectives. Offered fall semester. Corequisite: HNR 216.

## **HNR 216 - Europe: The Center and the Margins 2 (3 credits)**

Course deals with European history, philosophy, and culture from the Middle Ages through the early modern period. The period emphasized varies with faculty expertise. Fulfills Foundations - Philosophy and Literature. Offered fall semester. Corequisite: HNR 215.

## **HNR 219 - The Middle East Beyond the Headlines 3 (3 credits)**

This course, which is a continuation of HNR 209/210, covers the history, literature, philosophy, and art of the Islamic Middle East from the decline of the Ottoman period to the present. This time period is one of growth and uncertainty, with such major historical events as the fall of the Ottoman Empire, World Wars I and II, and the colonization of the Middle East. The course looks at how these historical events left their mark in philosophy, literature (including poetry and the birth of the Arabic novel and post-Colonial theory/criticism), and art. Fulfills Foundations - Arts. Offered winter semester. Prerequisites: HNR 209 and HNR 210. Must be taken concurrently with HNR 220.

## **HNR 220 - The Middle East Beyond the Headlines 4 (3 credits)**

This course, which is a continuation of HNR 209 and HNR 210, covers the history, literature, philosophy, and art of the Islamic Middle East from the decline of the Ottoman period to the present. This time period is one of growth and uncertainty, with such major historical events as the fall of the Ottoman Empire, World Wars I and II, and the colonization of the Middle East. The course looks at how these historical events left their mark in philosophy, literature (including poetry and the birth of the Arabic novel and postcolonial theory/criticism), and art. Fulfills Cultures - Global Perspectives. Fulfills one of the Issues requirements. Offered winter semester. Prerequisites: HNR 209 and HNR 210. Corequisite: HNR 219.

## **HNR 221 - The Worlds of Greece and Rome 3 (3 credits)**

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Continues the study of history, philosophy, and culture of the Classical period begun in HNR 211. Fulfills Foundations - Arts. Offered winter semester. Prerequisite: HNR 211. Corequisite: HNR 222.

### **HNR 222 - The Worlds of Greece and Rome 4 (3 credits)**

Continues the study of history, philosophy, and culture of the Classical period begun in HNR 212. Fulfills Cultures - Global Perspectives. Fulfills one of the Issues requirements. Offered winter semester. Prerequisite: HNR 212. Corequisite: HNR 221.

### **HNR 223 - American Civilization 3 (3 credits)**

Continues the study of American Civilization begun in HNR 213. Emphasis is on philosophy and arts in American culture. Fulfills Foundations - Arts. Offered winter semester. Prerequisite: HNR 213.

### **HNR 224 - American Civilization 4 (3 credits)**

Course continues the study of American Civilization begun in HNR 214. Emphasis is on philosophy and arts in American culture. Fulfills Cultures - U.S. Diversity. Fulfills one of the Issues requirements. Offered winter semester. Prerequisite: HNR 214.

### **HNR 225 - Europe: The Center and the Margins 3 (3 credits)**

Course continues the study of European history, philosophy, and culture begun in HNR 215. Fulfills Foundations - Arts. Offered winter semester. Prerequisite: HNR 215.

### **HNR 226 - Europe: The Center and the Margins 4 (3 credits)**

Course continues the study of European history, philosophy, and culture begun in HNR 216. Fulfills Cultures - Global Perspectives. Fulfills one of the Issues requirements. Offered winter semester. Prerequisite: HNR 216.

### **HNR 231 - The Holocaust (3 credits)**

Investigates the psychological, social, political, historical, cultural, and economic sources of human aggression and cooperation by focusing on the Nazi destruction of European Jews in World War II. Fulfills Foundations - Social and Behavioral Sciences. LD. Cross-listed with PLS 240. Offered fall and winter semesters.

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## **HNR 236 - Modern Art and Modernity (3 credits)**

HNR 236 addresses significant developments in art, literature, music, film, and thought between 1860 and 1960 and will be discussed within a social, historical, and cultural framework. This is a standalone arts course for honors students who did not fulfill the arts requirement in a sequence. Fulfills Foundations - Arts. Offered winter semester. Prerequisite: Restricted to honors students.

## **HNR 241 - The Earth, A Global View (4 credits)**

Course has two objectives: (1) understanding earth as one global, holistic, delicately balanced dynamic system; and (2) understanding the critical interdependence between humans and earth systems. Required field trip. Fulfills Foundations - Physical Sciences with a lab. See Meijer Honors College. (3-0-3) Offered fall and winter semesters.

## **HNR 242 - Plants and People (3 credits)**

Plants are the dominant organisms on the landscape and are often taken for granted. The ecology, structure, function, genetics, and variety of plants are studied in order to develop an appreciation of the dependence of humans upon them for food, oxygen, shelter, medicines, and pleasure. Fulfills Foundations - Life Sciences without a lab. Offered fall and winter semesters.

## **HNR 243 - The Human Body in Motion I (4 credits)**

The first semester in the two-semester sequence fulfilling the general education requirements in science for honors students. The structure and function of human movement as well as the nature of science will be examined from biological, chemical, and physical perspectives in order to develop an appreciation for the human body. Fulfills Foundations - Physical Sciences with a lab. Offered fall semester.

## **HNR 244 - The Human Body in Motion II (3 credits)**

The second semester in the two-semester sequence fulfilling the general education requirements in Natural Science for honors students. This course is centered around projects designed to apply the skills, knowledge, and understanding acquired in the preceding course. Fulfills Foundations - Life Sciences. Offered winter semester. Prerequisite: HNR 243.

## **HNR 245 - Microbes and Society (3 credits)**

This course addresses the fundamental nature of microorganisms, microbial diversity, microorganisms as agents of disease, the role of microorganisms in the biosphere, and the utilization of microorganisms by humankind. Since microbes can cause tremendous suffering or provide countless benefits, microbiology greatly affects our everyday lives. Fulfills Foundations - Life Sciences. Offered fall semester.

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## **HNR 246 - Chemistry in Perspective (4 credits)**

A one-semester course partially fulfilling the general education requirements in science for non-science majors. The subject matter is the interplay between chemistry and important societal issues. Fulfills Foundations - Physical Sciences with a lab. Offered fall and winter semesters.

## **HNR 247 - Molecules of Life in Perspective (3 credits)**

An introduction to basic biological concepts in the context of human health and disease. These concepts will provide the foundation for understanding the interplay between biotechnology and emerging strategies in health care. The impact of biotechnology on the social, economic, cultural, political, and ethical aspects of society will be explored. Fulfills Foundations - Life Sciences without a lab. Offered winter semester.

## **HNR 250 - Project-Based Learning (3 credits)**

Content varies by section but always involves interdisciplinary learning and problem-solving skills. Teaches students through the pedagogy of project-based learning. Students learn how to delineate a problem or issue and its context, articulate any past efforts to address it, and produce a presentation or product that addresses the issue. Offered fall and winter semesters. Prerequisite: Enrollment to Meijer Honors College.

## **HNR 251 - Project-Based Learning/QL (3 credits)**

Content varies by section but always involves interdisciplinary learning and quantitative problem-solving skills. Teaches students through the pedagogy of project-based learning. Students learn how to delineate a problem or issue and its context, articulate any past efforts to address it, and produce a presentation/product that addresses the issue. Offered fall and winter semesters. Prerequisite: Enrollment to Meijer Honors College.

## **HNR 254 - Africa Seen Through African Eyes 1 (3 credits)**

This course surveys the history of African civilizations to the 19th century. It will concentrate on the political, economic, cultural, and social development of specific African societies before European conquest of the continent. The course will be more thematic than chronological. This course must be taken concurrently with HNR 255. Fulfills Foundations - Writing. Fulfills Foundations - Historical Perspectives. Offered fall semester. Prerequisite: Enrollment to Meijer Honors College. Corequisite: HNR 255.

## **HNR 255 - Africa Seen Through African Eyes 2 (3 credits)**

This course surveys African civilizations through the medium of African literary texts and explores the relationship between literature and other arts, such as film and music. Analyzes the

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ways in which literature both reflects and interprets African societies from Pharaonic times through the 19th century. Must be taken concurrently with HNR 254. Fulfills Foundations - Philosophy and Literature. Offered fall semester. Prerequisite: Enrollment in Meijer Honors College. Corequisite: HNR 254.

## **HNR 256 - East Asia and the World: Ideas, Inventions, and Power 1 (3 credits)**

This course is the first part of a four-course foundational interdisciplinary sequence on the geography, history, and culture of east and central Asia. Surveys the history of China from c. 10,000 BCE to the end of the Tang Dynasty in 907 CE. Fulfills Foundations - Writing. Fulfills Foundations - Historical Perspectives. Offered fall semester. Prerequisite: Restricted to first-year students in Meijer Honors College. Corequisite: HNR 257.

## **HNR 257 - East Asia and the World: Ideas, Inventions, and Power 2 (3 credits)**

This course is the second part of a four-course, first-year interdisciplinary sequence specifically devised for first-year honors students. It surveys the literature and philosophy of China from c. 800 BCE (Zhou Dynasty) through to the modern period. Fulfills Foundations - Philosophy and Literature. Offered fall semester. Prerequisite: Restricted to first-year students in Meijer Honors College. Corequisite: HNR 256.

## **HNR 258 - History of Science I (3 credits)**

HNR 258 focuses on the development of European science and art from 1400 - 1650, including anatomy, astronomy and physics, Romanesque and Gothic architecture, and Renaissance painting. It is the first of an integrated four-course sequence. Taken concurrently with HNR 259, this course satisfies the writing credit in foundations. Fulfills Foundations - Writing. Fulfills Foundations - Historical Perspectives. Offered fall semester. Prerequisite: Enrollment in Meijer Honors College. Corequisite: HNR 259.

## **HNR 259 - History of Science I (3 credits)**

HNR 259 focuses on the development of European philosophy, theology, and literature, as these relate to developments in science from 1400 - 1650, including Dante, Luther, Galileo, and Descartes. It is the second of an integrated four-course sequence. Fulfills Cultures - Global Perspectives. Offered fall semester. Prerequisite: Enrollment in Meijer Honors College. Corequisite: HNR 258.

## **HNR 260 - Alliance and Conflict: World Construction in Religion and Society (3 credits)**

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Starting from a social-scientific vantage point, this course focuses on the historical and cultural origins of monotheism in ancient Palestine/Judah and the Arabian Peninsula. This course provides the methodological groundwork for HNR 261 and HNR 262 by introducing historical method, social-scientific method, and methods from the sociology of religion. Fulfills Foundations - Writing. Fulfills Foundations - Historical Perspectives. Fulfills Cultures - Global Perspectives. Offered fall semester. Prerequisite: Enrolled in Meijer Honors College.

## **HNR 261 - Alliance and Conflict: World Construction in Religion and Society (3 credits)**

This course focuses on post 16th century trends, conservative and liberal, in monotheism as well as other religious influences on social-political intergroup relations (tolerance and intolerance). This course will also cover religious art and iconography as a form of social-political commentary and protest in the Western world. Fulfills Foundations - Arts. Offered winter semester. Prerequisite: HNR 260. Corequisite: HNR 262.

## **HNR 262 - Alliance and Conflict: World Construction in Religion and Society (3 credits)**

Beginning with Max Weber's secularization thesis, this course investigates the phenomenon of secularism as a response to modern forms of monotheistic religion within the Western world. It also addresses the conflict between secular-leaning cultures (such as France) and immigrating individuals of nonsecular cultures (such as Muslim immigrants to France). Fulfills one of the Foundations - Social and Behavioral Sciences. Fulfills one of the Issues requirements. Offered winter semester. Prerequisite: HNR 260. Corequisite: HNR 261.

## **HNR 263 - Theory and Practice of Rights 1 (3 credits)**

This is the first of a three-part foundational interdisciplinary sequence on the theory and practice of rights. It examines the historical origins and philosophical meaning of individual rights while exploring their importance to revolutionary political movements of the 18th, 19th, and 20th centuries in the United States and Europe. Fulfills Foundations - Writing. Fulfills Cultures - U.S. Diversity. Offered fall semester. Prerequisite: Restricted to first-year honors students. Corequisite: HNR 201.

## **HNR 264 - Theory and Practice of Rights 2 (3 credits)**

This is the second of a three-part foundational interdisciplinary sequence on the theory and practice of rights in the United States and around the globe. It examines debates about the meaning of human rights and their value for addressing injustices in western and non-Western contexts. Fulfills one of the Foundations - Social and Behavioral Sciences. Offered winter semester. Prerequisites: HNR 263 and first-year honors student. Corequisite: HNR 265.

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## **HNR 265 - Theory and Practice of Rights 3 (3 credits)**

This is the third of a three-part honors foundational interdisciplinary sequence on the theory and practice of rights in the United States and around the globe. It explores the experience of and resistance to human rights violations in particular cultural contexts. Fulfills one of the Foundations - Social and Behavioral Sciences. Fulfills Cultures - Global Perspectives. Fulfills one of the Issues requirements. Offered winter semester. Prerequisites: HNR 263 and first-year honors student. Corequisite: HNR 264.

## **HNR 274 - Africa Seen Through African Eyes 3 (3 credits)**

This course surveys the history of Africa from the late 19th century to the present. It will concentrate on African societies before European conquest; transformation of African societies under Colonial rule; the rise of African Nationalism and the decolonization process; and the post independence political and economic developments. Fulfills Foundations - Arts. Offered winter semester. Prerequisites: Enrollment in the Meijer Honors College, HNR 254, and HNR 255. Corequisite: HNR 275.

## **HNR 275 - Africa Seen Through African Eyes 4 (3 credits)**

This course surveys modern African civilizations through the medium of African literary texts and explores the relationship between literature and other arts, such as film and music. Analyzes the ways in which literature both reflects and interprets African societies from conquest through colonialism to independence. Fulfills Cultures - Global Perspectives. Fulfills one of the Issues requirements. Offered winter semester. Prerequisites: Enrollment in Meijer Honors College, HNR 254, and HNR 255. Corequisite: HNR 274.

## **HNR 276 - East Asia and the World: Ideas, Inventions, and Power 3 (3 credits)**

This course is the third part of a four-course foundational interdisciplinary sequence specifically devised for first-year students in Meijer Honors College. It surveys the history and culture of east and SE from c. 900 CE to the present. Fulfills Foundations - Arts. Offered winter semester. Prerequisites: Fulfillment of general education Foundations - Writing, restricted to first-year students in Meijer Honors College. Corequisite: HNR 277.

## **HNR 277 - East Asia and the World: Ideas, Inventions, and Power 4 (3 credits)**

This course is the fourth part of a four-course, first-year interdisciplinary sequence specifically designed for first-year honors students. It surveys the arts, literature, and culture of Korea and Japan from c. 800 CE to the present. Fulfills Cultures - Global Perspectives. Fulfills one of the

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Issues requirements. Offered winter semester. Prerequisite: Restricted to first-year honors students. Corequisite: HNR 276.

## **HNR 278 - History of Science II (3 credits)**

HNR 278 focuses on the development of European science and art from 1650-1850, with particular emphasis on Newton, chemistry, the Enlightenment, and Romanticism. It is the third of an integrated four-course sequence. Taken concurrently with HNR 279, this course satisfies the SWS requirement. Fulfills Foundations - Arts. Offered winter semester. Prerequisite: Enrollment in Meijer Honors College. Corequisite: HNR 279.

## **HNR 279 - History of Science II (3 credits)**

HNR 279 covers some of the methodological, metaphysical, and ethical issues of modern science from Newton through the 1800s and places these in their historical and cultural contexts. It is the fourth of an integrated four-course sequence. Taken concurrently with HNR 278, this course satisfies the SWS requirement. Fulfills Foundations - Philosophy and Literature. Fulfills one of the Issues requirements. Offered winter semester. Prerequisites: Enrollment in Meijer Honors College and junior standing. Corequisite: HNR 278.

## **HNR 280 - Honors Special Topics (1 to 3 credits)**

A study of special topics, areas, or experiences not covered in the curriculum. The selected focus will be described in the class schedule. Offered on demand. Prerequisites: Admission to Meijer Honors College; previous HNR coursework.

## **HNR 281 - Study Abroad - Ghana (3 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only.

## **HNR 311 - Honors Junior Seminar (3 credits)**

An intensive, in-depth study of a special problem or topic. The seminar, taken in the junior or senior year, is a Capstone for the liberal arts component of the student's education. It provides an occasion for considering the ways in which liberal arts disciplines impinge upon each other. Fulfills Cultures - Global Perspectives. Fulfills one of the Issues requirements. Prerequisite: Junior standing.

## **HNR 312 - Honors Junior Seminar (3 credits)**

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An intensive, in-depth study of a special problem or topic. The seminar, taken in the junior or senior year, is a Capstone for the liberal arts component of the student's education. It provides an occasion for considering the ways in which liberal arts disciplines impinge upon each other. Fulfills Cultures - U.S. Diversity. Fulfills one of the Issues requirements. Prerequisite: Junior standing.

### **HNR 313 - Honors Junior Seminar (3 credits)**

An intensive, in-depth study of a special problem or topic. The seminar, taken in the junior or senior year, is a Capstone for the liberal arts and sciences component of the student's education. It provides an occasion for considering the ways in which liberal arts and sciences disciplines impinge upon each other. Fulfills one of the Issues requirements. Prerequisite: Junior standing.

### **HNR 350 - Integrative Seminar (3 credits)**

An intensive, interdisciplinary study of a prominent historical or contemporary issue. This seminar-style course provides students the opportunity to deeply engage the scholarship relevant to the issue, and produce their own original, scholarly analyses. Offered every semester. Prerequisite: Admission to the Honors College.

### **HNR 351 - Honors Integrative Seminar/QL (3 credits)**

An intensive, interdisciplinary study of a prominent historical or contemporary issue. This seminar-style course provides students the opportunity to deeply engage the scholarship relevant to the issue, using data to illustrate course topic, and to produce their own original scholarly analyses. Offered every semester. Prerequisite: Admission into the Honors College.

### **HNR 380 - Honors Advanced Special Topics (1 to 4 credits)**

Advanced study of special topics, areas, or experiences not covered in the curriculum. The selected focus will be described in the class schedule. Offered on demand. Prerequisite: Junior standing or 12 previous credits in HNR courses.

### **HNR 399 - Independent Study (1 to 4 credits)**

Intensive study of a topic under supervision of a faculty member. Offered upon demand. Prerequisites: Previous honors coursework and junior standing.

### **HNR 401 - Senior Project Proposal (1 credit)**

A workshopping course. Students will work through the honors project proposal process, work to connect the project to their overall college experience, and articulate ways in which the project can create opportunities beyond graduation. Students will identify a mentor and develop an

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approved project proposal. Offered fall and winter semesters. Prerequisite: Enrollment in the Meijer Honors College.

## **HNR 499 - Honors Senior Project (1 to 4 credits)**

An individually designed project that is the culminating study in the student's major field. Offers an opportunity to do intensive study, writing, or research in the major or principal cognate field. Permit required.

## **HPE 195 - Introduction to Teaching Health and Physical Education (3 credits)**

This course will introduce prospective teachers to the profession of health and physical education. Students will develop an understanding of the national standards, engage in lesson/unit planning, observe effective teaching behaviors and discuss the history and philosophy of HPE. Students will engage in off-campus observations of teachers in PK-12 settings. Offered fall semester.

## **HPE 200 - Methods of Teaching Dance (2 credits)**

The purpose of this course is to prepare prospective teachers with the essential experiences needed for rhythmic movement competency in the PK-12 setting. This includes the pedagogy and skill required to design and implement learning experiences related to rhythm and dance. Observations are expected and may require travel off campus.

## **HPE 220 - Methods of Teaching Net/Wall/Target Activities (2 credits)**

The purpose of this course is to prepare prospective teachers to teach Net/Wall/Target activities in the PK-12 setting. Emphasis is placed on planning and implementing developmentally appropriate lessons. Topics may include: badminton, handball, bowling, peteca, archery and golf and associated lead up skills necessary. Prerequisite: HPE 195.

## **HPE 230 - Methods of Teaching Invasive Games (2 credits)**

The purpose of this course is to prepare prospective teachers to teach invasion games in the PK-12 setting. Emphasis is placed on planning and implementing developmentally appropriate lessons. Topics may include: rugby, lacrosse, team handball, and field hockey. Sport education and teaching games for understanding are the featured curriculum models. Prerequisite: HPE 195.

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## **HPE 240 - Methods for Teaching Health Related Fitness (3 credits)**

This course will introduce prospective teachers to fitness instruction and assessment in the PK-12 school setting. Topics include effects of physical activity and inactivity, nutrition, fitness assessment procedures, principles, and guidelines for developing health-related and skill-related fitness, and providing a safe learning environment. Observations may include travel off campus. Offered fall and winter semesters.

## **HPE 260 - Methods of Teaching Outdoor Pursuits (3 credits)**

This course will prepare prospective teachers with the knowledge, skills, and competencies necessary to teach a variety of outdoor pursuits to PK-12 students. Topics may include: navigation, survival skills, rock climbing, fishing, and snowshoeing. Cooperative learning and outdoor education curricular models will be featured throughout this course. Offered winter semester.

## **HPE 264 - Methods of Teaching Early Childhood Movement and Health (2 credits)**

The purpose of this course is to prepare prospective teachers to create developmentally appropriate learning experiences for young children. Emphasis will be on play-based movement experiences, understanding safety, identifying essential health habits of the young child, and exploring appropriate teaching methodologies for young learners. Observations may include travel off campus. Offered winter semester.

## **HPE 267 - Health and Movement Education for Elementary Teachers (3 credits)**

This course will prepare prospective elementary school teachers to incorporate quality health and physical activity content into the PK-6 school setting. The course will focus on the important role educators play in educating the whole child. Advocacy, content knowledge, skill building, and pedagogy will be highlighted. Offered every semester.

## **HPE 270 - Methods of Teaching Skills-Based Health Education (3 credits)**

The course will prepare prospective teachers for teaching skills-based health instruction and assessment in the PK-12 school setting. Emphasis will be placed on planning and implementing developmentally appropriate health lessons according to the national and state health standards. Prerequisite: HPE 195.

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## **HPE 272 - Methods of Teaching Reproductive Health (2 credits)**

An overview of curriculum content and information appropriate for implementing sexuality education courses in secondary schools. Emphasis will be placed on research-based sexuality education including: puberty, HIV/AIDS, education, curriculum planning, current sex education laws, educational resources, and developing a safe classroom environment. Offered fall and spring/summer semesters.

## **HPE 301 - Methods of Teaching Secondary Health Education (3 credits)**

This course will prepare prospective teachers to implement a variety of pedagogical practices for secondary health education. Emphasis will be placed on the creation and implementation of lessons, units, assessments, and the integration of technology. Observations may include travel off campus. Must be taken prior to student teaching. Prerequisites: PED 207, HPE 270, and HPE 272.

## **HPE 302 - Methods of Teaching Adapted Physical Education (3 credits)**

The purpose of this course is to provide prospective teachers with theoretical and practical knowledge to plan and implement appropriate physical education for students with disabilities in integrated settings. This course focuses on the needs of students with physical, intellectual, emotional, and sensory disabilities. Field-work may include travel off campus.

## **HPE 306 - Methods of Teaching Elementary Physical Education (3 credits)**

The purpose of this course is to prepare prospective teachers to implement a variety of pedagogical practices for elementary physical education. Emphasis is on the creation and implementation of lessons, units, assessments and the integration of technology. Observations may include travel off campus. Must be completed prior to student teaching. Prerequisites: HPE 200, HPE 220, and HPE 264.

## **HPE 307 - Methods of Teaching Secondary Physical Education (3 credits)**

The purpose of this course is to prepare prospective teachers to implement a variety of pedagogical practices for secondary physical education. Emphasis is on the creation and implementation of lessons, units, assessments and the integration of technology. Observations

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may include travel off campus. Must be completed prior to student teaching. Prerequisites: HPE 220, HPE 230, and HPE 240.

## **HPE 309 - Assessment in Health and Physical Education (3 credits)**

The purpose of this course is to prepare prospective teachers to assess PK-12 students in health and physical education. Emphasis is placed on the benefits, uses, methods, and practical application of effective standards-based assessments. Prerequisites: HPE 230, HPE 240, HPE 270, and STA 215.

## **HPE 401 - Professionalism in Health and Physical Education (Capstone) (3 credits)**

The purpose of this course is for prospective teachers to focus on professional development and advocacy for health and physical education. Students will reflect on their experience as health and physical educators, identify ethical behaviors necessary to become effective professionals and focus on current issues in the field. Prerequisites: HPE 301, HPE 306, and HPE 309. Corequisite: HPE 307.

## **HRG 501 - Anatomy and Physiology of Hearing and Balance (3 credits)**

A study of the anatomy and physiology of the peripheral and central auditory and balance systems. Knowledge in this area will provide the basis for evaluation and treatment of individuals with hearing and/or balance disorders. Offered fall semester. Prerequisite: Admission to the audiology program.

## **HRG 504 - Instrumentation and Hearing Science (3 credits)**

A study of topics and procedures of instrumentation and hearing science that are fundamental to clinical practice including electronics, filters, acoustical impedance, analog and digital signals, and acoustics. Offered winter semester. Prerequisite: Admission to the audiology program.

## **HRG 508 - Psychoacoustics (2 credits)**

Psychoacoustics is the study of the relationship between a sound stimulus and the behavioral response it produces in a listener. Research methodology in the field will be discussed and applied to current measures of the physical and psychological characteristics of sound and perception. Applications to clinical audiology will be addressed. Offered spring/summer semester. Prerequisites: Admission to the audiology program and successful completion of HRG 504.

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## **HRG 521 - Audiologic Assessment (3 credits)**

This course is designed to provide a foundation of assessment tools used in clinical audiology. Information gathered from this course will form the basis for audiologic test procedures used in clinical experiences. Offered fall semester. Prerequisite: Admission to the audiology program.

## **HRG 525 - Neurophysiologic Measures I (3 credits)**

The first course of a two-course sequence on neurophysiologic measures, including physiological and electrophysiological measurements used for assessment of the human auditory system. Focus will be on the principles of measurement, clinical applications, and clinical measurement of auditory evoked potentials and otoacoustic emissions. Offered fall semester. Prerequisite: Admission to the audiology program.

## **HRG 526 - Neurophysiologic Measures II (3 credits)**

The second of a two-course sequence on neurophysiologic measures, covering current and proposed physiological and electrophysiological measurements used for clinical assessment of the human auditory system. Topics will include advanced treatment of the auditory brainstem response, auditory steady-state response, middle latency evoked response, electroneuronography, and vestibular evoked myogenic potentials. Offered winter semester. Prerequisite: HRG 525.

## **HRG 527 - Vestibular Assessment and Rehabilitation (3 credits)**

Study of concepts in clinical testing, treatment, and mechanisms of rehabilitation of disorders of the vestibular and balance system including an advanced study of the anatomy and physiology of the oculomotor and vestibular systems. Offered spring/summer semester. Prerequisite: HRG 501.

## **HRG 541 - Amplification I (3 credits)**

An introduction to issues and technologies that are important in the area of amplification. Topics will be related to hearing aid technology and assistive listening devices. Prerequisite: Admission to the audiology program.

## **HRG 542 - Amplification II (3 credits)**

This course provides a treatment of the issues and technologies that are important in the area of amplification, with a particular focus on the appropriate selection, programming, and fitting of devices for pediatric, adult, and geriatric populations. Offered winter semester. Prerequisite: HRG 541.

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## **HRG 545 - Auditory Habilitation and Rehabilitation (3 credits)**

This course addresses the impact of hearing loss on human communication across the lifespan. Contemporary aural habilitation and rehabilitation procedures for individuals with hearing loss will be considered. Offered spring/summer semester. Prerequisites: HRG 541 and HRG 542.

## **HRG 562 - Professional Issues in Audiology (1 credit)**

Professional issues relevant to the practice of audiology. Includes contemporary diagnostic and rehabilitation issues affecting the profession. Course offered winter semester. Prerequisite: Admission to the audiology program.

## **HRG 566 - Evidence-Based Practice in Audiology (1 credit)**

This course addresses the application of evidence-based practice to the field of audiology with consideration of diverse patient populations and ethical practice. Content is treated with emphasis upon problem solving using evidence-based practice and the integration of information across didactic and practical knowledge bases toward clinical skill development. Offered spring/summer semester. Prerequisite: Admission to the audiology program.

## **HRG 570 - Audiology Fieldwork (1 credit)**

This is the first-year supervised audiology practical experience and will be taken each semester of the first year of the program. Students participate in basic audiology clinical practice under the supervision of professional audiologists. Offered spring/summer semester. Prerequisite: Admission to the Au.D. program.

## **HRG 606 - Auditory Pathophysiology and Heredity (2 credits)**

A study of the disorders of the external, middle, and inner ears, the central auditory system, and the vestibular system, including an examination of heredity as related to disorders of the human auditory and vestibular systems. Offered winter semester. Prerequisites: Admission to the audiology program and successful completion of all previously required courses in the Au.D. curricular sequence.

## **HRG 607 - Radiographic Imaging and Pharmacology for Audiology (2 credits)**

This course addresses topics of particular relevance to audiology practice in a medical setting. The role of radiographic imaging for audiologic diagnosis will be considered as well as the

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mechanisms of pharmacology and mechanisms of ototoxicity. Offered spring/summer semester. Prerequisites: Admission to the audiology program and successful completion of all previously required courses in the Au.D. curricular sequence.

## **HRG 623 - Hearing Across the Lifespan (3 credits)**

This course focuses on the nature, assessment, and treatment of hearing disorders with pediatric through geriatric populations. Students will learn evaluation techniques and treatment strategies for patients across the lifespan with hearing impairment. Legal and professional implications of practice with these patient populations will be discussed. Offered fall semester. Prerequisites: Admission to the audiology program and successful completion of all previously required courses in the Au.D. curricular sequence.

## **HRG 629 - Clinical Decision Making in Audiology (2 credits)**

This course serves as a Capstone experience during which students are provided the opportunity to synthesize their knowledge and skills in audiology across disorder areas and the lifespan using a case study approach. Offered spring/summer semester. Prerequisites: Admission to the audiology program and successful completion of all previously required courses in the Au.D. curricular sequence.

## **HRG 642 - Educational Audiology and Auditory Processing Disorders (2 credits)**

A study of educational audiology, including the role of the educational audiologist, the educational difficulties of children with hearing impairments, and the methods to address those problems. Auditory processing disorders, as well as the assessment, treatment, and neuroanatomy and physiology of these disorders will be discussed. Offered winter semester. Prerequisites: Admission to the audiology program and successful completion of all previously required courses in the Au.D. curricular sequence.

## **HRG 645 - Cochlear Implants and Tinnitus (3 credits)**

A study of cochlear implants including selection criteria for candidacy, steps in cochlear implantation, pre- and post-implant audiological procedures, and habilitation and rehabilitation of patients with cochlear implants. Characterization, assessment, and treatment of tinnitus will also be discussed. Offered fall semester. Prerequisites: Admission to the audiology program and successful completion of all previously required courses in the Au.D. curricular sequence.

## **HRG 648 - Mentoring and Counseling in Audiology (2 credits)**

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This course addresses the principles and practices of counseling patients with hearing impairment and their families as part of clinical practice. How to communicate and interact effectively with patients experiencing hearing loss will be discussed. Best practices of mentoring other professionals and preceptors is also discussed. Offered winter semester. Prerequisites: Admission to the audiology program and successful completion of all previously required courses in the Au.D. curricular sequence.

## **HRG 661 - Hearing Conservation (2 credits)**

This course addresses issues regarding hearing conservation in industry and the community, including noise abatement. Focus will be placed on advocacy and intervention for hearing risks in occupational, recreational, educational, and home settings. Noise assessment, risk factors, hearing protectors, audiometric testing, employee training, and record keeping will be discussed. Offered fall semester. Prerequisites: Admission to the audiology program and successful completion of all previously required courses in the Au.D. curricular sequence.

## **HRG 664 - Audiology Practice Management (2 credits)**

Issues regarding the management of an audiology practice will be discussed. Topics include professional ethics and the legalities of practice, employee/employer laws and regulation, current status of the healthcare system services and reimbursement, and development of an audiology practice. Offered winter semester. Prerequisites: Admission to the audiology program and successful completion of all previously required courses in the Au.D. curricular sequence.

## **HRG 670 - Audiology Practicum (2 credits)**

This is the second-year supervised audiology practical experience. Students gain clinical experience working with patients across a range of ages, disorder areas, and type of clinical setting. Professionals in the community will supervise and instruct students in basic audiology clinical practice. Offered every semester. Prerequisites: HRG 570 and all previously required courses in the Au.D. curricular sequence.

## **HRG 690 - Research Preparation in Audiology (3 credits)**

This course addresses principles and practices of basic and applied research in audiology. Topics include experimental design, evidence-based practice, overview of statistical methods, and application to clinical populations. Students should develop skills to make informed decisions about the relevance of research to clinical practice. Offered spring/summer semester. Prerequisites: Admission to the audiology program, successful completion of all previously required courses in the Au.D. curricular sequence, and a prior course in statistics. The requirement is for an undergraduate statistics course, but this prerequisite may also be fulfilled by a graduate-level statistics course.

## **HRG 697 - Professional Learning (1 to 3 credits)**

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Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

### **HRG 760 - Special Topics in Audiology (1 credit)**

This course addresses advanced topics in audiology not ordinarily covered in other courses, with an emphasis upon problem solving and integration of information across didactic and practical knowledge. Offered every semester. Prerequisite: Successful completion of all previously required courses in the Au.D. curricular sequence. Students enroll in this course each semester of their final year of the program.

### **HRG 770 - Audiology Internship (6 credits)**

This is the final supervised sequence of audiology practical experiences which allows a variety of clinical placements across the lifespan. Professionals in the community will supervise and instruct students in preparation for entry-level clinical practice. May be repeated for credit. Offered every semester. Prerequisite: HRG 670.

### **HRG 797 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

### **HRG 799 - Independent Study in Audiology (1 to 6 credits)**

This course provides opportunity for in-depth study in an area of special interest as directed by a faculty member. Offered every semester. Prerequisites: Admission to the audiology program. Requires department chair and faculty supervisor approval.

### **HRT 105 - Introduction to Human Rights (3 credits)**

Introduction to the historical and conceptual development of human rights as moral, legal, and cultural constraints on the behavior of states in relation to their citizens. Analysis is theoretical, exploring philosophical arguments surrounding the historical development of human rights and their current role in legal, cultural, literary, and political products. Fulfills Foundations - Philosophy and Literature. Cross-listed with PLS 105. Offered fall and winter semesters.

### **HRT 316 - Human Rights in International Politics (3 credits)**

An analysis of human rights as an increasingly influential principle in international relations, and the friction between sovereignty and international standards of behavior. Topics covered within class may include the theoretical origins of human rights, international norms, international law, sovereignty, interventionism, particularly viewed through historical and contemporary human

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rights cases. Cross-listed with PLS 316. Offered fall semester. Prerequisite: PLS 103 or PLS 211 or junior standing.

### **HRT 319 - Human Traffic and Trafficking (3 credits)**

Drawing on interdisciplinary approaches to globalization, the course critically examines the forced and/or coercive global transfer of people, the traffic and trafficking of humans, through historical and contemporary perspectives. Topics may include migrant smuggling, forced labor, slave trade, sex workers, voices of survival workers, and self-advocacy in survival communities. Part of the Globalization Issue. Cross-listed with HST 319 and INT 319. Offered fall and winter semesters. Prerequisite: Junior standing.

### **HRT 320 - Voices of the Civil Rights Movement in the United States (3 credits)**

This interdisciplinary course integrates numerous expressive genres, including autobiographies, oral histories, and music, to examine how activists challenged human rights violations. Narrations of individual transformations show how shared experiences, ideologies, and opposition expanded understandings of human rights nationally and globally during the civil rights movements in the United States. Part of the Human Rights Issue. Fulfills Cultures - U.S. Diversity. Cross-listed with INT 320. Offered every other year. Prerequisite: Junior standing.

### **HRT 335 - Theory of Human Rights (3 credits)**

Critical examination of theories of human rights, with emphasis on classical ethical and political thought and the development of modern rights theory. Assessment of arguments both supporting and denying human rights, and applications to contemporary issues of slavery and trafficking, torture, genocide, and rights of women and sexual minorities. Cross-listed with PLS 335. Offered fall semester. Prerequisite: PLS 105, or PLS 231, or PLS 232, or HNR 263.

### **HRT 389 - Study Abroad in Human Rights (3 credits)**

Coursework completed by student in study abroad programs. Course offered each semester. Prerequisite: Instructor permission.

### **HRT 399 - Independent Studies in HRT (1 to 3 credits)**

Hours, credits, topics, and time to be arranged with individual faculty members with approval of the department.

### **HRT 450 - Reflection on Human Rights (1 credit)**

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Directed reflection upon and integration of the student's work in human rights coursework and research. Students will prepare a final project that reflects learning from their whole body of work in the human rights minor. Offered fall and winter semesters. Prerequisites: Human rights minors only and junior standing.

### **HRT 490 - Internship in Human Rights (3 credits)**

Internship experience in the wider human rights world combined with biweekly classroom discussion of ongoing service work and some assigned reading. Students will prepare a portfolio documenting their term's work and reflections. Offered each semester. Prerequisite: Permission of instructor.

### **HRT 499 - Independent Study in HRT (1 to 3 credits)**

Hours, credits, topics, and time to be arranged with individual faculty members with approval of the department.

### **HSC 201 - The Scientific Revolution (3 credits)**

What are the origins of modern science? This course explores the emergence of scientific ideas and institutions during the Scientific Revolution (1450-1800) by examining how scientists built on the work of earlier thinkers, how their work was fostered and/or constrained by religion and politics, and why their ideas endured. Fulfills Foundations - Historical Perspectives. Fulfills Cultures - Global Perspectives. Offered fall, winter, and occasional spring/summer semesters. Offered for SWS credit during the spring/summer semester.

### **HSC 202 - The Technological Revolution (3 credits)**

How has technology evolved? Why has it changed? With what consequences? This course examines the development of technological systems from the 1700s to the 2000s by considering their influence on the cultural values of everyday people, their economic and environmental effects, and their shaping of our current technological society. Occasionally offered for SWS credit. Fulfills Foundations - Historical Perspectives. Offered fall, winter, and occasional spring/summer semesters.

### **HSC 399 - Readings in the History of Science (1 to 3 credits)**

Offers students the opportunity to explore a topic in the history of science in depth under the supervision of a staff member. Offered fall and winter semesters. Prerequisites: Two history of science courses and permission of instructor.

### **HST 101 - Introduction to World Civilizations (3 credits)**

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This course examines the long-term trajectory of world history. Taking a global approach, students think beyond national boundaries and consider themes that bind disparate regions together, such as trade, migration, the environment, state formation, and imperialism. Fulfills Foundations - Historical Perspectives. Fulfills Cultures - Global Perspectives. Offered every semester.

## **HST 102 - Introduction to European Civilizations (3 credits)**

This course examines the long-term trajectory of European civilizations, focusing on the development of Europe and the complex interrelationships between political, economic, social, and cultural aspects over time. Students may consider themes such as the emergence of nation-states, trade, migration, religion, class conflict, gender, racism, genocide, nationalism, or demographic change. Fulfills Foundations - Historical Perspectives. Fulfills Cultures - Global Perspectives. Offered every semester.

## **HST 103 - Introduction to American Civilizations (3 credits)**

How did we get here? Explore the long-term development of American history from precolonial origins to European colonies to a world power. Investigate how social, cultural, political, and economic forces have shaped our lives. Topics and thematic approach will vary by section. Fulfills Foundations - Historical Perspectives. Fulfills Cultures - U.S. Diversity. Offered every semester.

## **HST 180 - Special Topics in History (3 credits)**

Course content varies. Refer to schedule of classes to determine course description and prerequisites. Students may repeat this course under different topics.

## **HST 200 - Introduction to the Study of History (3 credits)**

This gateway course introduces students to basic research, analytical, and methodological skills through explorations of primary and secondary sources. In addition, students learn how to create a historical argument by developing a research question, annotated bibliography, and a research prospectus or research paper. Topics will vary from semester to semester. Offered each semester.

## **HST 202 - History of Global Change and Social Transformation (3 credits)**

A historical inquiry into long-term processes of global change and social transformation. Focus is on increasing interconnectedness of human communities from the deep past to the present, including spread of cultural, market, and ecological exchanges, transport and communication technologies, developing ideas of social justice, and their connections to contemporary times.

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Fulfills Foundations - Historical Perspectives. Fulfills Cultures - Global Perspectives. Cross-listed with GSI 202. Offered fall and winter semesters.

## **HST 203 - World History to 1500 A.D. (3 credits)**

Basic content and methods of history through an introductory study of world cultures before 1500. The course focuses on specific societies in Africa, Asia, Europe, and the Western Hemisphere, analyzing and comparing the ways in which political, economic, social, cultural, and demographic factors influenced the development of these various cultures. Required for majors. Fulfills Foundations - Historical Perspectives. Fulfills Cultures - Global Perspectives. Offered every semester.

## **HST 204 - World History since 1500 (3 credits)**

Basic content and methods of history through an introductory study of world cultures from 1500 to present. The course focuses on specific societies in Africa, Asia, Europe, and the Western hemisphere, analyzing and comparing the ways in which political, economic, social, cultural, and demographic factors influenced the development of these various cultures. Required for majors. Fulfills Cultures - Global Perspectives. Fulfills Foundations - Historical Perspectives. Offered every semester.

## **HST 205 - American History to 1877 (3 credits)**

The development of the United States from the Colonial Period to the end of Reconstruction with an emphasis on the role that race, ethnicity, culture, political thought, economics, and gender played in shaping American values and institutions. Fulfills Cultures - U.S. Diversity. Fulfills Foundations - Historical Perspectives. Offered every semester.

## **HST 206 - American History since 1877 (3 credits)**

Explore how race, gender, politics, and economics shaped American history since 1877. Topics include civil rights, foreign policy, immigration, industrialization, changing visions of our nation's mission, the growth of its global influence, and shifts in the distribution of people and power. Fulfills Cultures - U.S. Diversity. Fulfills Foundations - Historical Perspectives. Offered every semester.

## **HST 207 - European Civilization to the Later Middle Ages (3 credits)**

A historical survey focusing on the development of European civilization from Classical Greece to the Later Middle Ages. This course will explore the intellectual, social, religious, political, and cultural aspects of the formation of Europe. Topics include the rise and fall of Greece and Rome, and the formation of Europe. Fulfills Foundations - Historical Perspectives.

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## **HST 208 - European Civilization since the Later Middle Ages (3 credits)**

Examines major events in European history from the Later Middle Ages to the present, including social, political, economic, and cultural developments. Topics will include the Reformation and Renaissance, the Age of Revolutions, the rise of fascism and communism, the two world wars and the Holocaust, and events since 1945. Fulfills Foundations - Historical Perspectives. Fulfills Cultures - Global Perspectives.

## **HST 209 - History and Social Studies for Elementary Teachers (3 credits)**

Introduces the basic content and methods of inquiry of history and social studies for students who plan to teach at the PK-6 grade levels. Students will develop knowledge, understanding, and application of the major concepts and modes of inquiry from the social studies disciplines with particular emphasis on history. Fulfills Foundations - Historical Perspectives. Offered fall and winter semester.

## **HST 211 - History of Islamic Civilization (3 credits)**

An introduction to the history of Islamic civilization and the development of its relationships with Western Europe and the United States. Fulfills Cultures - Global Perspectives. Fulfills Foundations - Historical Perspectives.

## **HST 212 - India: History and Civilization (3 credits)**

Examines the history, culture, and civilization of India from ancient to early modern period. It covers the rise and fall of civilizations, kingdoms, and dynasties. In tracing historical developments, the course emphasizes the rich and diverse culture of human experiences that have shaped a relatively unique civilization in South Asia. Fulfills Cultures - Global Perspectives. Fulfills Foundations - Historical Perspectives. Offered fall semester of even-numbered years.

## **HST 230 - Latin America in World History (3 credits)**

This is a broad survey of Latin American history from the pre-Colombian period to the present. The course will focus on major issues and themes in Latin American history. Topics include Amerindians, conquest, slavery, independence, national identity, foreign intervention, revolutions, and inequality. Fulfills Foundations - Historical Perspectives. Fulfills Cultures - Global Perspectives.

## **HST 240 - A History of East Asia to 1800 (3 credits)**

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Introduces major themes of the history of East Asia (China, Japan, Korea, and Vietnam) from prehistory to 1800. Explores cultural interactions among East Asian countries as well as their indigenous cultural traits. Some basic skills, such as critical reading and writing, will also be practiced. Fulfills Cultures - Global Perspectives. Fulfills Foundations - Historical Perspectives.

## **HST 241 - A History of East Asia since 1800 (3 credits)**

A broad overview of East Asian political systems, social changes, economic transformation, regional relations, and cultural interaction since 1800. Major historical events and trends along with cultural differences and interactions will be examined. Emphasis is given to China and Japan, though Korea and Vietnam are also covered. Fulfills Cultures - Global Perspectives. Fulfills Foundations - Historical Perspectives.

## **HST 290 - Research Methods in History (3 credits)**

Explores historical research methods and focuses on how historians challenge dominant theories of knowledge and the major methodologies employed in the social sciences and humanities; examines the ways in which historians shape research questions and determine the types of materials used. Prerequisite: STA 215 or STA 312.

## **HST 301 - Colonial America (3 credits)**

A history of the British North American colonies through the conclusion of the Seven Years War. Topics include the origins of the colonies, relations with the Native Americans, British colonial policy, the origins of slavery, and social, political, and cultural development of the colonies.

## **HST 302 - Revolutionary America (3 credits)**

A study of the American Revolution. Topics may include the causes and consequences of the American Revolution, and social/political/economic developments in the United States through the War of 1812.

## **HST 303 - Era of Sectional Conflict, Civil War, and Reconstruction (3 credits)**

This course focuses on the rise in sectional tensions, the conduct of the Civil War, and the tensions over the postwar/Reconstruction period in the United States.

## **HST 305 - America Confronts Modernity (3 credits)**

Analysis of topics in the Gilded Age and progressive era. Topics may include the modernization of technology, agriculture, and industry; urbanization; immigration; labor relations; international

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trade; military ventures; race relations at home and abroad; Progressivism and Populism; and the 1920s.

### **HST 306 - The 'American Century': From the Great Depression to Vietnam (3 credits)**

Thematic survey of the United States from the 1930s through the Vietnam War with focus on political, social, cultural, intellectual, and economic trends, in particular the Great Depression, the development of the welfare state, World War II, the Cold War, the civil rights movement, and the tumult of the 1960s.

### **HST 307 - United States since 1970 (3 credits)**

Thematic survey of the United States since the Vietnam War, with focus on political, social, cultural, intellectual, and economic trends. Particularly the impact of globalization and the end of the Cold War, industrial and technological change, multiculturalism, consumerism and the mass media, and the ascendancy of conservatism.

### **HST 308 - Cultural and Social Topics in U.S. History (3 credits)**

Examines various topics in U.S. social and cultural history. Course explores a specific topic defined by the instructor. May be repeated for credit if content varies. Part of the Identity Issue. Prerequisite: Junior standing.

### **HST 309 - Cultural and Social Topics in European History (3 credits)**

Examines various topics in European social and cultural history. Course explores a specific topic defined by the instructor. May be repeated for credit if content varies.

### **HST 310 - Cultural and Social Topics in Nonwestern History (3 credits)**

Examines various topics in non-Western cultural and social history. Course explores a specific topic defined by the instructor. May be repeated for credit if content varies. Fulfills Cultures - Global Perspectives.

### **HST 311 - History of Religion in the United States (3 credits)**

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This course is a study of the major developments in the religious history of the United States from the first North American colonies to the start of the 21st century, concentrating on the relationship between religion and other aspects of American history. Part of the Identity Issue. Prerequisite: Junior standing.

## **HST 312 - History of American Women (3 credits)**

Analysis of the political, social, economic, and cultural history of women in American society from the Colonial era through the present. Topics include domesticity, suffrage, health, employment, race, war, and feminism.

## **HST 314 - African American History (3 credits)**

Examines the history of African Americans from forced migration through the civil rights movement. Issues studied include race relations, black culture in slavery, emancipation, the origins of segregation, the "great migration," and the civil rights movement. Fulfills Cultures - U.S. Diversity.

## **HST 315 - Latinos: The Forging of Ethnic Identities (3 credits)**

Examination of the ways in which Mexicans, Cubans, Puerto Ricans, Central Americans, and others have over time created ethnic identities in the United States out of their transnational experiences. Also explores the impact of this process on American political, economic, and social structures.

## **HST 316 - U.S. Civil Rights Movement History (3 credits)**

This course will focus on United States civil rights leaders and their rhetoric of resistance, and focus on the social and cultural formations that undermined racial segregation. It will also examine the events and forces that created space for a successful movement.

## **HST 317 - History of American Foreign Relations (3 credits)**

Historical development of United States relations with foreign powers focusing on issues of war and peace. Concentration on significant periods of policy formation and change, with attention to factors determining policy.

## **HST 318 - History of Democracy in America (3 credits)**

Examines the historical development of democratic principles, ideologies, and practices in American history through case studies of particular crises in American democracy. Focuses on limits of democracy and debates among Americans and between scholars about practice of

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democracy in a variety of areas and from a multiplicity of viewpoints. Part of the Human Rights Issue. Prerequisite: Junior standing.

### **HST 319 - Human Traffic and Trafficking (3 credits)**

Drawing on interdisciplinary approaches to globalization, the course critically examines the forced and/or coercive global transfer of people, the traffic and trafficking of humans, through historical and contemporary perspectives. Topics may include migrant smuggling, forced labor, slave trade, sex workers, voices of survival workers, and self-advocacy in survival communities. Part of the Globalization Issue. Cross-listed with INT 319 and HRT 319. Offered fall and winter semesters. Prerequisite: Junior standing.

### **HST 320 - American Indians (3 credits)**

An examination of selected topics and peoples from among the diverse Native American peoples north of Mexico, from the mythic beginnings to the modern era. Topics include problems of writing Indian history, ethnohistory, Indian-white relations, environmentalism, survival, assimilation, and Indian perspectives on American history.

### **HST 322 - American Identity and Sports (3 credits)**

The course examines American sports and how sports have helped construct ideas of race, ethnicity, gender, and class, and how individuals use sports to prove Americanness. Part of the Identity Issue. Prerequisite: Junior standing.

### **HST 323 - Michigan History (3 credits)**

A survey of the major economic, political, and social themes in Michigan. Special emphasis will be placed on the urban development of Detroit and Grand Rapids, the auto industry, race relations, and modern political trends.

### **HST 325 - Topics in the History of Sport (3 credits)**

Examines sports history in different regions and chronological periods. Topics will vary, but all sections will explore sport within the broader contexts of social, political, cultural, and economic trends. In addition, particular interest will be paid to issues such as race, class, sexuality, and gender in sport.

### **HST 327 - History of United States Urban Society (3 credits)**

A historical analysis of American urban structures including the commercial city, the industrial city, the suburbs, and the edge city. These structures will be seen as metaphorical theatrical

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stages upon which ethnic, racial, gender, and economic groups create social and cultural formations.

### **HST 328 - U.S. Constitutional and Legal History (3 credits)**

Introduction to the constitutional and legal history of the United States, with particular emphasis on the social, political, and economic contexts of the law and Constitution, the origins of the Constitution, and evolution of constitutional jurisprudence, the development of legal practices, and the relationship between the citizen and the state.

### **HST 329 - U.S. Intellectual History (3 credits)**

Examines the major trends in American thought from the colonial period to the present. Examples of topics covered include evangelicalism, republicanism, the transcendentalists, feminism, the impact of Darwin and science on social thought, race, pragmatism, modernist criticism, liberalism, conservatism, and postmodern critical theory.

### **HST 330 - Colonial Latin America (3 credits)**

This course will focus on specific themes related to Latin American civilization and culture from preconquest times to the 19th century. Topics include Amerindian civilizations; encounters between Amerindians, Europeans, and Africans; makings of a colonial society; collapse of colonial rule; and wars of independence. Cross-listed with LAS 330.

### **HST 331 - Modern Latin America (3 credits)**

This course will focus on themes related to Latin America from the independence period to the present day. Major themes will include patterns of state formation and models of economic development; United States intervention; the origins and course of radicalism and counter-revolution; and the problems of peaceful reform. Part of the Identity Issues. Cross-listed with LAS 331. Prerequisite: Junior standing.

### **HST 332 - Emergence of Modern India and South Asia (3 credits)**

This course examines the emergence of modern India and South Asia from the 17th century to the present. Topics include: tradition, modernity, imperialism, culture, religion, women and gender, migration, globalization, human rights, nationalism, Indian diaspora, and conflict and cooperation between the South Asian countries and between India and major world powers. Fulfills Cultures - Global Perspectives. Part of the Globalization Issue. Prerequisite: Junior standing.

### **HST 333 - Modern China (3 credits)**

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Introduction to modern Chinese history from the late Ch'ing Dynasty to the present. Particular emphasis will be on China's two revolutions in 1911 and 1949 and the rise of Communism.

### **HST 334 - The Making of the Caribbean (3 credits)**

A survey of Caribbean history from the pre-Colonial era to the rise of nationalism and independence. Course will emphasize specific islands and will cover a wide range of topics, such as the rise of the plantation system, slavery and emancipation, cultural retention, resistance, migration, and inter-regional relations.

### **HST 335 - Africa Before 1870 (3 credits)**

The course will focus on specific themes and characteristics of selected cultures and civilizations in Africa before European conquest. Topics will include economic activity, culture, social organization, indigenous religions, gender and sexuality, textiles and clothing, African slavery, and state formation.

### **HST 336 - Africa After 1870 (3 credits)**

The course will focus on specific themes related to European conquest of Africa and the transformation of selected African cultures under Colonial rule. Topics include scramble for partition, military conquest, missionary activity, Colonial economy and social changes, genocide and forced labor, resistance and nationalism, decolonization, and liberation.

### **HST 337 - The Age of Islamic Empire (3 credits)**

A historical and cultural examination of the Islamic peoples from preIslamic Arabia to the end of World War I. Emphasis on social, religious, economic, and political factors during each phase in Islam's development since the eighth century.

### **HST 338 - Modern Middle East (3 credits)**

A survey of cultural, economic, and political developments in the Middle East and North Africa from the end of World War I, with particular attention to the rise of nationalism and issues of modernization.

### **HST 339 - Modern Iran (3 credits)**

This course is a study of the major developments in the history of Iran from the Qajar shahs to the current Islamic Republic, concentrating on the relationship between state and society by highlighting religious, political, and cultural developments in modern Iran.

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## **HST 342 - History of Buddhism and East Asian Religions (3 credits)**

Examines Buddhism and major religious traditions of East Asia and their modern developments through historical perspectives. Explores the visions, values, and activities of people in India, Tibet, China and Japan, and how their religious traditions have shaped their life experiences. Studies religious interactions among East Asian countries and their indigenous traits. Fulfills Cultures - Global Perspectives. Part of the Identity Issue. Prerequisite: Junior standing.

## **HST 343 - History of South Africa (3 credits)**

Examines the political, social, and economic history of South Africa from the late 17th century to the early 1990s. The course will analyze the forces that created modern South Africa, particularly European conquest and colonization, mineral discoveries, industrialization, Apartheid, religion and the Dutch Reformed Church, and African resistance. Prerequisite: HST 204 or junior standing.

## **HST 350 - Ancient Greece (3 credits)**

Greek history during the Archaic and Classical Periods. Emphasis on the development of historical writing in the Greek World, a critical examination of ancient and modern historiography, and significant aspects of Greek political and social history.

## **HST 351 - Ancient Rome (3 credits)**

Roman history from the foundation of the city of Rome through the reign of Augustus. Emphasis on the development of historical writing in the Roman World, a critical examination of ancient and modern historiography, and significant aspects of Roman political and social history.

## **HST 355 - Medieval Europe (3 credits)**

This course will explore the intellectual, political, religious, and cultural aspects of medieval Europe from the waning of the Roman Empire to the arrival of the Black Death in the 14th century. Emphasis will be placed on the intellectual, social, and spiritual uniqueness of medieval European civilization.

## **HST 357 - The Black Diaspora and the Meaning of Sports, 1800 to the Present (3 credits)**

This course explores the Black Diaspora (1800-present) through the lens of the black athlete in order to help examine global issues such as race, politics, economics, and gender. Part of the

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Globalization Issue. Cross-listed with AAA 357. Offered winter semester. Prerequisite: Junior standing.

### **HST 360 - Tudor and Stuart England (3 credits)**

English history from 1485 to 1714 with appropriate attention to political, constitutional, and religious issues.

### **HST 361 - Modern Britain (3 credits)**

Examines Britain's social, political, and economic history from 1688 to the present. Topics include industrialization, building and collapse of empire, two world wars, and other major political and social changes in modern British history.

### **HST 364 - Renaissance and Reformation Europe (3 credits)**

Survey of European history from 1350 to 1560. Topics include political, social, cultural, intellectual, and religious history, with emphasis on major changes in these areas in Renaissance Italy and Reformation Germany, and on the connections between these changes.

### **HST 370 - History of Medicine and Health (3 credits)**

Interdisciplinary exploration of the diverse ways that western societies from Ancient Greece to the modern era have defined health and disease, provided health care, managed the environment, and sought to prevent illness. Examines the strengths and limits of past solutions to health questions and their applicability to modern society. Part of the Health Issue. Prerequisite: Junior standing.

### **HST 371 - Historical Perspectives on Gender and Sexualities (3 credits)**

Variable topics centering on the history of gender and sexuality. Topics include historical understandings of gender identity and sexual orientation and may vary by region and era. May be repeated if content varies. Part of the Identity Issue. Cross-listed with WGS 371. Prerequisite: Junior standing.

### **HST 372 - From Slavery to Freedom (3 credits)**

Ironically, modern concepts of freedom emerged from societies deeply invested in its opposite, slavery. This course looks at the history of slavery and its abolition in three Latin American societies, Haiti, Cuba, and Brazil, to distinguish the distinctive ways in which each of them defined and constructed freedom. Part of the Human Rights Issue. Cross-listed with LAS 372. Prerequisite: Junior standing.

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## **HST 374 - Revolution in the Americas (3 credits)**

Men and women make history, sometimes through gradual, passive means and sometimes through sudden, active means. In the Americas, both categories of history-making have been common. This course explores international relations in the hemisphere by comparing revolutionary and evolutionary processes of change from Tierra del Fuego to the Northwest Territories. Cross-listed with LAS 374.

## **HST 375 - History of Mexico (3 credits)**

This course surveys the history of Mexico from the earliest human inhabitation to the present. It will introduce students to the major political, social, and cultural forces that have shaped the modern nation of Mexico. Cross-listed with LAS 375.

## **HST 376 - History of Witch Hunts (3 credits)**

Examines witch trials in various places and times across history, from a variety of perspectives, with emphasis on the marginalization of the accused witches within their communities. Geographical and chronological focus will vary, but may include early modern Europe, Colonial North America, or contemporary Africa. Part of the Identity Issue. Prerequisite: Junior standing.

## **HST 377 - History of Warfare (3 credits)**

Survey of the role of warfare in world history from prehistory to the beginning of the industrial era. Uses a variety of media and sources to examine why and how humans have fought wars and how warfare has affected different aspects of human experience in different world regions and eras.

## **HST 378 - Contesting Human Rights (3 credits)**

This course takes a game-based approach, based on written and oral analyses of primary sources, to explore key historical moments when human rights and questions of who should have them were contested. Students engage through collaborative role-play with complex historical situations in which rights were defined and fought over. Part of the Human Rights Issue. Prerequisite: Junior standing.

## **HST 380 - Special Topics in History (1 to 4 credits)**

A study of special topics, areas, or periods of history not offered in the regular curriculum. The selected focus will be described in the class schedule. Expectations of students in this course approximate those of other 300-level history courses.

## **HST 386 - 20th Century Europe (3 credits)**

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Examines Europe in the 20th century, including the age of total war; the Holocaust and its legacy; postwar recovery; the Cold War; social, political, and cultural developments in East and West; the rise of the European Union; the end of communism; and contemporary Europe.

### **HST 387 - Modern Germany (3 credits)**

A survey of German history and culture since 1870, including the Imperial period of Bismarck and Wilhelm II, World War I, the Weimar Republic, Hitler's Third Reich, World War II, post-war division, and reunified Germany.

### **HST 389 - Russian History (3 credits)**

From the ninth through the 19th century. Topics include the origins of Russian expansion, the development of Russian civilization, and the origins of Revolution.

### **HST 390 - Soviet History (3 credits)**

From the Russian Revolution to the recent past. Topics include Lenin, Stalin, World War II, and the Cold War.

### **HST 393 - Study Abroad: Jamaica (1 to 6 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only.

### **HST 399 - Independent Study (1 to 3 credits)**

Intensive study of a topic, arranged as to credit and content with a member of the department. No more than three credits of HST 399 may be applied to the major or minor. Offered on arrangement. Prerequisite: Junior standing.

### **HST 400 - Junior Seminar in History (3 credits)**

Enables students to hone skills developed in HST 200 and honed in 300-level courses. Students discuss and evaluate a common body of readings on a chosen topic and develop specific research questions that will grow into significant research projects. May be repeated if content varies. Prerequisites: HST 200 and junior standing.

### **HST 405 - Local and Community History (3 credits)**

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A seminar focused on the techniques of using material from local archives and other nearby sources for historical research. Offered spring/summer semester of even-numbered years. Prerequisite: Junior standing.

## **HST 410 - History Journal (3 credits)**

The primary goal of this course is to maintain and publish the Grand Valley Journal of History. Students work collaboratively to review and publish journal articles, as well as to advertise the journal. Course offered fall semester. Prerequisite: Permission of instructor. Prerequisite can be demonstrated in one of two ways: (1) demonstration of a basic working knowledge in the discipline of history through previously taken courses, (2) demonstration of a basic working knowledge through a one- to two-page essay describing the student's understanding of the discipline of history, including its methods and areas of focus.

## **HST 415 - Museum Studies (3 credits)**

Examines the history of museums; the organization, operation and multiple functions of museums; their contributions to public life; and the political, legal, ethical, and other contemporary debates concerning the roles of museums as cultural institutions. Also introduces practical skills such as collections management, exhibition design, and public outreach and education. Cross-listed with CLA 415. Offered fall semester. Prerequisite: Junior standing.

## **HST 420 - Public History (3 credits)**

Provides students with the practical and theoretical frameworks of public history, which is the use of the historical method outside of academia, in places such as museums, government, historical societies, and the business world. Students will learn to develop public history projects to serve local institutions in collaborative groups. Offered winter semester. Prerequisite: Junior standing.

## **HST 490 - History Internship (1 to 3 credits)**

Supervised work experience in a history-related field, initiated by the student, who must prepare a proposal in consultation with a faculty advisor and a worksite supervisor. The student will submit a final report, and both the worksite supervisor and the faculty advisor will evaluate the internship. Offered every semester. Prerequisites: 15 hours of coursework in history and permission of the department chair.

## **HST 495 - Varieties of History (Capstone) (3 credits)**

The Capstone serves as a culminating experience for students trained in historiography. It builds upon students' growing sophistication in historical practice by emphasizing foundational concerns of the profession. Professor's field of expertise determines the area of focus for the

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course. Offered fall and winter semesters. Prerequisites: HST 400 and senior standing. For history majors only, except by permission of the chair. Required for majors.

## **HST 498 - Senior Thesis (3 credits)**

Working with a faculty advisor, the student conceives and completes an individualized historical research project resulting in a written paper evaluated by the faculty advisor. Prerequisite: Senior standing.

## **HST 680 - Special Topics in History (1 to 3 credits)**

Study of selected historical topics or periods not offered in the regular curriculum. Topics vary between United States and world history. Offered every year.

## **HST 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

## **HTM 100 - Career Readiness for the Business World (1 credit)**

A study of eight of the most common characteristics employers are looking for in employees, seen through the business of hospitality management. Students will explore ways to develop skills in these areas to help them transition smoothly into the work world. Offered fall and winter semesters. Prerequisite: First year students only.

## **HTM 101 - Introduction to Hospitality and Tourism (3 credits)**

Explores the hospitality and tourism industry, including, but not limited to, lodging, food and beverage, and meeting and event planning. This course enables students to explore career options, see parts of the industry firsthand, and understand this dynamic global industry through a community-based learning perspective. Offered fall and winter semesters.

## **HTM 175 - International Food and Culture (3 credits)**

An exploration of world cultures via an examination of foods, focusing each semester on a different international cuisine. Demonstrates the ways in which intellectual, social, religious, political, economic, and geographic factors affect the development of regional cuisines. Exploration of culture and tastings of the region's food and beverages are included. Fulfills Cultures - Global Perspectives. Offered winter semester.

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## **HTM 180 - Special Topics in Hospitality and Tourism Management (1 to 4 credits)**

Consideration of selected topics not ordinarily dealt with in other courses. Topics to be determined by faculty interest and student request. Offered on sufficient demand.

## **HTM 190 - Field Preparation (1 credit)**

An orientation course preparing hospitality and tourism management majors and those who wish to minor in hospitality and tourism management by means of a cooperative education program for entry into the hospitality and tourism management work environment. This course must be taken prior to the student's registering for the first field experience. Offered fall and winter semesters.

## **HTM 201 - Good Food Gone Bad: Food Safety for Everyone (1 credit)**

This course covers food safety best practices in food production, manufacturing, and preparation to different situational contexts, such as: agriculture, food recovery projects, and commercial and/or charitable food distribution sites. Offered fall semester.

## **HTM 202 - International Tourism (3 credits)**

Introduction to international tourism focusing on the socioeconomic effects of international tourism along with the inherent public-private interaction. International tourism is more than a set of industries, but rather an activity that encompasses human behavior, uses of resources (public and private), and interaction with other people, economies, and environments. Fulfills Cultures - Global Perspectives. Offered fall semester. Prerequisite: HTM 101 suggested.

## **HTM 213 - Introduction to Food and Beverage Management (3 credits)**

An introduction to the operation, management, and control of food and beverage organizations, with emphasis on operational efficiency, productivity, profitability, and service. Prerequisite: HTM 101 (may be taken concurrently, if junior standing).

## **HTM 222 - Introduction to Lodging Management (3 credits)**

This course provides students with an introduction to lodging operations. Central components include guest service, front desk operations, housekeeping duties, basics of food and beverage, sales and marketing, and facility engineering and maintenance. Prerequisite: HTM 101 (may be taken concurrently, if junior standing).

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## **HTM 235 - Tourism and Recreation Management (3 credits)**

An introduction to the dynamic domestic (U.S.) tourism and recreation/leisure industries, focusing on their strong linkages to both nonprofit and for-profit oriented providers. Emphasis is given to entrepreneurship, economic development, sustainability, career opportunities, and the management of organizations. Offered on sufficient demand.

## **HTM 237 - Fundamentals of Recreation and Leisure Programming (3 credits)**

An analysis of concepts and principles of recreation and leisure services program development, with attention to examination of recreation activity taxonomies, methods of assessing needs, the process of program planning, and development and evaluation of a program plan. Includes principles of learning for adult and other age groups. Offered winter semester. Prerequisite: HTM 101.

## **HTM 240 - Introduction to Meeting and Event Management (3 credits)**

An introduction to the planning, implementation, and follow-up of professional meetings, events, conferences, and conventions. Offered fall and winter semesters. Prerequisite: HTM 101 or permission.

## **HTM 242 - Cannabis Regulations and Tourism (3 credits)**

In states which have legalized cannabis, reforms have sparked lively debates in the hospitality and tourism industry about the content of competing regulations. This course examines the impact of legalized cannabis upon various disciplines within the industry, including food service and lodging, tour operators, meeting and events, and various franchisees. Offered fall semester.

## **HTM 250 - Food Production and Kitchen Management (4 credits)**

The application of managerial practices and processes to food preparation, production, safety, and sanitation.

## **HTM 253 - Convention Sales and Service (3 credits)**

An introductory course exploring sales in the convention and meetings industry from the supplier's perspective. Focus will be placed on examining the needs of the supplier's clientele base and the importance of service management skills. Students will demonstrate skills in

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selling, negotiating, marketing, planning, organizing, and servicing. Offered winter semester. Prerequisite: HTM 101.

### **HTM 268 - Adventure Tourism (3 credits)**

An introductory course exploring the rapidly growing and diverse market for activity-based tourism. This class reviews the provision, management, and philosophy of outdoor activities and controlled adventure, as well as identifying the motives and characteristics of the adventure traveler.

### **HTM 273 - Hospitality and Tourism Financial Decision Making (3 credits)**

Fundamental financial principles and procedures applied to the hospitality and tourism industry. Includes applications of income statements, statement of cash flows, balance sheet and statement of owners' equity, nature and behavior of costs, labor costs, role and types of operations budgeting, and working capital management. Offered fall and winter semesters. Prerequisites: MTH 110 and either HTM 213 or HTM 222. Corequisites: ACC 201 and ACC 202.

### **HTM 275 - Culinary Tourism (3 credits)**

Engages learners in the process of understanding the rich and complex food traditions of the United States of America and how an understanding of these traditions contributes to the management of culinary tourism programs. Offered fall semester.

### **HTM 280 - Special Topics in Hospitality and Tourism Management (1 to 4 credits)**

Consideration of selected topics not ordinarily dealt with in other courses. Topics to be determined by faculty interest and student request. Offered on sufficient demand.

### **HTM 281 - Disney College Program I (2 credits)**

This course is a complement to the experience while participating in the Walt Disney World/Land College Program. Central components include recognizing the need to network and exploring the "Wonderful World of Disney" so students learn how to provide better service to guests, and clarifying student career goals. Offered fall and winter semesters. Prerequisite: Permission of instructor.

### **HTM 282 - Disney College Program II (2 credits)**

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This course is a complement to the experience while participating in the Walt Disney World/Land College Program. Central components include advanced implementation of Disney's successful guest service standards, identifying proven techniques, and application of these techniques in other enterprises, as well as participating in service learning opportunities. Offered fall and winter semesters. Prerequisite: Permission of instructor.

## **HTM 290 - HTM Field Experience I (2 credits)**

A semi-structured experience in which students receive basic training in selected entry level positions consistent with their career preference. Emphasis is on job competence and performance, professionalism, and work relations. Management instruction in selected basic operational tasks will also be required. Offered every semester. Prerequisites: HTM 190 and permission.

## **HTM 318 - Responsible Beverage Management (3 credits)**

A look at the responsibilities and demands made of the contemporary beverage manager and ways to address them. Attention will be given to legal aspects, liability, social concerns, product knowledge, controls and operations, and responsible service. Certification in a recognized server training program will be required. Offered fall semester. Prerequisites: HTM 213 and HTM 361.

## **HTM 323 - Festival and Special Event Management (3 credits)**

This introductory course is a comprehensive overview of the theory and procedures associated with managing festivals and special events. The role of marketing and communication, environmental planning, creation of event strategies, governmental involvement, and entrepreneurial perspectives of event management are augmented with experiential learning in a real-time regional festival or special event. Offered fall and spring/summer semesters. Prerequisite: HTM 101.

## **HTM 330 - International Event Management (3 credits)**

An overview of the theory and practices associated with managing a festival and special event in an international setting. The application of theoretical concepts allows students to better understand the festival and events industry, the complexity of designing, delivering, and evaluation of such experiences, and application of a festival/events model. Offered spring/summer semester. Prerequisite: Permission of instructor.

## **HTM 333 - Hospitality Facilities Management (3 credits)**

The management of the hospitality facility with emphasis on preventive maintenance, energy, sustainability, and security. Offered fall semester. Prerequisite: HTM 101.

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## **HTM 343 - Human Resource Management (4 credits)**

A study of the relationship among work, human conduct, and human and organizational development fundamental to the service concern. A systems approach to staffing, training, scheduling, evaluating, and accounting for the human element in hospitality operations. Offered fall and winter semesters. Prerequisites: HTM 101 or permission, fulfillment of general education Foundations - Writing, and junior standing.

## **HTM 350 - Banquet and Catering Management (3 credits)**

A course focused on the creative, logistical, and business aspects of planning and implementing banquets and catered events. Offered winter semester. Prerequisite: HTM 213.

## **HTM 361 - Hospitality Law and Legislation (3 credits)**

A study of hospitality and travel law with emphasis on current legislative and lobbying activities. Consideration given to societal leverage in influencing and initiating legal and political activity and policy. Offered fall and winter semesters. Prerequisite: BUS 201.

## **HTM 368 - Geotourism (3 credits)**

A study of geotourism, tourism that sustains or enhances the geographic character of a place. Topics include community development, land use and planning, conservation of resources, and tourist satisfaction and marketing, with the purpose of sustaining or enhancing the environment, culture, aesthetics, heritage, and the well-being of a place's residents. Part of the Sustainability Issue. Offered fall and winter semesters. Prerequisites: Junior standing and HTM 202 (recommended).

## **HTM 373 - Hospitality Information Analysis (4 credits)**

A systematic approach to the gathering and analysis of data from operations. Structured to take the student from accounting system basics through the production of a variety of reports and budgets. Emphasis is on the utilization of the data for improved financial and objective-based, proactive decision-making. Offered fall and winter semesters. Prerequisites: HTM 213, HTM 222, HTM 273, CIS 150, ACC 201, ACC 202, and junior standing.

## **HTM 375 - Hospitality and Tourism Research (3 credits)**

An examination of the relationship between generic theory and applied research in the hospitality and tourism industry. This course examines the purposes, applications, procedures, constraints, and management of applied research utilizing community-based learning. Examples of quantitative and qualitative research are compared and contrasted. Offered fall and winter semesters. Prerequisites: HTM 101 and STA 215.

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## **HTM 380 - Special Topics in Hospitality and Tourism Management (1 to 4 credits)**

Study of significant topics and issues not addressed in other courses. Previous topics have included beverage management, professional development, etiquette, club management, business and industry, food service, etc. Offered fall and winter semesters. Prerequisite: Permission.

## **HTM 390 - HTM Field Experience II (2 credits)**

A semi-structured experience in which the student will receive basic training and work experience in selected, preferably rotational, entry-level positions, consistent with the student's career choice. Emphasis is on job performance, professionalism, work relations and self-management. Offered every semester. Prerequisites: HTM 290 and permission.

## **HTM 399 - Independent Study (1 to 4 credits)**

Study of an advanced topic of interest in hospitality and tourism management. Offered every semester. Prerequisite: Permission.

## **HTM 402 - Tourism Policy Issues (3 credits)**

This course provides a comprehensive overview of tourism development theories as well as an analytical approach to worldwide development issues. The roles of stakeholders are evaluated with a focus on applied theoretical discussions regarding development and sustainable management of tourism destinations and attractions through a community-based learning framework. Offered winter semester. Prerequisite: HTM 202 or permission of instructor.

## **HTM 413 - Advanced Food and Beverage Management (3 credits)**

This advanced course builds on fundamentals acquired in prior food and beverage curriculum and internships. Utilizing a community-based learning format, central components include leadership theory; planning, control, and analysis of food and beverage operations; customer expectations and service. Examination of current trends will vary by semester. Offered winter semester. Prerequisites: CIS 150, HTM 213, and HTM 290.

## **HTM 422 - Advanced Lodging Management (3 credits)**

This advanced course in lodging management builds on fundamentals acquired in prior lodging curriculum and field internship experience. Utilizing a community-based learning format, central components include multiple unit property management, franchising, budgeting and labor,

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environmental design, risk management, and leadership theory. Examination of current trends vary by semester. Offered fall and winter semesters. Prerequisites: HTM 222 and HTM 290.

### **HTM 437 - Leadership in Recreation and Leisure (3 credits)**

Fundamentals of theoretical and applied leadership questions, major leadership theories and paradigms, identification of primary leadership antecedents and consequences, discussion of important measurement issues, comparing the effectiveness of the most influential leadership development strategies, and an experiential application of leadership theory in a community-based recreation or leisure organization. Offered winter semester. Prerequisites: HTM 235 and HTM 237.

### **HTM 440 - Advanced Meeting and Event Management (3 credits)**

This advanced course in meeting and event management builds on fundamentals acquired in prior sales and events curriculum and internships. Students will learn leadership theory, ethics, program design and logistics for myriad events, destination marketing, event sponsorship, and risk management through a community-based lens. Examination of current trends. Offered fall semester. Prerequisites: HTM 240, HTM 253, and HTM 290.

### **HTM 452 - Hospitality and Tourism Marketing (3 credits)**

Applications of basic marketing principles and strategies to hospitality, tourism, and leisure services. Discussions will define specific market segments and address the various marketing, promotional, and communication mix tools available to the hospitality and tourism industry. Offered fall and winter semesters. Prerequisites: STA 215 and either MKT 300 or MKT 350.

### **HTM 480 - Special Topics in Hospitality and Tourism Management (3 credits)**

A senior seminar designed to assess critical issues in hospitality and tourism and the impact of current events, trends, and developments on hospitality and tourism administration. Open to senior hospitality and tourism management majors and to others by permission of instructor. Offered on sufficient demand.

### **HTM 490 - HTM Senior Internship (2 credits)**

A structured experience in which the student will receive basic training and work experience in selected, preferably rotational, entry-level positions, consistent with the student's career choice. This course is designed to encourage more supervisory/managerial opportunities to aid in the student's professional development, and their determining a career path at graduation. Offered

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every semester. Prerequisites: HTM 290 and HTM 390 or their equivalents, senior standing, and permission.

## **HTM 495 - Hospitality Management (Capstone) (3 credits)**

Capstone class providing a framework to view the discipline, industry, and management from a perspective incorporating the economic, social, cultural, environmental, political, technological, and physical aspects. Emphasis on a broad managerial perspective to critically assess the issues facing the profession. Offered fall and winter semesters. Prerequisites: HTM 343, HTM 373, and HTM 375.

## **HTM 499 - Independent Research (1 to 4 credits)**

Supervised research in hospitality and tourism management for junior and senior majors. Offered every semester. Prerequisite: Permission.

## **IDS 180 - Interdisciplinary Studies Special Topics (1 to 3 credits)**

This is an interdisciplinary special topics course. Focus will vary by semester and instructor. Offered fall and winter semesters.

## **IDS 181 - Intercultural Competence Through Study Abroad (1 credit)**

The course will introduce students to the challenges and opportunities of international travel, study, and living, and provide them with basic tools for ensuring a successful study abroad experience. Offered fall semester.

## **IDS 182 - Community Reading Project (1 credit)**

This course engages students in an interdisciplinary examination of issues raised by the GVSU community read. The book is selected annually, so the topics of this course will vary. Students will analyze the book and attend cocurricular programming to extend learning beyond the classroom. Offered fall and winters semesters.

## **IDS 325 - Learning from Detroit: Education and Community Revitalization (3 credits)**

This course studies community revitalization efforts in the city of Detroit. Focusing on community-based initiatives that are strengthening neighborhoods; improving schools; and fostering the well-being of children, families, and neighborhoods in Detroit. This course invites

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

students with diverse perspectives, from across content areas. The class includes two visits to Detroit. Part of the Identity Issue. Cross-listed with EDF 325. Offered fall semester. Prerequisite: Junior standing.

### **IDS 350 - Civil Discourse (3 credits)**

This topical course familiarizes students with communication tools of civil discourse. Students analyze the role of discourse in solving social problems and learn dialogic strategies for constructively engaging with diverse perspectives. Using the civil discourse skills of reasoning and respect, students collaborate with people of divergent views. Topical information: [gvsu.edu/civildiscourse](http://gvsu.edu/civildiscourse). Part of the Identity Issue. Offered fall semester. Prerequisite: Junior standing.

### **IDS 380 - Special Topics in Interdisciplinary Studies (1 to 12 credits)**

Readings, lectures, and/or discussions in specific topics not normally covered by other courses in the program.

### **IDS 399 - Independent Readings (1 to 3 credits)**

Hours, credit, topics, and time to be arranged with the individual faculty members with approval of the department.

### **IDS 400 - Liberal Education and Problem Solving in the Workplace (2 credits)**

Applied learning that focuses on the practical uses of a liberal education in a corporate/professional setting. Explores various problem-solving approaches to help students develop innovative change management skills applicable to a variety of organizational settings. LEPS Leadership Portfolios will be finalized. Offered fall and winter semesters.

### **INT 100 - Reflect, Connect, Engage (3 credits)**

Can education transform your life and change your world? Explore how liberal education empowers students to question themselves and their society, through critical engagement with classical and contemporary philosophical and literary texts. Discover how liberal education teaches skills that can help you develop your personal, professional, and civic lives. Fulfills Foundations - Philosophy and Literature. Offered every semester.

### **INT 180 - Special Topics in Liberal Studies (1 to 6 credits)**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

Readings, lectures, and/or discussions, in specific topics not normally covered by the other courses in the program.

### **INT 201 - Diversity in the United States (3 credits)**

Explores how the intersections of race, ethnicity, gender, sexual orientation, class, religion, and physical abilities affect the material lives and media representations of various cultural groups in the United States. Engages historical and current debates regarding issues of immigration, meritocracy, segregation, the economy, the environment, and identity. Fulfills one of the Foundations - Social and Behavioral Sciences. Fulfills Cultures - U.S. Diversity. Offered fall and winter semesters.

### **INT 301 - Interdisciplinary Research Methods (3 credits)**

This course is a survey of selected interdisciplinary research methods. It includes comparative analysis of research methods used in natural and life sciences, social sciences, and the humanities, with a focus on integrative and problem-solving methodologies. Procedures for evaluating data, sources, and findings are reviewed. Offered every semester.

### **INT 310 - Creativity and Innovative Problem-Solving (3 credits)**

An interdisciplinary study of those ideas that stimulate the creative processes and innovation in information and technology in a diversity of human practices, including, but not limited to, artistic, philosophical, scientific, and entrepreneurial endeavors, with a focus on practicing innovativeness and creativity in a variety of areas. Part of the Information, Innovation, or Technology Issue. Offered every year. Prerequisite: Junior standing.

### **INT 311 - Meaning: The Humanities Resource (3 credits)**

Introduction to concepts related to the construction, expression, propagation, and understanding of meaning in a diverse society. Emphasis on multidisciplinary perspectives underpinning authentic individual and/or collective agency per dialogue, democracy, and other critical forms of praxis. Offered once or twice per year, depending on demand.

### **INT 312 - Collaborative Communication (3 credits)**

An interdisciplinary examination of the basic interpretations of dialogue in a diverse world. This course engages the theory and practice of dialogue through personal reflection, integration, and action. Students develop this relational art for personal, professional, and civic lives, and understand its implication for the possibility of a democratic life. Offered fall and winter semesters.

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## **INT 314 - Life Journeys (3 credits)**

Students will examine their own identity by means of personal and critical reflection through works selected from literature, mythology, philosophy, art, film, and music. Students will gain insight into their own life journey and the life journeys of others, empowering them to be themselves more fully in the world. Part of the Identity Issue. Offered every semester. Prerequisites: Junior standing and fulfillment of general education Foundations - Writing.

## **INT 319 - Human Traffic and Trafficking (3 credits)**

Drawing on interdisciplinary approaches to globalization, the course critically examines the forced and/or coercive global transfer of people, the traffic and trafficking of humans, through historical and contemporary perspectives. Topics may include migrant smuggling, forced labor, slave trade, sex workers, voices of survival workers, and self-advocacy in survival communities. Part of the Globalization Issue. Cross-listed with HST 319 and HRT 319. Offered fall and winter semesters. Prerequisite: Junior standing.

## **INT 320 - Voices of the Civil Rights Movement in the United States (3 credits)**

This interdisciplinary course integrates numerous expressive genres, including autobiographies, oral histories, and music, to examine how activists challenged human rights violations. Narrations of individual transformations show how shared experiences, ideologies, and opposition expanded understandings of human rights nationally and globally during the civil rights movements in the United States. Part of the Human Rights Issue. Fulfills Cultures - U.S. Diversity. Cross-listed with HRT 320. Offered every other year. Prerequisite: Junior standing.

## **INT 322 - Wicked Problems of Sustainability (3 credits)**

Sustainability, as a wicked problem, is an intractable, on-going, and high-stakes issue. This course engages students in participatory research on the inextricably linked dimensions of sustainability, such as economics, environment, and social equity. Students will work with community partners to address specific interdisciplinary problems of sustainability. Part of the Sustainability Issue. Offered every semester. Prerequisite: Junior standing.

## **INT 323 - Design Thinking to Meet Real-World Needs (3 credits)**

Design Thinking is an iterative, project-based, problem-solving process valued in organizations both locally and internationally. As interdisciplinary teams, students in this course will use the Design Thinking process to better facilitate the chaos of innovation by collaborating with stakeholders to meet real-world needs. Part of the Information, Innovation, or Technology Issue. Offered fall and winter semesters. Prerequisite: Junior standing.

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## **INT 325 - LGBTQ Identities (3 credits)**

This interdisciplinary course draws on scholarship in the fields of sociology, literature, history, anthropology, LGBTQ, cultural, and gender studies in order to teach students about lesbian, gay, bisexual, transgender, intersex, and queer complex identities (identity formation and development), identifications, and the social, political, historical, and cultural problems underpinning these constructions. Part of the Identity Issue. Offered once a year. Prerequisite: Junior standing.

## **INT 326 - Sexuality, Justice, and Advocacy (3 credits)**

An exploration of sexuality through an interdisciplinary lens. Topics include adult sexual development, public policy, and methods of advocacy for sexual health and justice. Through various learning activities, including field study with campus and community organizations, students will increase their knowledge and facilitation skills related to sexual health education. Part of the Health Issue. Course cross-listed with WGS 326. Course offered every semester. Prerequisite: Junior standing.

## **INT 330 - The Idea of Nature (3 credits)**

How do our ideas about nature shape our relationships to the natural world? This course examines global influences on ideas of nature, as expressed in science, religion, philosophy, literature and art, and the resulting effects on human relationships with the natural world, and on natural systems globally and locally. Part of the Sustainability Issue. Offered winter semester. Prerequisite: Junior standing.

## **INT 331 - Person and Profession in a Global Environment (3 credits)**

A study of how professional identities and work lives develop globally and historically as well as throughout ones' individual lifespan, looking at how professional choices are shaped by intersectional identities and global social/economic forces as portrayed in literature, film, art, and social analysis. Part of the Globalization Issue. Offered every other year. Prerequisite: Junior standing.

## **INT 341 - Leadership for Social Change (3 credits)**

An examination of the theory and practice of leadership in social change movements, focused on developing personal and organizational capacities for leadership in a liberal education context. Students identify a contemporary social issue and create an action plan for resolution, addressing that issue with at least one action step. Part of the Information, Innovation, or Technology Issue. Offered fall and winter semesters. Prerequisite: Junior standing.

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## **INT 342 - Food Matters (3 credits)**

This course offers an interdisciplinary exploration of the relationship between power structures and food. In navigating social, historical and environmental factors that shape current food systems, the course examines political dimensions of food from differing cultural perspectives. Part of the Health Issue. Offered every semester. Prerequisite: Junior standing.

## **INT 350 - The Immigrant Experience in the U.S. (3 credits)**

An interdisciplinary course framing immigration in the United States as part of a global struggle for human rights. Students develop an understanding of the experiences of diverse immigrants and how migrations shape the U.S. historically, economically, politically, and culturally. Examines policies and perspectives about citizenship and human rights. Part of the Human Rights Issue. Fulfills Cultures - U.S. Diversity. Offered fall semester. Prerequisite: Junior standing.

## **INT 366 - American Society and Media (3 credits)**

An interdisciplinary approach to the ways in which mediated mass culture produces meaning in contemporary American society as examined through a variety of critical lenses such as political economy and sociocultural analyses of the organization of the mass media, media content, and audience reception studies of film, television, and/or music cultures. Part of the Information, Innovation, or Technology Issue. Cross-listed with SOC 366. Offered every year. Prerequisite: Junior standing.

## **INT 380 - Special Topics in Liberal Studies (3 credits)**

A variable topics course emphasizing the practice of liberal studies in relation to a contemporary problem, issue, or theme. May be repeated for credit.

## **INT 382 - LEADS Portfolio Development (1 credit)**

Reflective inquiry and readings develop and demonstrate prior learning skills like organizational communication, problem-solving, among others. The course provides a structure that builds on and synthesizes learning in an e-portfolio to be used for prior learning assessment and/or future classes or employment opportunities. Offered fall and winter semesters.

## **INT 399 - Independent Reading (1 to 6 credits)**

A scholarly or creative project initiated by the student who has a special interest in a subject not available in the current curriculum. Student, faculty, and advisors agree on the scope of the study, its components, and methods of evaluation. Offered every semester.

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## **INT 400 - Global Visionary Leadership (3 credits)**

This variable topics course examines the life and work of a visionary person or persons outside the U.S. whose theories and/or actions have effected deep change. The impact of these visionary ideas and actions result in paradigm shifts within global cultures, institutions, societies, and worldviews. May be repeated for credit. Fulfills Cultures - Global Perspectives. Offered once a year.

## **INT 401 - American Visionary Leadership (3 credits)**

A variable topics course that focuses on the life and work of a significant contributor to the American mosaic and thereby the United States' vision of diversity. Fulfills Cultures - U.S. Diversity. May be repeated for credit. Offered winter semester.

## **INT 402 - Feminist Visionary Thinkers (3 credits)**

This variable topics course examines the life and work of a significant feminist visionary thinker or thinkers whose theories, work, and/or actions have effected deep change in the world resulting in paradigm shifts within global cultures, institutions, societies, and worldviews. Cross-listed with WGS 402. May be repeated for credit. Offered winter semester.

## **INT 480 - Special Topics in Liberal Studies (1 credit)**

Features a person who has done significant work in several areas and whose life and career we can usefully study. Students meet in discussion groups before and after lecturer's visit. May be repeated for credit. Offered winter semester.

## **INT 490 - Internship (1 to 6 credits)**

A supervised work experience through which students can relate liberal studies principles, academic work, and practice. Student, faculty, and advisors agree on the scope of the study, its components, and methods of evaluation. Offered every semester.

## **INT 491 - Practicum (1 to 6 credits)**

Three or more hours a week of applying liberal studies principles in a public or community setting. This might take the form of a case study, field involvement, or conference attendance, and should result in a statement evaluating the theory and practice of liberal studies. Offered every semester.

## **INT 495 - Senior Seminar (Capstone) (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Students will contrast classical and contemporary statements on liberal education in relation to the principles and core courses on which the program rests. Students will develop and present their senior theses. Offered winter semester. Prerequisite: INT 301.

### **INT 499 - Independent Research (1 to 6 credits)**

Independent research and investigation from an interdisciplinary perspective. Offered every semester.

### **IPE 407 - Integrated Team Health Care (2 credits)**

Interprofessional education focused on integrated patient-centered practice is key to building effective health care teams that improve the experiences and the outcomes of participants. This course will apply principles of interprofessional education, which include collaborative, egalitarian, group-directed, experiential, reflective, and applied learning with, from, and about multiple health professions students. Cross-listed with IPE 507. Offered fall and winter semester. Prerequisites: Nursing - NUR 366, NUR 367; Corequisites: NUR 416, NUR 417. Occupational Therapy - OST 558, OST 571, and the first three semesters of didactic curriculum. Physician Assistant - PAS 515, PAS 551; Corequisite: PAS 552. Physical Therapy - PT 675, PT 677, two previous clinical experiences. Social work - Corequisite: SW 671.

### **IPE 507 - Integrated Team Health Care (2 credits)**

Interprofessional education focused on integrated patient-centered practice is key to building effective health care teams that improve the experiences and the outcomes of participants. This course will apply principles of interprofessional education, which include collaborative, egalitarian, group-directed, experiential, reflective, and applied learning with, from, and about multiple health professions students. Cross-listed with IPE 407. Offered fall and winter semesters. Prerequisites: Nursing - NUR 366, NUR 367; Corequisites: NUR 416, NUR 417. Occupational Therapy - OST 558, OST 571, and the first three semesters of didactic curriculum. Physician Assistant - PAS 515, PAS 551; Corequisite: PAS 552. Physical Therapy - PT 675, PT 677, two previous clinical experiences. Social work - Corequisite: SW 671.

### **IPE 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

### **IR 380 - Special Topics in International Relations (1 to 3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Examination of topics not ordinarily dealt with in other courses. Topics will be determined by faculty interest and student request. Consult class schedule for specific topics. IR 380 can be repeated for credit when the topic differs. Offered on sufficient demand.

### **IR 399 - Independent Readings (1 to 3 credits)**

Independent readings on a selected topic of particular interest to the student. Existing courses are not ordinarily offered as independent study. IR 399 requires a literature review of the reading required for the course. Offered fall and winter semesters. Graded credit/no credit. Prerequisite: Approval of instructor before registration.

### **IR 490 - International Relations Internship (2 to 6 credits)**

Supervised field experience in the U.S. or with an international organization, executive agency, interest group, legislative office, or nonprofit institution. The purpose is to allow the student to apply academic knowledge to a work experience. Offered every semester. Prerequisites: Junior standing and permission of the sponsoring institution.

### **IR 495 - Seminar in International Relations (Capstone) (3 credits)**

Interdisciplinary exploration of a major theme or current topic in international relations. Seminars and independent research will help students identify research questions and generate hypotheses relevant to this theme. Offered fall and winter semesters. Prerequisite: Senior standing with a major in IR.

### **IR 499 - Independent Research (1 to 3 credits)**

Independent study and research into an area of mutual interest to the student and faculty member. Course culminates in a research paper on the approved topic. Offered fall and winter semesters. Prerequisite: Permission from the instructor.

### **ITA 101 - Beginning Italian I: Language and Culture (4 credits)**

An introduction to Italian language and culture. Practice in speaking, listening, reading, and writing at the novice level. Supplemented by multimedia and the Language Resource Center. No more than two years of high school Italian, or permission of instructor. Students are strongly encouraged to take the free placement exam in the Language Resource Center prior to registering. Offered fall semester.

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## **ITA 102 - Beginning Italian II: Language and Culture (4 credits)**

Continuation of ITA 101. Practice in speaking, listening, reading, and writing at novice and intermediate levels. Italian culture integrated throughout. Supplemented by multimedia and the Language Resource Center. Students who did not complete ITA 101 at GVSU are strongly encouraged to take the free placement test in the Language Resource Center prior to registering. Offered winter semester. Prerequisite: C (not C-) or better in ITA 101, or credit, or appropriate placement test score.

## **ITA 201 - Intermediate Italian I: Language and Culture (4 credits)**

Continuation of ITA 102. Practice in speaking, listening, reading, and writing at the intermediate level. Italian culture integrated throughout. Supplemented by multimedia and the Language Resource Center. Offered fall semester. Prerequisites: C (not C-) or better in ITA 102, or credit, or appropriate placement test score (free in the Language Resource Center).

## **ITA 202 - Intermediate Italian II: Language and Culture (4 credits)**

Continued practice in speaking, listening, reading, and writing at the intermediate level. Emphasis on real-life communication. Review of grammar and expansion of vocabulary. Focus on Italian culture through authentic texts and multimedia materials. Fulfills Cultures - Global Perspectives. Prerequisite: C (not C-) or better in ITA 201, or credit, permission of the instructor, or appropriate placement test score (free in the Language Resource Center).

## **ITA 280 - Special Topics in Italian (1 to 4 credits)**

Class offered on a special topic related to Italian.

## **ITA 299 - Independent Study (1 to 4 credits)**

Hours, credit, topics, and time to be arranged with individual faculty members with approval of the department.

## **ITA 380 - Special Topics in Italian (1 to 9 credits)**

Course content varies. Refer to schedule of classes to determine course description and prerequisites. Students may repeat this course under different topics.

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## **ITC 100 - Introduction to Intercultural Competence (3 credits)**

This course introduces students to the concept of cultural competence and provides them with the knowledge and application of skills necessary to succeed in diverse settings. This course examines theories of intercultural engagement and then requires students to consider how they might apply knowledge in diverse practical settings. Fulfills Cultures - U.S. Diversity.

## **ITC 480 - Special Topics in ITC (1 to 3 credits)**

Readings, lectures, and/or discussions in specific topics not normally covered by other courses in the program.

## **ITC 490 - Practicum: Intercultural Learning Experience (1 to 6 credits)**

The course is an application of intercultural principles in a public or community setting. Students will engage in both cohort learning activities, as well as individual experiential placements. Students on qualifying semester study abroad programs can complete the practicum concurrently with participation in the cohort. Offered fall and winter semester. Prerequisites: ITC 100 and filing of application for certificate in intercultural competence.

## **ITC 495 - Culminating Seminar in Intercultural Competence (3 credits)**

This is the culminating course required for completion of the intercultural competence certificate. Students identify issues of cultural conflict in their communities or academic disciplines, and develop plans for how these issues might be addressed through cultural understanding or training. Offered winter semester. Prerequisites: ITC 490, completion of elective courses, and approved application for the cultural competence certificate (apply prior to taking ITC 490).

## **JPN 101 - Beginning Japanese I: Language and Culture (4 credits)**

An introduction to Japanese language and the culture in which it is embedded. Practice in speaking, listening, reading, writing, and culture at the beginning level. Supplemented by multimedia and the Language Resource Center. Offered fall semester.

## **JPN 102 - Beginning Japanese II: Language and Culture (4 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Continuation of JPN 101. Further study in speaking, listening, reading, writing, and culture at the beginning level. Supplemented by multimedia and the Language Resource Center. Prerequisite: C (not C-) or better in JPN 101 or instructor approval based on interview.

## **JPN 150 - Accelerated Beginning Japanese I and II: Language and Culture (4 credits)**

One semester accelerated beginning Japanese for students with prior study. Requires prior ability to actively use hiragana and katakana. Covers the same material as JPN 101 and JPN 102. Offered fall semester. Prerequisite: Permission of instructor.

## **JPN 180 - Special Topics in Japanese (1 to 4 credits)**

Course content varies. Expectations of students approximate those in other 100-level courses. May be repeated for credit when content differs. Offered on sufficient demand.

## **JPN 201 - Intermediate Japanese I: Language and Culture (4 credits)**

Continuation of JPN 102 or JPN 150. Continued study of speaking, listening, reading, writing, and culture at the intermediate level. Supplemented by multimedia and the Language Resource Center. Offered fall semester. Prerequisite: C (not C-) or better in JPN 102 or instructor approval based on interview.

## **JPN 202 - Intermediate Japanese II: Language and Culture (4 credits)**

Continuation of JPN 201. Continued study of speaking, listening, reading, writing, and culture at the intermediate level. Supplemented by multimedia and the Language Resource Center. Fulfills Cultures - Global Perspectives. Offered winter semester. Prerequisite: C (not C-) or better in JPN 201.

## **JPN 221 - Pre-modern Japanese Literature and Culture (to 1600) (3 credits)**

This course explores Japanese literature and culture from antiquity to 1600. Readings will consist primarily of primary sources in English translation, including literature, history, philosophy, religion, art, and theater. No prior knowledge of Japanese is required. Fulfills foundations - Philosophy and Literature. Fulfills Cultures - Global Perspectives. Offered winter semester, every third year.

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## **JPN 222 - Early Modern Japanese Literature and Theatre (1600-1868) (3 credits)**

This course explores Japanese literature and theatre during the Edo Period, from 1600 through the end of the 19th century. Readings will consist primarily of literary and theatrical works in English translation as well as history, philosophy, religion, art, etc. No prior knowledge of Japanese is required. Fulfills Foundations - Arts. Fulfills Cultures - Global Perspectives. Offered winter semester, every third year.

## **JPN 224 - Post-World War II Japan through Literature and Film (3 credits)**

This course examines contemporary Japan through the lens of literature and film from the end of the Pacific War in 1945 to the present. Readings consist mainly of primary sources in English translation. No prior knowledge of Japanese is necessary. Fulfills Foundations - Philosophy and Literature. Fulfills Cultures - Global Perspectives. Offered fall semester, every other year.

## **JPN 280 - Special Topics in Japanese (1 to 4 credits)**

Course content varies. Expectations of students approximate those in other 200-level courses. May be repeated for credit when content differs. No more than four credits can be applied to the minor or major. Offered on sufficient demand.

## **JPN 301 - Advanced Intermediate Japanese (3 credits)**

As a continuation of Japanese 202 - Intermediate Japanese II, students will use the basic language skills developed in the first two years to discuss Japanese culture in the target language, developing linguistic accuracy and sophistication, expanding their range of familiar topics and vocabulary, and enhancing cultural awareness and sensitivity. Offered fall semester. Prerequisite: JPN 202 or appropriate placement test score.

## **JPN 302 - Advanced Intermediate Japanese II (3 credits)**

This course is a continuation of JPN 301 - Advanced Intermediate Japanese. Offered winter semester. Prerequisite: JPN 301 or appropriate placement test score.

## **JPN 323 - Modern Japanese Literature and Film (to WWII) (3 credits)**

This course examines Japan's modern period through the lens of literature and film from the Meiji Restoration in 1868 until the end of the Pacific War in 1945. Readings consist mainly of primary sources in English translation. No prior knowledge of Japanese is necessary. Fulfills

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Cultures - Global Perspectives. Part of the Identity Issue. Offered winter semester, every third year. Prerequisite: Junior standing.

### **JPN 380 - Special Topics in Japanese (3 credits)**

Offered on sufficient demand.

### **JPN 386 - Traditional Japanese Theater (3 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only. Credit may vary.

### **JPN 399 - Independent Reading (1 to 4 credits)**

Offered fall and winter semesters.

### **JPN 480 - Special Topics in Japanese (1 to 4 credits)**

Course content varies. Expectations of students approximate those in other 400-level courses. May be repeated for credit when content differs. Offered on sufficient demand.

### **KOR 180 - Special Topics in Korean (1 to 9 credits)**

Course content varies. Expectations of students approximate those in other 100-level courses. May be repeated for credit when content varies. Variable credit. Offered on sufficient demand.

### **KOR 280 - Special Topics in Korean (1 to 9 credits)**

Course content varies. Expectations of students approximate those in other 200-level courses. May be repeated for credit when content varies. Variable credit. Offered on sufficient demand.

### **LAS 210 - Exploring Latin America (3 credits)**

This course introduces students to the interdisciplinary study of the origins and development paths of Latin American and Caribbean societies, with attention to the interrelationship between these societies and the United States. Fulfills one of the Foundations - Social and Behavioral Sciences. Fulfills Cultures - Global Perspectives. Offered fall and winter semesters.

### **LAS 220 - Introduction to Latino/a Studies (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](http://gvsu.edu/catalog) for the most current catalog information.

An interdisciplinary introduction to the diversity and complexity of the U.S. Latino/a population, with attention to intraethnic and interracial relations, formation of social identities, and issues of assimilation and cultural conflict. Fulfills one of the Foundations - Social and Behavioral Sciences. Fulfills Cultures - U.S. Diversity. Offered winter semester.

### **LAS 320 - Model Organization of American States (3 credits)**

This course prepares students to represent a Latin American country at the Model Organization of American States conference in Washington, D.C. Students learn about contemporary Latin American issues, study relevant international relations theory, master OAS and parliamentary procedures, and improve their public speaking and leadership skills. Offered winter semester. Prerequisites: LAS 210 and either PLS 211 or PLS 284.

### **LAS 325 - Human Rights in Latin America (3 credits)**

An interdisciplinary exploration of human rights in Latin America, with a focus on regimes indicted for human rights violations during the Cold War, and subsequent efforts to reform repressive political systems and resolve difficult questions of how to define and enact justice. Part of the Human Rights Issue. Offered fall semester. Prerequisites: Junior standing and one of the following: LAS 210, PLS 105, PLS 211, or PLS 284.

### **LAS 330 - Colonial Latin America (3 credits)**

This course will focus on specific themes related to Latin American civilization and culture from preconquest times to the 19th century. Topics include Amerindian civilizations; encounters between Amerindians, Europeans, and Africans; makings of a colonial society; collapse of colonial rule; wars of independence. Cross-listed with HST 330.

### **LAS 331 - Modern Latin America (3 credits)**

This course will focus on themes related to Latin America from the independence period to the present day. Major themes will include patterns of state formation and models of economic development; United States intervention; the origins and course of radicalism and counter-revolution; and the problems of peaceful reform. Part of the Identity Issue. Cross-listed with HST 331. Prerequisite: Junior standing.

### **LAS 333 - Study Abroad - Latin America (1 to 6 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only. Credits may vary. Offered as needed. Prerequisite: Specific to instructor and course.

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## **LAS 352 - Geography of Latin America (3 credits)**

The growth and development of Latin America has a significant impact on most activities in North America. Examines those effects and studies the cultural and physical development of Latin America. Fulfills Cultures - Global Perspectives. Cross-listed with GPY 352. Offered winter semester.

## **LAS 361 - People, Environment, and Development in the Amazon (3 credits)**

This course explores natural resource use and human settlement over time in the Amazon Basin, from early tribal societies to the present. Topics include extractive economies, trade in animal and forest products, conservation and development initiatives, and the changing demands for resources in urban centers of Amazonia today. Part of the Sustainability Issue. Offered fall semester. Cross-listed with GPY 361. Prerequisite: Junior standing.

## **LAS 372 - From Slavery to Freedom (3 credits)**

Ironically, modern concepts of freedom emerged from societies deeply invested in its opposite, slavery. This course looks at the history of slavery and its abolition in three Latin American societies, Haiti, Cuba, and Brazil, to distinguish the distinctive ways in which each of them defined and constructed freedom. Part of the Human Rights Issue. Cross-listed with HST 372. Prerequisite: Junior standing.

## **LAS 373 - Latinos/as in West Michigan (3 credits)**

An interdisciplinary examination of demographic, socioeconomic, political, and cultural trends in the growing, diverse Latino/a community in the West Michigan area. Students have the option of conducting an original research project or engaging in service-learning. Part of the Identity issue. Fulfills Cultures - U.S. Diversity. Offered fall semester of even-numbered years. Prerequisite: Junior standing.

## **LAS 374 - Revolution in the Americas (3 credits)**

Men and women make history, sometimes through gradual, passive means and sometimes through sudden, active means. In the Americas, both categories of history-making have been common. This course explores international relations in the hemisphere by comparing revolutionary and evolutionary processes of change from Tierra del Fuego to the Northwest Territories. Cross-listed with HST 374. Offered winter semester. Prerequisite: LAS 210.

## **LAS 375 - History of Mexico (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://www.gvsu.edu/catalog) for the most current catalog information.

This course surveys the history of Mexico from the earliest human inhabitation to the present. It will introduce students to the major political, social, and cultural forces that have shaped the modern nation of Mexico. Cross-listed with HST 375.

### **LAS 376 - Latin American Cinema (3 credits)**

A survey of cinema in Latin America. The course will analyze representative films as works of art and examine them as cultural, historical, political, and economic products that characterize and reveal diverse perspectives from significant film producing countries in Latin America. Cross-listed with FVP 376. Offered fall semester.

### **LAS 378 - Contemporary Latin American Literature (3 credits)**

A survey of Latin American literature of the past three decades, in English translation, taking in a variety of nations, regions, and cultures, including Afro Latin and indigenous voices. Genres to be studied include the novel, the short story, poetry, dramas, testimonial narrative, speeches, folklore, and film. Cross-listed with ENG 378 and SPA 378. Offered winter semester of even-numbered years. Prerequisite: LAS 210.

### **LAS 380 - Special Topics in Latin American Studies (1 to 3 credits)**

Consideration of selected topics not ordinarily dealt with in the regular curriculum. Topics will be determined by faculty interest and student request and announced in the class schedule. Can be repeated for credit when the topic differs. Offered winter semester.

### **LAS 399 - Independent Studies (1 to 3 credits)**

Before registering, students must arrange for supervision by a Latin American studies faculty member and submit a contract (available from the LAS coordinator) specifying the topic and scope of the study. Ordinarily no more than three credits of LAS 399 may count toward the minor. Offered every semester. Prerequisite: Permit required.

### **LAS 490 - Latin American Studies Internship (1 to 3 credits)**

Supervised work experience in a Latin American studies-related field, initiated by the student, who must prepare a proposal in consultation with a faculty advisor and a worksite supervisor. The student will submit a final report and both the worksite supervisor and the faculty advisor will evaluate the internship. Offered every semester. Prerequisites: Nine hours of LAS-related coursework and permission of the program coordinator.

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## **LAT 101 - Elementary Latin I (4 credits)**

An introduction to Latin vocabulary, grammar, and syntax with emphasis on the language of the classical period. Offered fall semester.

## **LAT 102 - Elementary Latin II (4 credits)**

Continuation of LAT 101. Offered winter semester. Prerequisite: LAT 101.

## **LAT 199 - Independent Study (1 to 4 credits)**

Hours, credit, topics, and time to be arranged with individual faculty members with approval of the department.

## **LAT 201 - Intermediate Latin I (4 credits)**

Continuation of LAT 102. Introduction to the study of selected ancient authors. Offered fall semester. Prerequisite: LAT 102 or appropriate high school background.

## **LAT 202 - Intermediate Latin II (3 credits)**

Readings in Virgil's Aeneid, supplemented by study of the history and culture of Augustan Rome. Fulfills Cultures - Global Perspectives. Offered winter semester. Prerequisite: LAT 201 or appropriate high school background.

## **LAT 285 - Study Abroad: Intermediate Latin (1 to 6 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only. Credit may vary.

## **LAT 350 - Latin Prose (3 credits)**

Readings from the works of authors such as Cicero, Livy, Pliny, Tacitus, in genres such as oratory, history, philosophy, and epistolary writing. Attention to the development of genre and to the ways in which Latin prose has helped shape the Western tradition. May be repeated for credit when topics vary. Offered fall semester of odd-numbered years. Prerequisite: LAT 202.

## **LAT 351 - Roman Epic (3 credits)**

Readings from epic works such as Vergil Aeneid, Ovid Metamorphoses, and Lucan Bellum Civile. Attention to the development of the genre and the ways in which Latin epic has helped

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shape the Western tradition. May be repeated for credit when topics vary. Offered fall semester of even-numbered years. Prerequisite: LAT 202.

### **LAT 352 - Roman Poetry (3 credits)**

An introduction to Roman poetry other than epic through a close reading of works such as the comedies of Plautus or Terence; the love poetry of Tibullus, Catullus, Propertius, or Ovid; the lyric poetry of Horace; and the minor poetry of Ovid, Martial, or Juvenal. May be repeated for credit when topics vary. Offered winter semester in alternating, even-numbered years. Prerequisite: One 300-level Latin course.

### **LAT 353 - Latin Prose Composition (3 credits)**

Study of Latin syntax and prose style, with emphasis on introductory prose composition and reading select prose models (Sallust, Cicero, Seneca, Pliny, and Tacitus). Special attention to broad grammatical structures, complex syntax, and stylistic variations. May be repeated for credit when topics vary. Offered winter semester of odd-numbered years. Prerequisite: LAT 351.

### **LAT 380 - Special Topics in Latin (1 to 4 credits)**

Course content varies. Refer to schedule of classes to determine course description and prerequisites. Students may repeat this course under different topics.

### **LAT 385 - Study Abroad: Advanced Latin (1 to 6 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only. Credit may vary.

### **LAT 399 - Independent Reading (1 to 3 credits)**

Supervised independent reading in Latin. Topic, credit, and time must be arranged with individual faculty member before registration. Offered fall and winter semesters.

### **LAT 400 - Advanced Latin Prose (3 credits)**

Advanced study of Latin prose authors such as Caesar, Cicero, Sallust, Livy, Seneca, Pliny, and Tacitus. Special attention to electronic resources in classics and elements of textual criticism. Offered winter semester of even-numbered years. Prerequisite: One 300-level Latin course.

### **LAT 401 - Advanced Roman Poetry (3 credits)**

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Advanced study of Roman poets such as Plautus, Catullus, Lucretius, Virgil, Horace, Ovid, and Juvenal. Special attention to electronic resources in classics and elements of textual criticism. May be repeated for credit when topics vary. Offered fall semester. Prerequisite: One 300-level Latin course.

## **LS 101 - Law in our Lives (3 credits)**

Examination of the law's impact on our lives. An introduction to law and legal reasoning including the legal profession, roles and responsibilities, and major substantive areas of U.S. law including criminal law and civil law areas including torts, contracts, real and personal property, wills and estates, and business law. Fulfills Foundations - Social and Behavioral Sciences. Offered fall and winter semesters.

## **LS 224 - Legal Research (3 credits)**

Introduction to legal research methods, including state and federal reported cases, statutes, cite-checking, administrative regulations, and computerized legal research; introduction to legal citation and writing briefs of court decisions and legal memoranda. Offered fall and winter semesters. Prerequisite: LS 101 with grade of C or higher.

## **LS 226 - Civil Litigation I (3 credits)**

An exploration of all phases of the pretrial litigation process in civil matters, including procedures at the federal and state level. Students will develop an understanding of the attorney-client relationship, investigation of claims, jurisdiction, venue, pleadings, motion practice, discovery, and litigation strategy. Offered fall and winter semesters. Prerequisite: LS 301 or LS 101 (may be taken concurrently) or permission of instructor.

## **LS 320 - Property and Probate Law (3 credits)**

A study of property and probate law through the examination of key concepts, case law, statutory law, and documents. Fact-gathering techniques and drafting considerations will be highlighted. Topics include real estate, personal property, environmental law, wills, and probate. Offered fall and winter semesters. Prerequisite: LS 101 (may be taken concurrently).

## **LS 322 - Commercial Law (3 credits)**

A study of commercial law through the examination of key concepts, case law, statutory law, and documents. Fact-gathering techniques and drafting considerations will be highlighted. Topics include partnerships, corporations, employment law, bankruptcy, and consumer protection law. Offered winter and summer semesters. Prerequisite: LS 101 (may be taken concurrently).

## **LS 324 - Legal Research and Writing (3 credits)**

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Introduction to and overview of legal writing, including advanced citation issues and techniques for preparation of multi-issue legal memoranda, trial and appellate briefs, legal correspondence, and contracts. Offered fall and winter semesters. Prerequisite: LS 224 with a grade of C or better.

### **LS 350 - Family Law (3 credits)**

This course studies family law by examining key concepts, case law, statutory law, and documents along with fact-gathering techniques and drafting considerations. Topics covered include marriage, dissolution of marriage, adoption, child support and custody, parental rights and obligations, nontraditional families, and property law. Offered fall and winter semesters.

### **LS 370 - Women and the Law (3 credits)**

Overview of legal limitations on sex discrimination in the United States and efforts to end discrimination, marriage and divorce, relationships outside of marriage, reproductive rights and biological factors impacting these rights, violence against women, and employment discrimination focusing on gender-based influences that contribute to these human rights violations. Part of the Human Rights Issue. Cross-listed with WGS 370. Offered fall and winter semesters. Prerequisite: Junior standing.

### **LS 380 - Special Topics in Legal Studies (1 to 4 credits)**

Focuses on topics not ordinarily dealt with in other courses. Topics will be determined by faculty interest and student request. Although the course can be repeated, no more than six credits can be applied to a legal study major. Offered on sufficient demand.

### **LS 399 - Independent Reading in Legal Studies (1 to 3 credits)**

Independent supervised readings on selected topics not dealt with in-depth in another course. Offered every semester. Graded credit/no credit.

### **LS 428 - Civil Litigation II (3 credits)**

An in-depth exploration of trial preparation, the conduct of civil trials, post-trial matters, and alternative dispute resolution. Particular attention is paid to methods of organizing and analyzing discovery materials, evidentiary issues, trial strategy and practice, and post-trial matters. Offered fall and winter semesters. Prerequisites: LS 101 and LS 226.

### **LS 490 - Legal Studies Internship (1 to 6 credits)**

Internship in a government, private, or corporate law office or other law-related setting under individual faculty supervision to allow students to apply academic knowledge to professional

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experience. May be repeated for up to six credits. Graded credit/no-credit. Offered every semester. Prerequisites: Senior standing, LS 101, LS 324, and LS 226 (may be taken concurrently).

## **LS 495 - Legal Thought (Capstone) (3 credits)**

Explores the philosophy, politics, and ethics of law and legal reasoning. Study of the major schools of thought that have informed jurisprudence in the United States and its modern critiques. Familiarity with the fundamentals of legal reasoning and the structure and operation of the legal system will be assumed. Offered fall and winter semesters. Prerequisites: LS 101, LS 324, and senior standing.

## **LS 499 - Independent Study and Research (1 to 3 credits)**

An independent study and research project based on knowledge acquired in other courses, internships, or other legal studies courses. The research will be in the area of the student's interest. Graded credit/no-credit. Offered every semester. Prerequisites: Senior standing and permission of instructor.

## **LSS 180 - Laker Strategies for Success (0 credits)**

Readings, lectures, and/or discussions in specific topics not normally covered by other courses in the program.

## **MAT 300 - Music, Art, and Theatre for Elementary Education (3 credits)**

A practical course for elementary-teacher candidates introducing creative principles, methods, and materials for teaching music, art, and theatre pertinent to elementary instruction. Closed to music, art, and theatre majors and minors.

## **MAT 380 - Special Topics in Music, Art, and Theatre (1 to 9 credits)**

Readings, lectures, and/or discussions in specific topics not normally covered by other courses in the program.

## **MBA 601 - Applied Data Analysis and Decision Making (1 credit)**

Provides formal analytical tools useful in identifying business problems and identifying and choosing from a variety of solutions. Emphasis is placed on data analysis, goal and stakeholder

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identification, and conceptualizing, conducting, and evaluating data-based decisions. Offered spring/summer semester. Prerequisites: Admission to the M.B.A. program and permission of the graduate program director.

## **MBA 610 - Management Information Systems and Business Intelligence (2 credits)**

Examines the role of information, business intelligence, and management information systems in facilitating and integrating organizational processes. Also, provides an understanding of the strategic role of information systems in organizations and responsibilities of managers to effectively manage their information resources. Offered every semester. Prerequisites: Admission to the M.B.A. program and permission of the graduate program director.

## **MBA 611 - Accounting for Managers (3 credits)**

Provides an overview of financial and managerial accounting tools and information. Focuses on interpreting and analyzing financial statements as a source of information for managers, evaluating information from financial statements for improved critical thinking and decision-making, and using accounting information for internal planning and control purposes. Offered fall and winter semesters. Prerequisites: Admission to the M.B.A. program and permission of the graduate program director.

## **MBA 621 - Financial Management (3 credits)**

Focuses on the application of financial techniques, issues, and concepts to optimize the value of the firm. Emphasis is placed on problem-solving and decision-making in the practice of financial management. Topics include financial statement analysis, risk and return, capital budgeting and structure, and the role of global financial markets. Offered fall and winter semesters. Prerequisites: Admission to the M.B.A. program and permission of the graduate program director.

## **MBA 631 - Leading People and Organizations (3 credits)**

Explores how to improve as a leader through diagnosing organizational problems and developing solutions with individuals and groups as organizational resources. The course also addresses issues of individual, group, and organizational change from a strategic, problem-solving perspective. Offered fall and winter semesters. Prerequisites: Admission to the M.B.A. program and permission of the Graduate Program Director.

## **MBA 641 - Applied Business Economics (3 credits)**

Develops an analytical framework to understand the economics of production, consumer demand, supply and demand analysis, industry structure and performance, pricing strategies, the

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economics of business organizations, and government policy. Offered fall and winter semesters. Prerequisites: Admission to the M.B.A. program and permission of the graduate program director.

## **MBA 651 - Marketing for Professionals (3 credits)**

Examines the role of markets and marketing in the business environment. Provides the knowledge and tools needed to analyze product and service markets and develop marketing strategies to create sustainable competitive advantages. Offered fall and winter semesters. Prerequisites: Admission to the M.B.A. program and permission of the graduate program director.

## **MBA 660 - Operations and Supply Chain Management (3 credits)**

Examines how organizations execute sourcing, operations, logistics, and marketing and sales to maximize value for the business and its exchange partners. Emphasis is placed on operational performance, customer service outcomes, financial profitability, and organizational learning. Offered fall and winter semesters. Prerequisites: Admission to the M.B.A. program and permission of the Graduate Program Director.

## **MBA 674 - Self-Awareness and Leadership Style for MBAs (1 credit)**

Provides students with tools to assess and develop their strengths and areas of improvement as a leader. Class is credit/no-credit. Offered every semester. Prerequisites: Admission to the M.B.A. program and permission of the graduate program director.

## **MBA 675 - Legal Environment for Business (1 credit)**

Focuses on the laws and regulations that affect business decisions. Students will develop an understanding of the legal and regulatory environment, compliance, and the assessment of risk. Offered every semester. Prerequisites: Admission to the M.B.A. program and permission of the graduate program director.

## **MBA 676 - Leading People and Teams (1 credit)**

Provides a framework for understanding teams and will improve students' ability to work in groups. Illustrates areas of team development, participant roles, and culture. Offered every semester. Prerequisites: Admission to the M.B.A. program and permission of the graduate program director.

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## **MBA 677 - Advanced Leadership and Ethics (1.5 credits)**

Explores ethics and leadership as they are commonly encountered in modern business settings. Students will study ethics and leadership from historical, philosophical points of view with attention to issues of decision-making, organizational governance, and social responsibility. Offered winter semester. Prerequisites: Admission to the M.B.A. program and permission of the graduate program director.

## **MBA 678 - Advanced Leadership and Ethics (1.5 credits)**

This course builds on the material presented in MBA 677 and explores ethics and leadership as they are commonly encountered in modern business settings. Students will study ethics and leadership from psychological points of view with greater attention to issues of character and social responsibility. Offered spring/summer semester. Prerequisites: MBA 677, admission to the M.B.A. program, and permission of the graduate program director.

## **MBA 679 - Effective Leadership (1 credit)**

Students learn about the specific tasks for which all leaders are responsible and apply them to their current work situation. Students also learn about leadership aspects such as community leadership, how to have difficult conversations with team members, change management, communication skills, and conflict resolution. Class is credit/no-credit. Offered every semester. Prerequisites: MBA 674 and admission to the M.B.A. program and permission of the graduate program director.

## **MBA 680 - Special Topics in MBA (1 to 9 credits)**

Course content varies. Refer to schedule of classes to determine course description and prerequisites. Students may repeat this course under different topics. Prerequisite: Admission to Seidman College of Business or permit.

## **MBA 681 - Strategic Mindset and Customer Centricity (1 credit)**

Provides students with the framework to develop a managerial-level strategic, customer-centric, and systemic perspective for evaluating business options and decision-making. Offered every semester. Prerequisites: Admission to the M.B.A. program and permission of the graduate program director.

## **MBA 683 - Strategic and Global Competitiveness (6 credits)**

Examines strategic decision-making to improve organizational competitiveness and sustainability. Develops an analytical toolkit of concepts, frameworks, and techniques for an

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integrative strategic analysis. Provides a faculty-supervised consulting experience where students will apply business knowledge acquired in the M.B.A. program to pre-identified strategic problems faced by local, regional, or global organizations. Offered every semester. Prerequisites: Admission to the M.B.A. program and permission of the Graduate Program Director.

## **MBA 684 - Professional Consulting and Communications (1 credit)**

This course provides the opportunity for oral and written presentation of the projects completed in MBA 683 to the companies involved and faculty. A written report and oral presentation are required. Offered every semester. Prerequisites: MBA 683, admission to the M.B.A. program, and permission of the graduate program director.

## **MBA 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

## **MES 201 - Introduction to the Middle East (3 credits)**

An entry-level course introducing students to the variety and complexity of the Middle East. Provides a broad view of the region from the perspective of several disciplines and is especially suitable for students having little familiarity with the region. Fulfills Foundations - Historical Perspectives. Fulfills Cultures - Global Perspectives. Offered fall and winter semesters.

## **MES 202 - Arab Americans (3 credits)**

Introduces students to the Arab American community in the United States, and its historical experiences, and to other salient social and political issues. Topics include such issues as immigration, race and ethnicity, gender, political behavior, economic development, education, media coverage, and civil rights. Fulfills Cultures - U.S. Diversity. Offered winter semester.

## **MES 301 - International Business and Culture (3 credits)**

Explores how business is done in a country or region, and how culture influences business and its environment. This course reviews the country's history, economics, politics, government, arts, or education. It also explores how business practices may differ from U.S. practices. To be taught in that country as part of a study abroad program. Cross-listed with BUS 301. Offered spring/summer semester.

## **MES 330 - Arab Identity in Literature and Culture (3 credits)**

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This course examines the complexities of forming, constructing, and shaping Arab identity within a vast Arab world. Such complexity will be examined through written and oral accounts, audio and visual sources, and literary authors from the Arab world. All materials read in English translation. Does not count toward Arabic minor. Part of the Identity Issue. Cross-listed with ARA 330. Offered fall and winter semesters. Prerequisite: Junior standing.

## **MES 333 - Study Abroad - Middle East Studies (1 to 6 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only. Credits may vary. Offered as needed. Prerequisite: Specific to instructor and course.

## **MES 350 - Islam: Scripture and Ritual (3 credits)**

The purpose of this course is to deepen the students' understandings of Islam in its religious, social, and historical contexts, i.e., to understand how Muslims live and what they believe. Offered winter semester.

## **MES 370 - Contemporary Issues in the Middle East: The Model Arab League (3 credits)**

Students in this course will learn about the current political, environmental, economic, social, cultural, military, and international affairs of Middle Eastern countries. They will research these issues and participate in the Model Arab League simulation as part of the course. May be repeated for credit if content differs. Part of the Human Rights Issue. Offered winter semester. Prerequisite: Junior standing.

## **MES 380 - Special Topics in Middle East Studies (3 credits)**

Consideration of selected topics not ordinarily dealt with in the regular curriculum. Topics will be determined by faculty interest and student request and will be announced in the class schedule. Can be repeated for credit when the topic differs.

## **MES 386 - Arabic through Culture and Customs (3 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only.

## **MES 399 - Independent Studies (1 to 3 credits)**

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Before registering, students must arrange for supervision by a Middle East studies faculty member and submit a contract (available from the MES coordinator) specifying the topic and scope of the study. Instructor approval required prior to registration. Offered every semester.

## **MGT 268 - Business Processes and Management Information Systems (3 credits)**

This course is designed to give the student an understanding of the importance of common business processes and their relationship with information systems in modern companies. Gaining insight into the integration that good information systems, specifically Enterprise Resource Planning (ERP) systems, foster in an organization. Offered every semester.

## **MGT 300 - Fundamentals of Management for Non-Business Majors (3 credits)**

The management process is explained by examining its functions of business planning, organizing, leading, and controlling strategy. Theoretical concepts and applications through the use of selected case materials. Business degree-seeking students will not be given credit toward the undergraduate business degree for completion of this course. Offered every semester.

## **MGT 303 - International Business and Culture (3 credits)**

An introduction to the issues that a company will experience when doing business in a global economy. Emphasis is on the influence of culture on business practices. Topics will include economic structures, marketing approaches, accounting and financial issues, management and organization issues, and distribution issues. Fulfills Cultures - Global Perspectives. Part of the Globalization Issue. Offered winter semester. Prerequisites: Junior standing and admitted to Seidman College of Business or by permit.

## **MGT 305 - Managerial Skills (3 credits)**

This course is focused on developing useful managerial skills such as business information literacy, business research skills, critical thinking, interpersonal conflict management, problem solving, and decision-making, or a business technology skill. Theory is heavily supplemented with application through exercises and projects. May be repeated if content differs. Offered fall semester of even-numbered years. Prerequisites: Junior standing and admitted to Seidman College of Business or by permit.

## **MGT 330 - Entrepreneurship and Small Business Management (3 credits)**

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An exploration of opportunities for self-employment and product development. The course features a comprehensive survey of the entrepreneurship process: recognizing opportunities, evaluating business potential, sources of financing, launching a new business venture, and issues related to managing growth. Application of management principles to operating issues of small, evolving businesses. Offered fall and winter semesters. Prerequisite: Admitted to Seidman College of Business or by permit.

## **MGT 331 - Managing People and Organizations (3 credits)**

Explore the management process through an examination of its functions of planning, organizing, motivating, and controlling work and work performance in a business organization. Students learn about theoretical concepts and applications through the use of selected case materials. Offered every semester. Prerequisite: Admitted to Seidman College of Business or by permit.

## **MGT 333 - Human Resource Management (3 credits)**

Focuses on the work of human resource departments in acquiring, training, developing, appraising, compensating, and managing employees. Strong focus on legal requirements of HR practices. Introduces the growing role of strategic human resource management. Prerequisites: MGT 331 and admitted to Seidman College of Business or by permit.

## **MGT 334 - Employment and Labor Law (3 credits)**

Analysis of major employment and labor laws affecting management and employee rights. Specific topics include tort; contract and negligence law; constitutional law; administrative laws prohibiting discrimination, data theft, and invasion of privacy; and litigation, mediation, and arbitration. International employment laws will be addressed for comparison purposes. Prerequisite: Admitted to Seidman College of Business or by permit.

## **MGT 336 - Compensation and Benefits Management (3 credits)**

Provides students with an understanding of the compensation system. Emphasis on the design, development, and implementation of a total compensation system that balances internal consistency with external competitiveness. Prerequisites: MGT 333 and admitted to Seidman College of Business or by permit.

## **MGT 337 - Supply Chain Management (3 credits)**

Examines the organization of a purchasing department, its objectives, functions, and personnel. Purchasing specifications, standards, bidding, ordering, and sources are among the topics covered. Discussion and analysis of the duties and responsibilities of the materials handling

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manager in a typical manufacturing firm. Specifically, the handling of materials in the manufacturing process is discussed, including coordination between manufacturing departments and plants within a firm. Prerequisite: Admitted to Seidman College of Business or by permit.

## **MGT 340 - Ethics and Business, Social Justice and Sustainability (3 credits)**

This course explores the relationship between business development, social justice, and the growing emphasis on sustainable business practices (e.g., "conscious capitalism"). Business will be studied in a way that includes the study of community, commitment to the common good, and one's own values. Offered each semester. Prerequisites: MGT 331, junior standing, and admitted to Seidman College of Business or by permit.

## **MGT 345 - Team Building (3 credits)**

A class which integrates theory and application by teaching students how to be effective members of a work team. Emphasis on both logical and creative problem solving. Dynamics and processes within teams serve as the focus of analysis, learning, and practice. Offered every year. Prerequisite: Admitted to Seidman College of Business or by permit.

## **MGT 350 - Principles of Electronic Commerce (3 credits)**

This course introduces students to the fundamental concepts and frameworks of electronic commerce (EC). Topics include strategic role of EC, impact on an organization and its value system, assessment of available business models, overview of the technological infrastructure, and a discussion of critical legal, societal, and management issues. Offered winter semester. Prerequisites: MGT 268 and admitted to Seidman College of Business or by permit.

## **MGT 351 - Enterprise Information Systems (3 credits)**

This course provides a comprehensive understanding of Enterprise Information Systems (EIS) focusing on Enterprise Resource Planning (ERP) systems and the key role they play in modern organizations. Students will gain an understanding of ERP systems from both a functional (business process) and implementation perspective using SAP R/3 software. Offered fall and winter semester. Prerequisites: MGT 268 and admitted to Seidman College of Business or by permit.

## **MGT 355 - The Diversified Workforce (3 credits)**

An examination of the experiences of different groups in the U.S. workforce, including race, ethnicity, gender, age, disability, and sexual orientation. Cultural differences are explored, and consideration is given to the ways in which organizational norms operate to include or

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marginalize different groups of people. Fulfills Cultures - U.S. Diversity. Prerequisite: Admitted to Seidman College of Business or by permit.

### **MGT 361 - Management Science (3 credits)**

Application of the scientific, mathematical, and quantitative methods to managerial decision-making under conditions of certainty, risk, and uncertainty. Specific topics include linear programming, transportation, assignment, project management, queuing theory, decision analysis, and simulation. Offered every semester. Prerequisites: STA 215 and admitted to Seidman College of Business or by permit.

### **MGT 362 - Computers in Operations Management (3 credits)**

Familiarizes students with the modeling, methodologies, and software used in developing operations management systems. Offered every year. Prerequisites: MGT 268, MGT 366, and admitted to Seidman College of Business or by permit.

### **MGT 363 - Managing Quality (3 credits)**

Provides students with an overview of total quality management. Emphasis on philosophy, tools, and the integrated systems for the continuous improvement of process and product quality. Offered every year. Prerequisite: Admitted to Seidman College of Business or by permit.

### **MGT 364 - Service Operations Management (3 credits)**

An overview of the planning, controls, and designs of operations in the service industry. Emphasis on the application of economic principles, decision tools, and models to solve problems encountered in the service environment. Offered every year. Prerequisite: Admitted to Seidman College of Business or by permit.

### **MGT 365 - Strategic Management of Operations (3 credits)**

Designed to enhance comprehension of the operations management function at the strategic level to gain experience in identifying and analyzing strategic problem situations and to develop recommendations for action. Offered every year. Prerequisites: MGT 366 and admitted to Seidman College of Business or by permit.

### **MGT 366 - Operations Management (3 credits)**

Application of strategic and quantitative tools and techniques in manufacturing and service organizations. Specific topics include manufacturing strategy formulation, forecasting, aggregate planning, scheduling, Just In Time management and assurance of quality, inventory

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management, and advanced technologies, including Enterprise Resource Planning (ERP) systems. Offered every semester. Prerequisites: STA 215, MGT 268, and admitted to Seidman College of Business or by permit.

## **MGT 367 - Manufacturing Planning and Control (3 credits)**

Basic course in manufacturing planning and control. Topics include capacity planning, forecasting, production activity control, master production scheduling, production planning, independent demand inventory management, material requirements planning, and Just In Time. Offered fall semester. Prerequisites: MGT 268, MGT 366, and admitted to Seidman College of Business or by permit.

## **MGT 371 - Systems Analyses and Design (3 credits)**

Provides a comprehensive presentation of the concepts, procedures, and tools necessary for analyzing and designing management information systems. Students will develop skills necessary throughout the systems development cycle, e.g., project management, data collection, analysis, design, testing, and documentation. Students will apply course concepts and skills in a team project. Offered fall semester. Prerequisites: MGT 268 and admitted to Seidman College of Business or by permit.

## **MGT 380 - Special Topics in Management (3 credits)**

Analysis and discussion of advanced topics, contemporary problems, and new or controversial topics. Specific topics will reflect interest of students and instructors. Offered on sufficient demand. Prerequisites: Admitted to Seidman College of Business and by permit.

## **MGT 429 - Staffing and Development (3 credits)**

This course addresses the concepts, practices, trends, and techniques related to the strategic acquisition and development of talent. Legal, ethical, and global issues in human resources staffing and development are explored throughout the course. Students convert concepts into practice through integrative case studies and/or projects. Offered fall and winter semesters. Prerequisites: MGT 333 and admitted to Seidman College of Business or by permit.

## **MGT 430 - Organizational Development (3 credits)**

Examines change as a dynamic and essential process in organizations and explores the manager's role as a change agent. Emphasis is given to the ability to plan, initiate, and implement changes with the potential to improve the functioning of organizations and their members. Prerequisites: MGT 331 and admitted to Seidman College of Business or by permit.

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## **MGT 431 - Strategic Human Resources Management (3 credits)**

The consideration of human resource management from a strategic perspective. Includes discussion and analysis of the emerging use of the human resource function as a strategic tool. Students convert concepts into practice through the use of strategic cases and/or professional projects and exercises. Prerequisites: MGT 333 and admitted to Seidman College of Business or by permit.

## **MGT 432 - Grievance Administration, Arbitration, and Collective Bargaining (3 credits)**

Problems and issues in the negotiation of collective bargaining agreements in the public and private sectors. Grievance procedures and arbitration under a union contract. The resolution of disputes over wages, seniority, work assignments, and other common employment relations topics will be covered. Prerequisites: MGT 334 and admitted to Seidman College of Business or by permit.

## **MGT 433 - International Human Resource Management (3 credits)**

Focus on the effects of globalization on human resource activities and facilitates development of a set of skills essential for a successful career as a global manager. Prerequisites: MGT 333 and admitted to Seidman College of Business or by permit.

## **MGT 437 - Family Business (3 credits)**

Develops the intricate connections between management, ownership, and family dynamics that characterize family business. Its intention is to do this primarily by bringing together established members of the local family-owned business community and students with family business backgrounds or interests. Prerequisite: Admitted to Seidman College of Business or by permit.

## **MGT 438 - Business Ethics (3 credits)**

An inquiry into the relevance of the classical ethical literature to the resolution of everyday business problems. Particular emphasis will be placed on the practical usefulness of the Socratic tradition. That tradition requires that we attend to clarifying our own values, as well as those of others. We will read a number of Socratic dialogues, respond to a variety of business cases, and attend to the relationship between them and the process of understanding ourselves. Prerequisites: MGT 331 and admitted to Seidman College of Business or by permit.

## **MGT 466 - International Management and Multinational Corporations (3 credits)**

A study of the managerial challenges of conducting business in a global economy. Emphasis on cultural differences and their impact on the situations and issues managers confront when working internationally. Fulfills Cultures - Global Perspectives. Prerequisites: Senior standing and admitted to Seidman College of Business or by permit.

## **MGT 467 - Advanced Topics in Operations and Supply Chain Management (3 credits)**

This course is designed to familiarize students with strategic planning, modeling, and developing practical applications in operations and supply chain management. Cost-effective distribution policies for multi-echelon inventory systems, transportation and routing management and location planning are also covered. Prerequisites: MGT 366 and admitted to Seidman College of Business or by permit.

## **MGT 471 - Enterprise Systems Configuration (3 credits)**

Students will learn about business processes in modern organizations, managing change to those processes, and configuring an Enterprise Resource Planning (ERP) system to implement business process changes. Project organizational skills will be enhanced as students work on cross-functional teams to implement changes. Offered fall semester. Prerequisites: MGT 351 and admitted to Seidman College of Business or by permit.

## **MGT 475 - Customized ERP Solutions (3 credits)**

Students will learn how to customize Enterprise Resource Planning (ERP) software using programming languages like ABAP, SAP's proprietary language. Students will learn generalized programming concepts as well as the specifics of programming with ABAP. Students will explore the difficulties associated with making changes to "off-the-shelf" software. Offered winter semester. Prerequisites: MGT 351, CIS 160, CIS 333, and admitted to Seidman College of Business or by permit.

## **MGT 477 - Applied Business Intelligence (3 credits)**

This course equips the student with skills for business intelligence and analytics to support managerial decision making. Emphasis will be on the application of tools and techniques to analyze business data and communicate findings to business stakeholders. Students will use SAP and other analytics tools throughout the course. Offered fall and winter semesters. Prerequisite: MGT 268.

## **MGT 478 - Business Intelligence Development (3 credits)**

In this course, students will acquire knowledge and skills in developing customized business intelligence systems to support data analytics and decision-making in modern businesses. Emphasis will be on the design and implementation of enterprise data warehouses. Students will use SAP and other data analytics tools throughout the course. Offered fall and winter semesters. Prerequisite: MGT 477.

## **MGT 480 - Special Topics in Management (3 credits)**

Provides students, regardless of major, with opportunities to work under faculty supervision as part of a student team on actual projects for organizations and corporations and to learn and practice technical and communication skills and ethical considerations. Prerequisite: Admitted to Seidman College of Business or by permit.

## **MGT 490 - Management Internship (1 to 6 credits)**

This course will be used to grant management credit to students who complete internships in the management field. Graded credit/no-credit. Prerequisites: Junior standing, minimum 2.5 GPA, and admitted to Seidman College of Business or by permit.

## **MGT 495 - Administrative Policy (3 credits)**

The study of functions and responsibilities of general management in terms of analyzing problems that affect the performance, character, and success of the total business enterprise. Emphasis on corporate strategy and its implementation. International aspects of corporate strategy are included. Offered every semester. Prerequisites: Senior standing, all core classes, and admitted to Seidman College of Business or by permit.

## **MGT 499 - Independent Research (1 to 3 credits)**

Students propose an independent study culminating in a written and oral report. The proposal must include learning outcomes and a readings list. Proposals involving primary research should include a detailed description of objectives and methodology. Students must find an interested faculty member to help them prepare the proposal and to supervise the independent research. Offered every semester. Prerequisite: Admitted to Seidman College of Business or by permit.

## **MGT 580 - Special Topics in Management (1 to 3 credits)**

Readings, lectures, and/or discussions in specific topics not normally covered by other courses in the program.

## **MGT 660 - Operations and Supply Chain Management (3 credits)**

Develops an understanding and appreciation of the conceptual and quantitative aspects of operations management as a core business competency in manufacturing and service environments. Emphasis is placed on specific operations management concepts/methods such as supply chain management, lean operations/just-in-time, inventory management, MRP/ERP, aggregate planning, and total quality management/SPC. Offered every semester. Prerequisite: Completion of M.B.A. background equivalents.

## **MGT 665 - Enterprise Information Systems (3 credits)**

This course enables students to experience enterprise information systems (EIS) from the perspectives of end users and designers using EIS. Various software modules are explored - financial accounting, cost management, materials management, production planning and control, and sales and distribution - with particular focus on underlying processes that they support. Offered winter semester. Prerequisite: BUS 610 or equivalent.

## **MGT 672 - Creativity and Social Entrepreneurship (3 credits)**

This course provides applied sustainable development tools and best practices that businesses and nonprofit organizations can use to address social entrepreneurship issues using innovative, interdisciplinary, and sustainable approaches. Offered fall semester. Prerequisite: Admission to a graduate program.

## **MGT 680 - Special Topics in Management (1 to 3 credits)**

Analysis and discussion of advanced topics, contemporary problems, and new or controversial topics. Specific topics will reflect interest of students and instructors. Prerequisite: Permission of instructor.

## **MGT 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

## **MGT 699 - Independent Study (1 to 3 credits)**

Independent research in the student's area of interest, supervised by a Seidman faculty member and culminating in a written and oral report. Written permission of supervising faculty required.

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## **MIC 495 - Microbiology and Infectious Disease (3 credits)**

This microbiology course will synthesize the materials students have learned from the microbiology core and cognate courses and enable them to write and present professionally styled communications to an audience of their peers and to instructors. Offered fall and winter semesters. Prerequisites: Senior standing and one of the following pairings: BMS 312 and BMS 313; or BMS 412 and BMS 413; or BMS 422 and BMS 423.

## **MKT 300 - Fundamentals of Marketing for Non-Business Majors (3 credits)**

Introduction to marketing for the non-business major. Discusses activities, institutions, and processes involved in marketing products and services across various contexts. Highlights marketing's role in society and in individuals' lives. Bachelor of Business Administration (B.B.A.) degree-seeking students will not be given credit toward degree completion for this course. Offered every semester.

## **MKT 350 - Marketing Management (3 credits)**

An introduction to marketing. Provides a general understanding and appreciation of the forces operating, institutions employed, and methods followed in marketing products and services both domestically and internationally. Offered every semester. Prerequisite: Admitted to Seidman College of Business or by permit.

## **MKT 351 - Consumer Behavior (3 credits)**

An overall view of some of the basic perspectives of consumer motivation and behavior. Offered fall and winter semesters. Prerequisites: MKT 350 and admitted to Seidman College of Business or by permit.

## **MKT 352 - Marketing Research (3 credits)**

Detailed examination of business research procedures and applications. Problem definition, research design, data collection, sampling techniques, costs, etc. Case problems and projects. Offered fall and winter semesters. Prerequisites: MKT 350, STA 215, and admitted to Seidman College of Business or by permit.

## **MKT 353 - Marketing Negotiations (3 credits)**

This course develops an understanding and appreciation of the negotiation process. Definitions, concepts, strategies, and practical tactics encompassed in marketing negotiation are examined in circumstances involving pricing, products, distribution, promotion, and packaging. The course

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includes face-to-face negotiation projects. Offered fall and winter semesters. Prerequisite: Admission to Seidman College of Business or with permission.

## **MKT 354 - Distribution Institutions and Logistics (3 credits)**

An integrated study of supply chain and distribution channels and their institutions in the global marketplace. Topics include an introduction to the supply chains, system design, advantages and disadvantages of various channel institution types, and the functional dimensions of supply chain and distribution management. Offered fall and winter semesters. Prerequisite: Admitted to Seidman College of Business or by permit.

## **MKT 355 - International Logistics (3 credits)**

Studies global trade management and logistics issues. Trade management issues will focus on documentation requirements, customs administration, and security issues. International logistics topics will include system design, intermediaries, legal, customer service, transportation, warehousing, and inventory. The course also deals with logistics operations within selected foreign markets. Offered fall semester. Prerequisite: Admitted to Seidman College of Business or by permit.

## **MKT 356 - Professional Selling (3 credits)**

The principles of professional salesmanship and their practical application in the marketing mix. Actual sales presentations by students are included. Offered fall and winter semesters. Prerequisites: MKT 350 and admitted to Seidman College of Business or by permit.

## **MKT 357 - Retailing (3 credits)**

Introduction to retailing with emphasis on profit elements, pricing and merchandising policies, inventory, and merchandise control. Offered fall and winter semesters. Prerequisites: MKT 350 and admitted to Seidman College of Business or by permit.

## **MKT 358 - Advertising and Marketing Communications (3 credits)**

A managerial analysis and examination of the nonpersonal demand generating element of the firm's marketing efforts. Includes study of communication theory; advertising; market, audience, and target segmentation and selection; media analysis; public relations; publicity; and most other nonpersonal communications activities. These elements are strongly related to personal selling in the private sector firm. Offered fall and winter semesters. Prerequisite: Admitted to Seidman College of Business or by permit.

## **MKT 359 - Multinational Marketing (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Emphasizes global marketing decision-making from the manager's point of view. Examines how successful international companies, both large and small, decide which goods and services to market in specific parts of the world. Evaluates the strategies and tactics necessary for multinational marketing success. Part of the Globalization Issue. Offered fall and winter semesters. Prerequisites: Admitted to Seidman College of Business or by permit, and junior standing.

## **MKT 360 - Digital Marketing (3 credits)**

Introduction to the strategic use of digital tools for marketing goods and services across a range of categories. How digital media is used to increase effectiveness, efficiency, and competitiveness. Specific areas of focus include market and marketing research, competitive monitoring, customer service, new product testing, and internal and external communications. Offered fall semester. Prerequisites: MKT 350 and admitted to Seidman College of Business or by permit.

## **MKT 361 - Sports Marketing (3 credits)**

An examination of the unique marketing strategies within the sporting industry. The course will explore these strategies from a variety of stakeholder perspectives. This course places special emphasis on the local sporting scene, which will include group and individual projects, case studies, and field trips. Prerequisite: Admitted to Seidman College of Business or by permit.

## **MKT 365 - GIS for Economic and Business Decision-Making (3 credits)**

Explores the use of geographic information systems (GIS) technology in economic and business decision-making, including market area analysis, geodemographic segmentation, site selection, routing, customer profiling, sales territory management, and location strategies. Emphasis on hands-on activities. Problem-based learning approach. Part of the Information, Innovation, or Technology Issue. Course is cross-listed with GPY 365. Prerequisites: Junior standing and admitted to Seidman College of Business or by permit.

## **MKT 369 - Creativity in Marketing Innovation (3 credits)**

Focused on learning about, and improving, individual and team creativity in the workplace. Factors that encourage and discourage creativity, including the work environment and employee attitudes, are also examined. Exploration of the Design Thinking Model is used to highlight the understanding of the role of creativity in marketing innovation processes. Offered fall and winter semesters. Prerequisite: Admitted to Seidman College of Business or by permit.

## **MKT 370 - New Product Development (3 credits)**

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This course teaches students how to develop a successful new product or service. Student teams experience the whole process involved in bringing a new product from idea to launch. Emphasis is on the application of fundamental marketing and entrepreneurial principles required to achieve continuous innovation and sustainable competitive advantage. Offered fall and winter semesters. Prerequisites: MKT 350 and admitted to Seidman College of Business or by permit.

### **MKT 375 - Marketing Ethics (3 credits)**

The ethical implications of several current marketing public policy issues will be discussed, including consideration of each issue with regard to the responsibility of business in society. Guidelines for ethical decision-making, principles of ethical leadership, and ethical behavior in corporate governance will also be reviewed. Prerequisite: Admitted to Seidman College of Business or by permit.

### **MKT 380 - Special Topics in Marketing (3 credits)**

Analysis and discussion of advanced topics, contemporary problems, and new or controversial topics. Specific topics will reflect interest of students and instructors. Prerequisite: Admitted to Seidman College of Business or by permit.

### **MKT 425 - Brand Management (3 credits)**

Strategies for building and measuring brand equity are discussed. Other topics to be covered include the management of brands on the Web, cobranding, and brand extensions. All students will complete a brand audit as part of the course. Offered fall semester. Prerequisites: MKT 350 and admitted to Seidman College of Business or by permit.

### **MKT 451 - Marketing Strategy (3 credits)**

A methodical analysis of a significant number of marketing cases selected from actual business experience to illustrate the application of sound principles to market planning, sales forecasting, and market management. Offered fall and winter semesters. Prerequisites: MKT 350, senior standing, and admitted to Seidman College of Business or by permit.

### **MKT 452 - Marketing Analytics (3 credits)**

Examination of businesses' use of consumer data for business decisions in highly turbulent market environments. Drawing on techniques learned in MKT 352 - Marketing Research, students will apply analytical software tools to case studies of marketing challenges, improving their ability to make business recommendations based on statistical analysis. Offered winter semester. Prerequisites: MKT 352 and admitted to Seidman College of Business or by permit.

### **MKT 456 - Sales Management (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Application of management functions to the selling structure and sales problems of companies. Behavioral and quantitative disciplines are used in case study analyses. Organizing sales operations, sales planning, analysis, and evaluation are covered. Offered fall and winter semesters. Prerequisites: MKT 356 and admitted to Seidman College of Business or by permit.

### **MKT 457 - Logistics and Transportation (3 credits)**

Studies the role of transportation in the global supply chain and distribution channel, and the interaction of transportation with other supply chain logistics activities such as inventory control. Topics include logistics system design, transportation policy and infrastructure, each mode of freight transportation, and the management of transportation. Offered every other semester. Prerequisites: MKT 350 and admitted to Seidman College of Business or by permit.

### **MKT 490 - Marketing Internship (1 to 6 credits)**

This course will be used to grant marketing credit to students who complete internships in the marketing field. Graded credit/no-credit. Prerequisites: Junior standing, minimum 2.5 GPA, and admitted to Seidman College of Business or by permit.

### **MKT 499 - Independent Research (1 to 3 credits)**

Students propose an independent study culminating in a written and oral report. The proposal must include learning outcomes and a readings list. Proposals involving primary research should include a detailed description of objectives and methodology. Students must find an interested faculty member to help them prepare the proposal and to supervise the independent research. Offered every semester. Prerequisite: Admitted to Seidman College of Business or by permit.

### **MKT 651 - Marketing Management (3 credits)**

Focuses on developing an understanding of the role of markets and marketing in the macroeconomic environment, and on providing marketing managers with the knowledge and tools they will need to successfully analyze product markets and develop marketing strategies that will provide sustainable competitive advantage. Offered fall and winter semesters. Prerequisite: Completion of M.B.A. background equivalencies.

### **MKT 680 - Special Topics in Marketing (1 to 3 credits)**

In-depth analysis of selected current topics and problems in marketing. Content will vary from semester to semester among the many subareas of marketing management, physical distribution, systems analysis/design, application, model building, and theory. Prerequisite: Admission to the M.B.A. program.

### **MKT 697 - Professional Learning (1 to 3 credits)**

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Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

### **MKT 699 - Independent Study (1 to 3 credits)**

Independent research in student's area of interest, supervised by a member of the Seidman faculty and culminating in a written and oral report. Written permission of supervising faculty required.

### **MLL 100 - How to Learn a Foreign Language (1 credit)**

This course is designed to teach beginning world language students how to become successful language learners. Students will be introduced to strategies for understanding, learning, and producing language and functioning in a foreign culture. They will also learn to set their own goals and assess their own progress. Corequisite: Concurrent enrollment in any world or classical language (Arabic, Chinese, French, German, Greek, Italian, Japanese, Latin, Russian, or Spanish) 101, 102, 150, or 201.

### **MLL 300 - What's Language Got To Do With It?: Exploring Identity Through Language, Culture, and Literature (3 credits)**

Students will discover the impact of language, literature, and culture in the formation of identity. Discussion will be based on literary works and films from the different languages and regions of the world taught in the Department of Modern Languages and Literatures. All materials are in translation. Part of the Identity Issue. Offered fall and winter semesters. Prerequisite: Junior standing.

### **MLL 380 - Special Topics in Modern Languages and Literature (1 to 9 credits)**

Consideration of selected topics not ordinarily dealt with in other courses. Topics to be determined; consult class schedule for specific topics. Can be repeated. Offered occasionally. Prerequisites: Variable.

### **MLS 102 - Introduction to Medical Laboratory Sciences (1 credit)**

An introduction to principles and practices of cytotechnology, histotechnology, and medical technology and the professionals in these fields as members of the health care team. Restricted to freshmen, sophomore, or transfer students, or by permit.

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## **MLS 320 - General Laboratory Practice (2 credits)**

An introduction to laboratory sciences, including laboratory safety, instrumentation, quality control, specimen collection, and processing. An emphasis will be placed on urine analysis and the clinical application of urine examination. Offered winter semester. Prerequisites: BMS 250, BMS 251, CHM 232, and admission into the MLS program.

## **MLS 350 - Management for Laboratory Science (2 credits)**

This course is designed to teach the principles of laboratory management. It will focus on underlying managerial concepts that will assist the learner in application of this information to real-life situations. Learning units will cover four areas of management: basic principles and organizational structure, human resources, finance, and operations. Offered winter semester.

## **MLS 370 - Parasitology and Mycology (4 credits)**

A study of the structure, function, and diagnostic characteristics of clinically significant parasites and fungi. Emphasis will include discussion of pathogenicity, transmission, and control of these microbes, along with related host response. Offered winter semester. Prerequisites: BMS 212 and BMS 213.

## **MLS 371 - Parasitology and Mycology Lab (1 credit)**

Parasitology and Mycology laboratory will focus on the study of the structure, function, and diagnostic characteristics of clinically significant parasites and fungi. Specimen collection, microscopic observation, and diagnostic procedures for the identification of pathogenic microbes will be emphasized. Offered winter semester. Prerequisites: BMS 212 and 213. Corequisite: MLS 370.

## **MLS 372 - Diagnostic Microbiology (3 credits)**

A study of the epidemiology, pathogenesis, and clinical significance of medically important bacterial agents involved in infectious disease processes. Discussion of diagnostic characteristics and methods used for laboratory identification of these organisms will also be emphasized. Offered fall semester. Prerequisites: BMS 212 and BMS 213.

## **MLS 373 - Diagnostic Microbiology Laboratory (1 credit)**

Diagnostic Microbiology Laboratory will focus on medical bacteriology specimen collection and diagnostic testing procedures used for the identification of clinically significant bacteria. Emphasis will be placed on application and integration of theory, practical application, and technical performance of laboratory skills in clinical bacteriology. Offered fall semester. Prerequisites: BMS 212 and BMS 213. Corequisite: MLS 372.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **MLS 380 - Special Topics in Medical Laboratory Science (1 to 4 credits)**

Course content varies. Refer to schedule of classes to determine course description and prerequisites. Students may repeat this course under different topics.

## **MLS 399 - Readings in Medical Laboratory Science (1 to 4 credits)**

Independent supervised readings on selected topics or supervised independent medical laboratory work. The topics, hours, and number of credits must be arranged with a faculty sponsor and approved by the program director. May be elected for one to four credit hours toward the major in medical laboratory science.

## **MLS 400 - Molecular Diagnostics/Virology (3 credits)**

This course is an introduction to the principles, theory, and laboratory techniques used in the rapidly expanding field of molecular diagnostics. Laboratory application of molecular testing, including DNA extraction and Polymerase Chain Reaction, will be practiced. The course will cover the structure, function, and diagnostic characteristics of clinically significant viruses. Offered winter semester. Prerequisites: BIO 355, BMS 212, and BMS 410.

## **MLS 410 - Clinical Immunoserology (3 credits)**

Principles of the immune response, immunological disorders, the methodology used in the detection of immunological disorders, and the correlation of test results to these disorders are presented through lecture, demonstration, and practical experience. Offered fall semester. Prerequisite: MLS 320.

## **MLS 416 - Hematology (3 credits)**

A study of normal and abnormal blood cell development, morphology, and function. Blood dyscrasias will be studied with emphasis on the biochemical and morphological changes involved in disease. Prerequisites: BMS 250, BMS 251, and CHM 232.

## **MLS 417 - Clinical Hematology Laboratory (1 credit)**

An introduction to a wide variety of hematology medical laboratory procedures with an emphasis on accurate performance, theoretical basis of tests, and correlation of data to disease. Prerequisite: MLS 416 (may be taken concurrently).

## **MLS 422 - Clinical Chemistry (4 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Biochemical, physiological, and analytic aspects of organic and inorganic substances of medical interest, including electrolytes, blood gases, proteins, enzymes, lipids, drugs, and hormones, are presented through lecture, demonstration, and practical experience. Offered fall semester. Prerequisite: MLS 320.

### **MLS 423 - Clinical Chemistry Laboratory (2 credits)**

Biochemical, physiological, and analytic aspects of organic and inorganic substances of clinical interest, including electrolytes, blood gases, proteins, enzymes, lipids, drugs, and hormones, are presented through demonstration, laboratory exercises, and practical experience. Offered fall semester. Prerequisite: MLS 320.

### **MLS 450 - Clinical Practicum I (1 credit)**

The first of two full-time medical experiences. Practicing medical laboratory scientists will supervise and teach students in basic laboratory procedures, including urinalysis, immunoserology, hematology, and medical chemistry. The students will be exposed to patients and typical workload in the hospital laboratory. Offered fall semester. Prerequisite: MLS 320. Corequisites: MLS 372, MLS 410, MLS 422, MLS 416, and MLS 417.

### **MLS 461 - Medical Laboratory Science Simulation Laboratory (2 credits)**

This laboratory course is designed to simulate the clinical laboratory setting and provide students with the hands-on experience and practice needed to build their skill and competency in pre-analytical, analytical, and post-analytical testing. Emphasis is placed on the following disciplines: hemostasis, transfusion medicine, hematology, urinalysis, clinical chemistry, immunoserology, and microbiology. Course is graded credit/no-credit. Prerequisites: MLS 372, MLS 422, and MLS 417.

### **MLS 462 - Transfusion Medicine (3 credits)**

In transfusion medicine, students will study human blood group antigens and antibodies. This lecture and laboratory course will examine cellular antigen systems, and teach the principles and techniques required for compatibility testing for blood transfusion and other important transfusion practices. Blood component collection, processing, and distribution will also be discussed. Offered winter semester. Prerequisite: MLS 410.

### **MLS 463 - Hemostasis (2 credits)**

This lecture and laboratory course provides an overview of theory and practical application of hemostasis (coagulation), as it relates to the medical laboratory. The coagulation cascade, intrinsic and extrinsic pathways, thrombosis, and fibrinolysis will be covered, as well as

coagulation laboratory principles and correlation of results with disease states. Offered winter semester. Prerequisite: MLS 410.

### **MLS 464 - Bacteriology and Antibiotics (1 credit)**

This lecture and laboratory course is an advanced bacteriology course with a focus on antimicrobial susceptibility testing. Medically important pathogens requiring unusual detection and identification methods, as well as contemporary topics in microbiology will be discussed. Offered winter semester. Prerequisite: MLS 372.

### **MLS 490 - Clinical Practicum II (5 credits)**

The second of two full-time medical experiences. Practicing medical laboratory scientists will supervise and teach students in advanced laboratory procedures, including hemostasis, medical chemistry, microbiology, and transfusion service. Students will be exposed to patients and typical workload in the hospital laboratory. Offered winter semester. Prerequisites: MLS 372, MLS 373, MLS 422, and MLS 450. Corequisite: MLS 461.

### **MLS 495 - Issues in Medical Laboratory Science (3 credits)**

Exploration of issues that impact health care, particularly the laboratory professional. Includes in-depth discussions of research literature and its relevance to medical laboratory science. Students will work individually and in groups to prepare a paper, presentation, and a poster. Offered winter semester. Prerequisite: Senior standing in the medical laboratory science program. Corequisite: MLS 490.

### **MOV 101 - Foundations of Human Movement Science (3 credits)**

Exploration of the past, present, and future of human movement science highlighting professional preparation and opportunities.

### **MOV 102 - First Aid, CPR and AED (2 credits)**

Emergency care for the teacher, recreation leader, and allied health professional. Preparation for first aid, CPR (cardiopulmonary resuscitation), and AED (automated external defibrillation) certification.

### **MOV 180 - Special Topics in Movement Science (1 to 4 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Lecture, discussion, laboratory, or field study on a topic related to movement science. Offered on sufficient demand.

## **MOV 201 - Psychosocial Aspects of Physical Education and Sport (3 credits)**

A study of the psychosocial and cultural context of sports and physical education. The role of education and other institutional social and cultural forces that are integral to the sporting milieu, the psychological and behavioral factors that influence the sport setting, and participation will be studied.

## **MOV 280 - Special Topics in Movement Science (1 to 4 credits)**

Lecture, discussion, laboratory, or field study on a topic related to movement science. Offered on sufficient demand.

## **MOV 300 - Kinesiology (3 credits)**

Laws and principles of mechanics as they apply to the use of the human body, human mechanism, and its process of motor function. (2-1-0) Prerequisite: BMS 202 or BMS 208 or BMS 250.

## **MOV 304 - Introduction to Exercise Physiology (3 credits)**

The physiological responses to an acute bout of exercise, adaptations to exercise training, and the mechanisms responsible for them in relation to health, fitness, and athletic performance. Prerequisite: BMS 202 or BMS 251 or BMS 290.

## **MOV 310 - Motor Skill Development (3 credits)**

The study of the acquisition of motor skills. The class investigates principles and theory of motor skill development as applied to the teaching and coaching of skilled performance. Offered fall and winter semesters; spring/summer on sufficient demand.

## **MOV 350 - The Obesogenic Environment (3 credits)**

Obesity is a global health issue. This course will examine obesity within the context of behavioral choices, and physical and social environments (e.g., public health policy, sociocultural influences, food accessibility, media, marketing). Obesity prevention and intervention strategies will also be explored. Part of the Health Issue. Offered fall semester. Prerequisites: Junior standing and either PSY 101 or SOC 101.

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## **MOV 365 - Clinical Exercise Physiology (3 credits)**

The health professional will apply the knowledge base of anatomy, physiology, biochemistry, and the practical application within a clinical exercise environment. Practical application, problem solving and integration of exercise physiology and exercise program design are stressed. Offered fall and winter semesters. Prerequisites: BMS 251 or BMS 290; and MOV 304.

## **MOV 380 - Special Topics in Movement Science (1 to 4 credits)**

Lecture, discussion, laboratory, or field study on a topic related to movement science. Offered on sufficient demand.

## **MOV 399 - Independent Readings (1 to 3 credits)**

Special studies in movement science upon consultation with faculty advisor and approval of department chair.

## **MOV 435 - Measurement in Biomechanics (3 credits)**

Introduction to bioinstrumentation systems used in biomechanics research and rehabilitation practice. Biomechanical and measurement theory will be examined. Students will develop entry-level skills in methods of data collection and processing using instruments to measure human movement and balance. Cross-listed with MOV 535, and PT 435, PT 535. Offered fall semester. Prerequisite: Registration permit required.

## **MOV 480 - Special Topics in Movement Science (1 to 3 credits)**

Lecture, discussion, laboratory, or field study on a topic related to movement science. Offered on sufficient demand.

## **MOV 499 - Independent Study and Research (1 to 3 credits)**

Special studies in movement science in consultation with advisor and approval of department chair.

## **MOV 535 - Measurement in Biomechanics (3 credits)**

Introduction to bioinstrumentation systems used in biomechanics research and rehabilitation practice. Biomechanical and measurement theory will be examined. Students will develop entry-level skills in methods of data collection and processing using instruments to measure human

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movement and balance. Cross-listed with MOV 435, and PT 435, PT 535. Offered fall semester. Prerequisite: Registration permit required.

## **MOV 580 - Special Topics in Movement Science (1 to 3 credits)**

Lecture, discussion, laboratory, or field study on a topic related to movement science.

## **MOV 680 - Special Topics in Movement Science (1 to 3 credits)**

Lecture, discussion, laboratory, or field study on a topic related to movement science.

## **MOV 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

## **MSL 101 - Military Science and Leadership Introduction to the Army (3 credits)**

Introduction to the Army, basic soldier skills, and the profession of arms. Development of basic knowledge and comprehension of the Army leadership requirements model. Cadets also develop as Army leaders and soldiers through performance of basic field survival environment skills. This course is offered through Western Michigan University's ROTC program. Offered fall and winter semesters.

## **MSL 201 - Leadership and Decision Making (2 credits)**

This course focuses on increasing cadets' understanding of Army leadership and decision-making demonstrated through critical, creative thinking and applying troop leading procedures to solutions and problems. The Army profession is stressed through leadership forums, self-assessment, and weekly performance-oriented labs. This course is offered through Western Michigan University's ROTC program. Offered fall and winter semesters.

## **MSL 202 - Army Doctrine and Team Development (2 credits)**

Focuses on Army doctrine and team development through emphasis on Army values, teamwork, and warrior ethos and their relationship to the law of land warfare and philosophy of military

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service. This course is offered through Western Michigan University's ROTC program. Offered fall and winter semesters. Prerequisite: MSL 201.

## **MSL 299 - Independent Studies in MSL (1 to 3 credits)**

Hours, credits, topics, and time to be arranged with individual faculty members with approval of the department.

## **MSL 301 - Training Management and Warfighting Functions I (3 credits)**

Training management and the warfighting functions is a course in the study, practice, and apply the fundamentals of Army leadership, the profession, Army values and ethics, personal development, and small unit tactics at the platoon level. This course is offered through Western Michigan University's ROTC program. Offered fall and winter semesters. Prerequisites: MSL 201 and MSL 202.

## **MSL 302 - Training Management and Warfighting Functions II (3 credits)**

Applied leadership in small unit operations focusing on the study, practice, and apply the fundamentals of direct level leadership and small unit tactics at the platoon level. This course is offered through Western Michigan University's ROTC program. Offered fall and winter semesters. Prerequisite: MSL 301.

## **MSL 401 - Mission Command and the Army Profession (3 credits)**

Focuses on development Army Officer knowledge, skills, and abilities to plan, resource, and assess training at the small unit level. Students will learn about Army programs that support counseling subordinates and evaluating performance, values, ethics, career planning, and legal responsibilities. This course is offered through Western Michigan University's ROTC program. Offered fall and winter semesters. Prerequisites: MSL 301 and MSL 302.

## **MSL 402 - Company Grade Leadership (3 credits)**

Focuses on developing Army junior officer and company grade officer knowledge, skills, and abilities in unified land operations. Successful completion of this course will assist in preparing you for your BOLC B course and is a mandatory requirement for commissioning. This course is offered through Western Michigan University's ROTC program. Offered fall and winter semesters. Prerequisite: MSL 401.

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## **MSL 499 - Independent Studies in MSL (1 to 3 credits)**

Hours, credits, topics, and time to be arranged with individual faculty members with approval of the department.

## **MTH 097 - Elementary Algebra (4 credits)**

Introduction to topics covered in MTH 110. A symbolic, numeric, and graphic approach to elementary algebra. Topics include linear equations and inequalities, properties of exponents, factoring, quadratic equations, and radicals. Designed for students who need additional preparation for MTH 110. Does not count toward graduation.

## **MTH 110 - Algebra (4 credits)**

A symbolic, numeric, and graphic approach to intermediate algebra with an emphasis on applications. Topics include operations, equations, and inequalities of linear, exponential, logarithmic, quadratic, rational, and radical functions. Please see the mathematics program for placement test details. Offered every semester. Prerequisite: MTH 097 or assignment through Grand Valley math placement.

## **MTH 122 - College Algebra (3 credits)**

A culminating experience in algebra for conceptual understanding and application in other fields. Primary topics include families of functions (polynomial, rational, exponential, logarithmic, and their compositions), algebraic skills for making and using mathematical models, and multiple representations of algebraic relationships. Fulfills Foundations - Mathematical Sciences. Offered every semester. Prerequisite: MTH 110 or assignment through Grand Valley math placement. Please see the mathematics program for placement details. Graphing calculator required: TI83 or TI84 recommended.

## **MTH 123 - Trigonometry (3 credits)**

A study of the trigonometric functions with an emphasis on graphing, identities, inverse trigonometric functions, and solving equations. Additional topics include solving triangles, vectors, complex numbers, and polar coordinates. Fulfills Foundations - Mathematical Sciences. Please see the mathematics program for placement details. Offered every semester. Prerequisite: MTH 122 (may be taken concurrently) or assignment through Grand Valley math placement. Graphing calculator required: TI83 or TI84 recommended.

## **MTH 124 - Precalculus: Functions and Models (5 credits)**

Study of preparatory material for calculus using symbolic algebra and trigonometry for solving equations, representing functions, and modeling, plus appropriate technology. Core topics:

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concept of function, average rate of change of a function, inverse and composite functions, trigonometric functions, exponential and logarithmic functions, and right triangle trigonometry. Fulfills Foundations - Mathematical Sciences. Offered fall and winter semesters. Prerequisite: MTH 110.

## **MTH 125 - Survey of Calculus (3 credits)**

A study of the concepts of calculus for students majoring in business, economics, life sciences, and social sciences. Differentiation and integration of algebraic, exponential, and logarithmic functions. Emphasis on applications. Fulfills Foundations - Mathematical Sciences. Please see the mathematics program for placement details. Offered fall and winter semesters. Prerequisite: MTH 110 or assignment through Grand Valley math placement.

## **MTH 126 - Mathematics for Elementary Teachers (2 credits)**

Exploration of the teaching and learning of geometry and measurement in elementary school mathematics, emphasizing development of mathematical representations and communication. Concepts are developed through hands-on experiences exploring mathematical models, strategies, relationships, and problem solving. MTH 126 and STA 126 fulfills Foundations - Mathematical Sciences. Prerequisites: MTH 110 or equivalent.

## **MTH 131 - Introduction to Mathematics (3 credits)**

A survey for nonmathematics majors. Topics selected from inductive and deductive reasoning, geometry, statistics, computers, modeling, number theory, numeration systems, the mathematics of decision-making, and applications. Fulfills Foundations - Mathematical Sciences. Please see the mathematics program for placement details. Offered winter semester. Prerequisite: MTH 110 or assignment through Grand Valley math placement.

## **MTH 180 - Special Topics in Mathematics (1 to 3 credits)**

Readings, lectures, discussions, or lab (or any combination) in specific mathematics topics at an introductory or elementary level. Offered on sufficient demand. Prerequisite: Permission of the instructor.

## **MTH 201 - Calculus I (4 credits)**

A development of the fundamental concepts of calculus using graphical, numerical, and analytical methods with algebraic and trigonometric functions of a single variable. Limits and continuity, derivatives, indefinite integrals, definite integrals, and the Fundamental Theorem of Calculus; applications of derivatives and integrals. Please see the mathematics program for placement details. Fulfills Foundations - Mathematical Sciences. Offered every semester. Prerequisites: Both MTH 122 and MTH 123; or MTH 124; or assignment through Grand Valley math placement.

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## **MTH 202 - Calculus II (4 credits)**

Continuation of MTH 201 using graphical, numerical, and analytic methods to study exponential, logarithmic, hyperbolic, and inverse trigonometric functions. Indeterminate forms, improper integrals, integration techniques, sequences and series, Taylor polynomials, and power series. Offered every semester. Prerequisite: MTH 201.

## **MTH 203 - Calculus III (4 credits)**

Continuation of MTH 202 using graphical, numerical, and analytic methods to study parametric equations, polar coordinates, vector algebra in two and three dimensions, differentiation and integration of vector functions of a single variable, and scalar functions of several variables. Offered every semester. Prerequisite: MTH 202.

## **MTH 204 - Linear Algebra I (3 credits)**

An introduction to systems of linear equations emphasizing conceptual understanding and computational thinking. Primary topics include solutions to linear systems, vector and matrix algebra, span and linear independence, bases, eigenvectors, and eigenvalues. Applications will be integrated throughout the course. Offered fall and winter semesters. Prerequisites: MTH 122 and MTH 123; or MTH 124; or assignment through Grand Valley math placement.

## **MTH 205 - Linear Algebra II (3 credits)**

A study of linear algebra centered on orthogonality and the singular value decomposition emphasizing conceptual understanding and computational thinking. Primary topics include orthogonality, the eigenvalue decomposition, the singular value decomposition, applications, and select topics in numerical linear algebra. Offered fall and winter semesters. Prerequisites: MTH 204 or MTH 302.

## **MTH 210 - Communicating in Mathematics (4 credits)**

A study of proof techniques used in mathematics. Intensive practice in reading mathematics, expository writing in mathematics, and constructing and writing mathematical proofs. Mathematical content includes elementary logic, congruence arithmetic, set theory, functions, equivalence relations, and equivalence classes. Offered fall and winter semesters. Prerequisites: MTH 201 and fulfillment of general education Foundations - Writing.

## **MTH 223 - Mathematics for Elementary Teachers III (5 credits)**

Explores teaching and learning of number and operations, geometry, measurement, patterns and functions, probability and statistics in elementary school mathematics, emphasizing development

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of number sense, unitizing, mathematical representations, and communication. Exploration through models, strategies, relationships, algorithms, and problem-solving. Fieldwork: Evaluating and tutoring children. Equivalent: MTH 126 and MTH 226. Prerequisite: MTH 201.

## **MTH 225 - Discrete Structures: Computer Science (3 credits)**

Introduction to the mathematical foundations of computer science. Topics include: number bases and modular arithmetic; symbolic logic, propositions, and quantification; sets, set operations, and functions; combinatorics and combinatorial proof; and recurrence relations and mathematical induction. Offered fall and winter semesters. Prerequisite: CIS 162, and one of the following: MTH 122 or MTH 123 or MTH 124 or MTH 125 or assignment through Grand Valley math placement.

## **MTH 226 - Mathematics for PK-6: Whole Numbers and Operations (3 credits)**

In-depth explorations of the mathematical content and methods relevant to the development of Grade PK-6 children's understanding, thinking processes, strategies, and problem-solving skills in the area of whole number concepts and operations. Field experience with children held in an elementary school. Prerequisite: MTH 126.

## **MTH 229 - Mathematical Activities for Secondary Teachers (3 credits)**

In-depth study of mathematical content suitable to secondary classrooms. Integrated discussions of student's learning, pedagogy, secondary curricula, NCTM Standards, and relevant research. Service learning includes 20 hours of active classroom observations, including lesson design and implementation. Within the mathematics major or minor, applies only to secondary certification emphasis. Offered fall semester. Prerequisites: MTH 201 or equivalent and sophomore standing.

## **MTH 300 - Vector Analysis (3 credits)**

Multivariable calculus and vector analysis including the change of variables formula, line integrals, surface integrals, Green's theorem, Stokes' theorem, and the divergence theorem. Applications in physics. Offered fall and winter semesters. Prerequisite: MTH 203.

## **MTH 302 - Linear Algebra and Differential Equations (4 credits)**

Matrix algebra and determinants. Introduction to the theory of differential equations. Methods of solution (including Laplace transform techniques) of linear equations, as well as some special

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types of nonlinear equations. Applications in physical, biological, and social sciences. Offered fall and winter semesters. Prerequisite: MTH 203.

### **MTH 304 - Analysis of Differential Equations (3 credits)**

Solution methods for first order and second order linear equations (including power series and numerical methods). The linear algebra of linear systems and their solutions. Qualitative analysis of linear and nonlinear systems: phase plane; existence and uniqueness; stability, and applications in physical, biological, and social sciences. Offered fall and winter semesters. Prerequisites: MTH 203 and MTH 204.

### **MTH 305 - Mathematical Modeling (3 credits)**

Introduction to the mathematical modeling process. Students will gain experience in the construction, computational implementation, and analysis of mathematical models arising from various applications. Models will be developed in mathematical contexts including linear algebra, calculus, discrete dynamical systems, and differential equations. Offered fall and winter semesters. Prerequisites: MTH 302 or MTH 304; and CIS 161 or CIS 162.

### **MTH 312 - Cryptography and Privacy (3 credits)**

An introduction to cryptography and information security with a focus on applications and issues from diverse areas. Topics will include a study of cryptographic primitives, historical cipher systems, symmetric and public-key cryptography, hash functions, digital signatures, electronic voting, and contemporary issues in privacy and security. Part of Information, Innovation, or Technology Issue. Offered winter semester. Prerequisites: Junior standing and successful completion of any Foundations - Mathematical Sciences course.

### **MTH 315 - Discrete Mathematics (3 credits)**

Basic and advanced counting techniques, including the Pigeonhole Principle and inclusion-exclusion; recurrence relations; partial orderings; and graph theory, special paths, planarity, chromatic number, networks, trees, traversals, and digraphs. Algorithms and proof techniques. Offered fall and winter semesters. Prerequisite: MTH 210.

### **MTH 322 - Geometry for Elementary Teachers (3 credits)**

Analyze characteristics and properties of geometric objects, transformations and representations, visualization and spatial reasoning, measurement systems and tools, and dynamic geometric software. Integrated discussion of children's learning, curricula, standards, and research for K-8. Fieldwork is focused on lesson design and implementation and includes visits to a local elementary school. Offered at least one semester per year. Prerequisite: MTH 226.

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## **MTH 323 - Probability and Statistics for Elementary Teachers (3 credits)**

Analyze data and chance. Gathering, organizing, constructing, and interpreting data displays, distributions and models, making inferences and predictions. Integrated discussions of children's learning, pedagogy, curricula, assessment, standards, and relevant research for K-8. Fieldwork is focused on unit-planning and assessment and includes visits to a local elementary school. (2-0-2) Offered at least one semester per year. Prerequisites: MTH 226.

## **MTH 324 - Algebra for Elementary Teachers (3 credits)**

Analyze characteristics and properties of number systems, patterns, proportions, functions, variables, and algebraic structures. Integrated discussions of children's learning, pedagogy, elementary and middle school curricula, NCTM Standards, and relevant research. Field work is focused on writing lessons/problems and observing/eliciting students' mathematical thinking through visits to a local elementary school. Offered at least one semester per year. Prerequisite: MTH 326.

## **MTH 325 - Discrete Structures: Computer Science 2 (3 credits)**

Continuation of MTH 225 with emphasis on mathematical proof and graph-related structures. Review of mathematical induction; strong induction and structural induction; direct proof, proof by contraposition, and proof by contradiction; graphs and their representations and properties; relations, equivalence relations, and partial orderings; trees and tree traversals. Offered fall and winter semesters. Prerequisite: MTH 225.

## **MTH 326 - Math for PK-6: Fractions, Decimals, and Proportional Reasoning (3 credits)**

In-depth explorations of mathematical content and methods relevant to the development of grade PK-6 children's understanding, thinking processes, strategies, and problem-solving skills in the areas of fractions, decimals, and proportional reasoning. Field experience with children held in an elementary school. Offered fall and winter semesters. Prerequisite: MTH 226.

## **MTH 328 - Early Childhood Mathematics (PK-3) (3 credits)**

In-depth explorations of mathematical content and methods relevant to the development of young children's early mathematical understanding, thinking processes, strategies, and problem-solving skills. Emphasis on grade PK-1 and exploring high-leverage topics (attribution-geometry-measurement, counting, early fractions, whole numbers) through strategic teaching

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tasks. Field experience with children held in an elementary school. Offered fall and winter semesters. Prerequisite: MTH 226.

### **MTH 329 - Teaching Middle Grades Mathematics (3 credits)**

Emphasis on what mathematics is, how students learn mathematics, planning and instruction, assessment, and professional decision-making. Conceptual, constructivist, and cooperative activities assist middle grade teachers in helping their students learn mathematics connecting algebra, geometry, number, measurement, statistics, and probability. Twenty hours of service-learning with middle grade students required. Offered winter semester. Prerequisites: C or better in MTH 202, MTH 210, and one of MTH 229, MTH 322, MTH 323, or MTH 324; junior standing.

### **MTH 331 - Euclidean Geometry (3 credits)**

Critical analysis of Euclidean geometry from transformational, algebraic, and synthetic perspectives. Coordinate and vector geometry relating transformational geometry to linear algebra. Informal study of historical development of Euclidean and non-Euclidean geometries and the questions relating to the parallel postulate to develop understanding of axiomatic systems. Offered fall and winter semesters. Prerequisites: MTH 210 and either MTH 204 or MTH 322.

### **MTH 350 - Modern Algebra I (3 credits)**

Algebraic properties of the integers and the development of the rational, real, and complex number systems as algebraic structures. Topics from modern algebra include rings, integral domains, fields, and ring isomorphisms. Further study of algebraic structures using congruence arithmetic and factorization in the ring of integers and polynomial rings. Offered fall and winter semesters. Prerequisites: MTH 210 and either MTH 225 or MTH 204.

### **MTH 360 - Operations Research (3 credits)**

Mathematical modeling under conditions of certainty and uncertainty. Linear programming, duality, and sensitivity analysis. Markov chains and other stochastic processes. Applications to problems in transportation, scheduling, and resource allocation. Offered every year. Prerequisites: MTH 204 or MTH 302.

### **MTH 380 - Special Topics in Mathematics (1 to 4 credits)**

Readings, lectures, discussions, or lab (or any combination) in specific mathematics topics. Permission of the instructor required. Offered on sufficient demand. Prerequisite: Dependent upon topic selected.

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## **MTH 386 - Study Abroad in Mathematics Education (1 to 6 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight mathematics education perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only. Credit may vary.

## **MTH 399 - Independent Readings (1 to 4 credits)**

Hours, credit, topics, and time to be arranged with individual staff members with approval of the department. Offered fall and winter semesters.

## **MTH 401 - Mathematics for the Physical Sciences (4 credits)**

An introduction to the mathematics most relevant for the physical sciences and physical problems that demonstrate its need. Topics include vector analysis, including line and surface integrals, complex differentiable functions, and partial differential equations and Sturm-Liouville problems. Offered every year. Prerequisites: MTH 302 or MTH 304; PHY 231; or permission of instructor.

## **MTH 402 - Complex Variables (3 credits)**

Complex arithmetic derivatives and integrals of functions of a complex variable. Infinite series. Residue calculus. Applications to real integration and fluid flows. Prerequisites: MTH 203 and either MTH 204 or MTH 302.

## **MTH 405 - Numerical Analysis (3 credits)**

Numerical methods in solving equations of a single variable, matrix algebra, numerical differentiation and integration, numerical solution to differential equations, polynomial approximations, and error estimates. Prerequisites: Either CIS 161 or CIS 162, and either MTH 302 or MTH 304.

## **MTH 406 - Linear Algebra III (3 credits)**

A theoretical presentation of linear algebra incorporating a proof-based study of vector spaces, inner product spaces, bases, linear transformations, isomorphisms, canonical forms, and applications to topics such as wavelets, quadratures, and Fourier transforms. Offered fall semester. Prerequisites: MTH 205 and MTH 210.

## **MTH 408 - Real Analysis 1 (3 credits)**

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The goal of this course is to develop the intuitive and theoretical foundations necessary to study differentiation of real-valued functions. Topics include Cauchy sequences, convergence of sequences, series, limits, continuity, and construction of the real numbers. Students will extend and apply proof techniques from previous courses. Offered every year. Prerequisites: (MTH 203 and one of the following: MTH 315, MTH 331, MTH 350, or MTH 431) or (MTH 210 and permission of instructor).

## **MTH 409 - Real Analysis 2 (3 credits)**

This course is an in-depth study of differentiation and integration, with additional topics such as sequences and series of functions, measure theory, and metric spaces. Prerequisite: MTH 408.

## **MTH 428 - Teaching Math in the Elementary Grades (1 credit)**

Elementary math seminar to support student teachers as they critique and reflect upon their mathematical instruction. Emphasis on: assessment-driven instruction; communicating with children, caregivers, and communities; and effective use of instructional materials to support children's mathematics learning. Supported by current research in mathematics education. Offered fall and winter semesters. Corequisite: EDI 430.

## **MTH 431 - Non-Euclidean Geometry (3 credits)**

A critical examination of several non-Euclidean geometries, including finite geometries, hyperbolic geometry, and spherical geometry; their relationships to Euclidean geometry; and the historical and philosophical significance of the development of non-Euclidean geometries. Prerequisites: MTH 210 and either MTH 331 or permission of the instructor.

## **MTH 441 - Topology (3 credits)**

An introduction to the fundamental concepts of topology. The topology of the real number system and its generalizations to metric spaces and topological spaces. Topics include subspaces, neighborhood spaces, open and closed sets, interior and boundary of sets, continuity and homeomorphisms, connected and locally connected spaces, compact sets and spaces. Prerequisites: MTH 203, MTH 210, and MTH 204.

## **MTH 450 - Modern Algebra II (3 credits)**

An introduction to groups, including homomorphisms and isomorphisms, Lagrange's Theorem, quotient groups, finite groups, and the Sylow Theorems. Additional topics from ring theory including polynomial rings, ideals, and quotient rings. Prerequisite: MTH 350.

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## **MTH 465 - Automata and Theory of Computation (3 credits)**

Introduction to basic mathematical models of computation and the finite representation of infinite objects. Finite automata, regular languages, nondeterminism, pushdown automata, context-free languages, Turing machines and variants, halting problems, time complexity of algorithms, and NP-Complete problems. Cross-listed with CIS 465. Prerequisites: CIS 162 and either MTH 315 or MTH 325.

## **MTH 480 - Special Topics in Mathematics (1 to 4 credits)**

Readings, lectures, discussions, or lab (or any combination) in specific mathematics topics. Permission of the instructor required. Offered on sufficient demand. Prerequisite: Dependent upon topic selected.

## **MTH 490 - Mathematics Internship Seminar (2 credits)**

Offered fall and winter semesters. Prerequisites: Approval of the department and junior standing.

## **MTH 495 - The Nature of Modern Mathematics (Capstone) (3 credits)**

A study of mathematics as a human intellectual endeavor impacting our culture, history, and philosophy. Includes an in-depth investigation, including analyses from the mathematical, historical, and philosophical perspectives, of several significant developments from various fields of mathematics. The specific developments considered will vary from semester to semester. Offered every year. Prerequisites: MTH 210, MTH 204, MTH 350, and at least three other 300- to 400-level mathematics courses.

## **MTH 496 - Senior Thesis (Capstone) (3 credits)**

A senior thesis is written to demonstrate depth and sophistication in the major. Independent library research is conducted under the supervision of a faculty member. Students produce full-fledged, professional, oral and written presentations on this research. Offered upon arrangement. Prerequisites for students using MTH 496 as the Capstone course in the major: Completion of at least 27 credits of mathematics courses in the major, a GPA in the major of 3.0 or better, and consent of the instructor. For majors not using the course as the Capstone course: MTH 495 with a grade of B and consent of the instructor. For mathematics minors: Completion of the minor with a GPA of at least 3.0 and consent of the instructor.

## **MTH 498 - Project-Based Applied Mathematics (Capstone) (3 credits)**

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Teams of students will solve real-world problems originating in business, industry, or government. Teams will research and analyze solution strategies, implement a strategy using software, interpret their findings, and communicate their results to their partner. Communication in a business environment, teamwork, and project planning will be emphasized. Offered winter semester. Prerequisites: MTH 205, MTH 210, MTH 305, permission of instructor, and restricted to mathematics majors.

### **MTH 499 - Independent Study and Research (1 to 4 credits)**

Hours, credit, topics, and time to be arranged with individual staff members with approval of the department. Offered fall and winter semesters.

### **MTH 625 - Number Theory (3 credits)**

The mathematical treatment of the properties and the structure of the set of integers. Topics include prime numbers, divisibility, number-theoretic functions, the algebra of congruence classes, and applications. Prerequisite: Certification in secondary mathematics.

### **MTH 641 - Modern Geometry (3 credits)**

The study of geometry as a mathematical system, explorations of different geometries and their relations to physical space and as sources of mathematical models, investigations of geometrical thinking in problem solving in mathematics, and areas outside of mathematics. Computer applications appropriate to school classrooms. Prerequisite: Certification in secondary mathematics.

### **MTH 645 - Discrete Mathematics (3 credits)**

A study of discrete mathematical structures, including sets, logic, algebraic structures, relations; graphs and digraphs, trees, and networks. Prerequisite: Certification in mathematics.

### **MTH 680 - Special Topics in Mathematics (1 to 4 credits)**

Readings, lectures, discussions, or lab (or any combination) in specific topics in mathematics or mathematics education. Offered on sufficient demand. Prerequisite: Permit required.

### **MTH 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

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## **MTH 699 - Directed Readings in Mathematics (1 to 3 credits)**

Independent supervised reading on selected topics in mathematics. Credits and topics must be prearranged with a faculty member and approved by the department. Offered fall and winter semesters.

## **MUS 100 - Introduction to Music Literature (3 credits)**

Basic course in music, designed especially for liberal arts students. Study of musical forms, style, media and materials, coupled with the development of intelligent listening habits. Fulfills Foundations - Arts. Offered fall and winter semesters.

## **MUS 101 - University Singers (1 credit)**

The principal university choir. Fulfills degree requirements for major ensemble participation. Prerequisites: Successful audition and permission of instructor.

## **MUS 102 - Concert Band (1 credit)**

Develop aesthetic sensitivity, musical knowledge, and ensemble performance skills through performance of standard wind band music. Meets degree requirements for major ensemble participation. Prerequisites: Major or minor in music or permission of instructor. Audition Required.

## **MUS 103 - Grand Valley Symphony Orchestra (1 credit)**

String, wind, and percussion instrumentalists perform a variety of symphony orchestral repertoire. Fulfills degree requirements for major ensemble participation. Prerequisites: Major or minor in music or permission of instructor. Audition Required.

## **MUS 104 - Chamber Music Ensembles (0.5 credits)**

Chamber music groups such as string quartet, woodwind quintet, vocal ensembles, or brass quartet. Will be taken over two semesters for one credit.

## **MUS 105 - Grand Valley Jazz Ensemble (1 credit)**

Jazz instrumentalists perform a variety of large jazz ensemble repertoire. Prerequisite: Permission of instructor.

## **MUS 107 - Grand Valley Marching Band (1 credit)**

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The university marching band. Two semesters required of B.M.E. woodwind, brass, and percussion majors. Fulfills degree requirements for major ensemble participation. Offered fall semester. Prerequisite: Successful audition at band camp.

## **MUS 108 - New Music Ensemble (1 credit)**

A performing ensemble dedicated to the music of our time. Solo, chamber, and large ensemble works drawn from the broad spectrum of contemporary music are performed. Activities include an annual commissioning program in which the ensemble works with a notable composer in the creation and realization of a new composition. Offered fall and winter semesters. Prerequisites: Audition and permission of instructor.

## **MUS 109 - Anima Vocal Ensemble (1 credit)**

A treble voice ensemble open to campus and community singers. This group learns a variety of repertoire and participates in concerts on campus each semester. Offered fall and winter semesters. Prerequisites: Major or minor in music or permission of instructor. Audition Required.

## **MUS 110 - Early Music Ensemble (1 credit)**

Performance of older music (mainly before 1700) by students, either singing or playing on period instruments. Prerequisite: Permission of instructor.

## **MUS 111 - Grand Valley Basketball Pep Band (1 credit)**

This ensemble performs at every home basketball game and, like the Laker Marching Band, is an integral support unit for Athletics. Offered winter semester. Prerequisites: Audition and permission of instructor.

## **MUS 112 - Wind Symphony (1 credit)**

The goals of this course are to develop the instrumental performance skills, music reading abilities, and interpretive capabilities of the class members within a concert ensemble setting. The course is designed for those students who have advanced performance skills on standard wind and percussion instruments. Prerequisites: Major or minor in music or permission of instructor. Audition Required.

## **MUS 113 - Grand Valley Percussion Ensemble (1 credit)**

The Grand Valley Percussion Ensemble provides students with the opportunity to learn percussion techniques and literature through rehearsal and performance in a chamber setting. The

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literature performed is selected from the best available compositions for this instrumentation and performed without a conductor. Prerequisites: Audition and permission of instructor.

## **MUS 115 - Grand Valley Chamber Orchestra (1 credit)**

Qualified string players from the Grand Valley Symphony Orchestra perform a variety of works for small orchestra. They may perform as a pit orchestra for operas, accompany faculty artists, or perform works on their own. Prerequisite: Permission of the instructor.

## **MUS 116 - Cantate Chamber Ensemble (1 credit)**

Sixteen-voice SATB ensemble performing a cappella madrigals and motets of the early periods of music. Prerequisites: Audition and permission of instructor.

## **MUS 117 - Grand Valley University Arts Chorale (1 credit)**

Forty-five voice SATB ensemble performing choral repertoire from the Renaissance through the 21st century. Fulfills degree requirements for major ensemble participation. Prerequisites: Major or minor in music or permission of instructor. Audition Required.

## **MUS 118 - Varsity Glee Club (1 credit)**

Varsity Glee Club is an auditioned ensemble that performs intermediate and advanced TTBB choral music of all musical styles. The ensemble frequently performs on campus, in the community, and regularly appears at regional and national choral and music education conferences. Prerequisites: Major or minor in music or permission of instructor. Audition Required.

## **MUS 119 - Survey of Music Literature I (3 credits)**

A survey of music literature from the Middle Ages through the mid-18th centuries. Required of all music majors and minors. Offered fall semester. Prerequisites: Acceptance and registration in Bachelor of Music Education, Bachelor of Music, Bachelor of Arts (music) or music minor.

## **MUS 120 - Survey of Music Literature II (3 credits)**

A survey of music literature of the late 18th through early 20th centuries, concluding with a brief introduction to the study of non-Western musical cultures. Required of all music majors and minors. Offered winter semester. Prerequisite: MUS 119.

## **MUS 121 - University Band (1 credit)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

The University Band performs quality standard band literature and presents one concert at the end of the semester. Designed specifically for the nonmajor, the University Band meets during the winter semester and is open to all students. No audition is required for participation. Class may be repeated for credit. Offered winter semester.

## **MUS 126 - Collaborative Piano (1 credit)**

Preparation for performance of piano accompaniments for appropriate soloists or ensembles. Offered fall and winter semesters.

## **MUS 128 - Strum and Drum for Everyone (3 credits)**

Study of basic performance skills on ukulele and percussion designed for the general student. Students will engage in discussion about the role of community music making in today's society. Requires students to have a soprano or concert ukulele and a hand drum or five gallon bucket with drum sticks. Fulfills Foundations - Arts. Offered spring/summer semester.

## **MUS 129 - Fundamentals of Music (3 credits)**

Beginning study of music notation, sight-singing, keyboard, and music terminology. Designed for the general student who wishes to learn the fundamentals of music as well as for the prospective music major or minor who has had no theoretical training. Fulfills Foundations - Arts.

## **MUS 130 - Music Theory I (3 credits)**

Music fundamentals for music majors and minors. Musical notation using four clefs, simple, compound, and asymmetric meter, all scales, tertian harmonies to seventh chords, figured bass, and four-part writing. Required of all music majors. Offered fall semester.

## **MUS 131 - Music Theory II (3 credits)**

Continuation of 130. Secondary harmonies, harmonization of melodies, and instrumental transposition. Harmonic and melodic analyses of selected Baroque and Classical works using the following forms and techniques: fugue, figured bass, variation, minuet and trio, sonata, rondo, concerto grosso, and binary form. Required of music majors. Offered winter semester. Prerequisite: MUS 130.

## **MUS 133 - Aural Perception and Sight-Singing I (1 credit)**

Introduction of solfeggio and rhythmic syllables, singing with one-line accompaniments, use of four clefs, two- and four-part dictation, improvisation with syllables, and error detection. Listening for meter, bass lines, and melodic techniques. Required of all music majors. Offered

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fall semester. Prerequisites: Acceptance and registration in Bachelor of Music Education, Bachelor of Music, Bachelor of Arts (music) or music minor, and MUS 130 (may be taken concurrently).

## **MUS 134 - Aural Perception and Sight-Singing II (1 credit)**

Continuing development of musicianship through intervallic drill, dictation and singing exercises with subdivision of the beat and syncopation. Aural recognition of cadence types, melodic techniques, and tonal forms as studied in MUS 131. Sing and play exercises with chordal accompaniment. Required of music majors. Offered winter semester. Prerequisite: MUS 133 and MUS 131 (MUS 131 may be taken concurrently).

## **MUS 140 - Developmental Applied Music (1 credit)**

Lessons for music majors or minors who have been accepted conditionally because of their developmental musical proficiency on their major instrument or voice. May be repeated for credit. Prerequisite: Permission of instructor. Corequisite: Registration in an appropriate ensemble.

## **MUS 141 - Private Instruction in Voice and Instruments - Freshman (1 credit)**

This course is a weekly tutorial with an assigned instructor in the particular instrument or voice. Emphasis is on skill building, expressive capabilities, weekly assignments, and consistent daily practice. Students will be required to register in an appropriate ensemble as outlined in the current year Department of Music, Theatre, and Dance Handbook. Offered fall and winter semesters. Prerequisites: Permission of instructor. Registration in an appropriate ensemble.

## **MUS 142 - Private Instruction in Voice and Instruments - Freshman (1 credit)**

The course is a weekly tutorial with an assigned instructor in the particular instrument or voice. Emphasis is on skill building, expressive capabilities, weekly assignments, and consistent daily practice. Students will be required to register in an appropriate ensemble as outlined in the current year Department of Music, Theatre, and Dance Handbook. Prerequisites: MUS 141. Students must also be registered in an appropriate ensemble.

## **MUS 144 - Private Instruction in Voice and Instruments - Freshman (3 credits)**

This course is a weekly tutorial with an assigned instructor in the particular instrument or voice. Emphasis is on skill building, expressive capabilities, weekly assignments, and consistent daily

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practice. Students will be required to register in an appropriate ensemble as outlined in the current year Department of Music, Theatre, and Dance Handbook. Offered fall and winter semesters. Prerequisites: Acceptance and registration into the Bachelor of Music.

## **MUS 145 - Private Instruction in Voice and Instruments - Freshman (3 credits)**

The course is a weekly tutorial with an assigned instructor in the particular instrument or voice. Emphasis is on skill building, expressive capabilities, weekly assignments, and consistent daily practice. Students will be required to register in an appropriate ensemble as outlined in the current year Department of Music, Theatre, and Dance Handbook. Prerequisites: MUS 144. Students must also be registered in an appropriate ensemble.

## **MUS 170 - Stage Movement (1 credit)**

Movement training for actors and singers, using techniques of ballet, jazz, and modern dance. This class will produce flexible, coordinated bodies that will respond to the creative demands of the stage. Offered fall and winter semesters.

## **MUS 180 - Special Topics in Music (1 credit)**

An exploration of theatre, dance, and musical arts through lectures and attendance of professional performances. Offered fall and winter semesters.

## **MUS 182 - Arts at Noon (1 credit)**

An exploration of musical arts through lectures and attendance at professional performances. Course offered fall and winter semesters.

## **MUS 200 - Introduction to Music Education (1 credit)**

This course is designed to provide students with rudimentary experiences in and theoretical knowledge of music education curriculum, facilities and program design and knowledge of instructional techniques for all types of school-aged learners. Offered winter semester.

## **MUS 218 - World Music (3 credits)**

An exploration of non-Western music and western folk music. Develops listening skills and ability to describe musical sounds and structures. Introduces an ethnomusicological perspective that considers music in relation to other aspects of society and culture. Fulfills Foundations - Arts. Fulfills Cultures - Global Perspectives. Offered fall and winter semesters.

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## **MUS 219 - Jazz History (3 credits)**

Survey of jazz from 1900 to present; including Dixieland, blues, swing, be-bop, cool jazz, jazz fusion, free jazz and the avant-garde, and the so-called "third stream." Music background is helpful but not mandatory. Fulfills Cultures - U.S. Diversity. Offered fall semester.

## **MUS 230 - Music Theory III (3 credits)**

A study of nineteenth-century harmonic, melodic, and formal techniques, including alternate resolutions of diatonic and chromatic seventh chords, altered and expanded tertian harmonies. Analyses of works in a variety of mediums. Introduction to species and harmonically governed counterpoint. Required of music majors. Offered fall semester. Prerequisite: MUS 131.

## **MUS 231 - Music Theory IV (3 credits)**

A study of post-1900 musical techniques: extended chromatic and higher-numbered harmonies, their use and resolutions, including those in jazz and pop music. Study of nontertian harmonies, bi-tonality, use of pitch sets, and serialism. Notation and reading of contemporary scores. Analysis of selected jazz improvisation. Required of music majors. Offered winter semester. Prerequisite: MUS 230.

## **MUS 233 - Aural Perception and Sight-Singing III (1 credit)**

Further development of musicianship using rhythmic and melodic dictation and singing using ties and chromaticism and modulation, harmonic dictation using secondary harmonies, two-part bicinia for sing-and-play exercises. Improvisation using typical jazz progressions. Interval singing, critical listening with four-voice examples. Required of music majors. Offered fall semester. Prerequisite: MUS 134.

## **MUS 234 - Aural Perception and Sight-Singing IV (1 credit)**

Intervallic singing and dictation using post-1900 melodies. Aural recognition of contemporary musical techniques. Required of music majors. Offered winter semester. Prerequisite: MUS 233.

## **MUS 241 - Private Instruction in Voice and Instruments - Sophomore (1 credit)**

This course is a weekly tutorial with an assigned instructor in the particular instrument or voice. Emphasis is on skill building, expressive capabilities, weekly assignments, and consistent daily practice. Prerequisites: MUS 142. Students must also be registered in an appropriate ensemble.

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## **MUS 242 - Private Instruction in Voice and Instruments - Sophomore (1 credit)**

This course is a weekly tutorial with an assigned instructor in the particular instrument or voice. Emphasis is on skill building, expressive capabilities, weekly assignments, and consistent daily practice. Prerequisites: MUS 241. Students must also be registered in an appropriate ensemble.

## **MUS 244 - Private Instruction in Voice and Instruments - Sophomore (3 credits)**

This course is a weekly tutorial with an assigned instructor in the particular instrument or voice. Emphasis is on skill building, expressive capabilities, weekly assignments, and consistent daily practice. Prerequisites: MUS 145. Students must also be registered in an appropriate ensemble.

## **MUS 245 - Private Instruction in Voice and Instruments - Sophomore (3 credits)**

This course is a weekly tutorial with an assigned instructor in the particular instrument or voice. Emphasis is on skill building, expressive capabilities, weekly assignments, and consistent daily practice. Prerequisites: MUS 244. Students must also be registered in an appropriate ensemble.

## **MUS 248 - Singing for Non-Majors (1 credit)**

This course is designed to provide vocal performance skills to nonmusic majors. The focus will be on building a basic technical foundation and skills for musical theatre auditioning. Course content and repertoire selection will be designed for the needs of the individual student group. Offered every semester.

## **MUS 253 - Woodwind Techniques (2 credits)**

Instruction in basic playing skills for the clarinet, saxophone, flute, oboe, and bassoon. Offered fall semester.

## **MUS 255 - Brass Techniques (2 credits)**

Instruction in basic playing skills on the trumpet, French horn, trombone, euphonium, and tuba. Offered winter semester.

## **MUS 257 - Class Percussion (1 credit)**

Instruction in basic performing skills on percussion instruments. Offered winter semester.

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## **MUS 258 - String Techniques (2 credits)**

Instruction in basic playing skills on the violin, viola, violoncello, and string bass. Offered fall semester.

## **MUS 263 - Keyboard Musicianship I (1 credit)**

Introductory keyboard skills, scales, chords, easy pieces, transpositions, improvisations, and basic theory at the keyboard. Offered fall semester. Prerequisites: MUS 130 (may be taken concurrently) and acceptance and registration in the following majors: Bachelor of Music Education, Bachelor of Music, Bachelor of Arts (music) or music minor.

## **MUS 264 - Keyboard Musicianship II (1 credit)**

A continuation of MUS 263, emphasis is on early- intermediate keyboard skills, accompaniments to melodies, sequential and free transposition, improvisation, and other creative skills at the keyboard. Offered winter semester. Prerequisite: MUS 263 and MUS 131 (MUS 131 may be taken concurrently).

## **MUS 267 - Opera Workshop (1 credit)**

Opera Workshop is designed specifically for the Bachelor of Music voice emphasis student. The singer/actor process will be explored through text study, theater games, and movement exercises. The singer/actor relationship to songs, arias, and scenes from opera and music theater will be the source of study. Offered fall semester. Prerequisite: MUS 144.

## **MUS 283 - Keyboard Musicianship III (1 credit)**

Intermediate keyboard skills, accompaniments to melodies, sequential and free transposition, improvisation, open-score reading, and other creative skills at the keyboard. Required of all majors. Offered fall and winter semesters. Prerequisite: MUS 264.

## **MUS 284 - Keyboard Musicianship IV (1 credit)**

A continuation of MUS 283. Required of all music majors whose primary instrument is voice. Offered fall and winter semesters. Prerequisite: MUS 283.

## **MUS 285 - Advanced Keyboard Musicianship (1 credit)**

Advanced piano study, designed for non-piano music majors. Emphasis on sight-reading and accompanying skills. Develops technique needed to play advanced repertoire and ability to adjust sounds when working with soloists or ensembles. Offered fall and winter semesters. Prerequisites: MUS 284 and permission of instructor.

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## **MUS 300 - From Rag to Rock - Exploring American Music (3 credits)**

Introduction to a variety of American musical styles drawn from many cultures, including Native American, African American, Latino, and European American traditions. Topics may include folk music, religious music, Broadway, country, jazz, rock, and American classical music. Fulfills Cultures - U.S. Diversity. Part of the Identity Issues. Offered fall semester. Prerequisite: Junior standing.

## **MUS 301 - History of Rock and Roll (3 credits)**

This course presents an overview of how rock music has evolved from the latter half of the 20th century through current musical representations. Additionally, it is expected that students will learn the ways in which rock music of the past and present represents social commentary and has influenced societal change. Part of the Human Rights Issue. Offered fall and winter semesters. Prerequisite: Junior standing.

## **MUS 302 - Music: Medieval and Renaissance Eras (3 credits)**

A comprehensive study of the early development of European art music beginning with the musicalization of the mass, through the late Renaissance (1600). Focus on the emergence of compositional techniques, theoretical writings, and the development of musical forms. Offered fall semester of odd-numbered years on sufficient demand. Prerequisite: MUS 120.

## **MUS 303 - Music: Baroque Era (3 credits)**

A comprehensive examination of vocal and instrumental music from 1600 to 1750. Major forms studied will include concerto, opera, oratorio, cantata, and fugue. Principle composers studied will include Monteverdi, Scarlatti, Corelli, Vivaldi, Telemann, Handel, and J.S. Bach. An analytical and historical approach with emphasis on listening. Offered fall semester of even-numbered years on sufficient demand. Prerequisite: MUS 120.

## **MUS 304 - Music: Classical Era (3 credits)**

A comprehensive examination of vocal and instrumental music from 1750 to 1825. Large and small forms will be included with emphasis on the compositions of Mozart, Haydn, and Beethoven. Offered winter semester of even-numbered years. Prerequisite: MUS 120.

## **MUS 305 - Music: 19th Century (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

A study of 19th century music by composers of Europe and North America, considering examples of symphonic poems, lieder, character pieces, chamber music, and nationalistic music. Study of "classical" forms as altered in opera and symphonic music. Offered winter semester of odd-numbered years. Prerequisite: MUS 120.

### **MUS 306 - Music from 1900-1960 (3 credits)**

A survey of the development of the new and unique forms of expressive and intellectual 20th century musical style from circa 1900 to 1960, including the exploration of impressionism, atonality, serialism, neo-classicism, and other innovations of 20th century master composers. Offered fall or winter semester. Prerequisite: MUS 120.

### **MUS 307 - Music Since 1960 (3 credits)**

A study of stylistic developments in music since 1960, with an emphasis on major compositional figures, the increasing influence of vernacular styles, the development of new electronic media, and developments outside of Europe and North America. Offered winter semester of even-numbered years. Prerequisites: MUS 120 and MUS 231.

### **MUS 308 - Music History Seminar (3 credits)**

Examines a particular topic in music history, such as the development of a genre, the work of a composer, or a significant work. Regardless of topic, all sections will explore music in relation to historical, social, intellectual, and artistic developments. May be repeated for credit when content varies. Offered fall semester. Prerequisite: MUS 120.

### **MUS 310 - Piano Literature (2 credits)**

A study of music written for the keyboard from the Renaissance to the present time. Offered on sufficient demand. Prerequisite: Permission of instructor.

### **MUS 320 - Introduction to Conducting (2 credits)**

Fundamentals of baton technique: laboratory experience in conducting, choral and instrumental works, cuing, score reading, and terminology. Offered fall semester. Prerequisites: MUS 231 and MUS 234.

### **MUS 330 - Instrumentation/Orchestration (3 credits)**

A practical course in the arrangement of music for instruments of the orchestra and band, as well as vocal scoring. Offered fall semester every other year.

### **MUS 333 - Form and Analysis in Western Music (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

A study of the principle formal types used in both instrumental and vocal music from 1700 to the present. Formal types discussed will include binary and ternary forms; rondo, sonata and sonata-rondo forms; ritornello in the concerto, and variation types. Offered fall semester. Prerequisite: MUS 231.

### **MUS 338 - Techniques of Jazz Instruction (1 credit)**

Technique and practice in basic instructional, playing and improvisation skills appropriate to teaching American Jazz in public schools. Offered winter semester. Prerequisites: MUS 200 and MUS 341.

### **MUS 341 - Private Instruction in Voice and Instruments - Junior (1 credit)**

This course is a weekly tutorial with an assigned instructor in the particular instrument or voice. Emphasis is on skill building, expressive capabilities, weekly assignments, and consistent daily practice. Prerequisites: MUS 242 and students must also be registered in an appropriate ensemble.

### **MUS 342 - Private Instruction in Voice and Instruments - Junior (1 credit)**

This course is a weekly tutorial with an assigned instructor in the particular instrument or voice. Emphasis is on skill building, expressive capabilities, weekly assignments, and consistent daily practice. Prerequisites: MUS 341 and students must also be registered in an appropriate ensemble.

### **MUS 344 - Private Instruction in Voice and Instruments - Junior (3 credits)**

This course is a weekly tutorial with an assigned instructor in the particular instrument or voice. Emphasis is on skill building, expressive capabilities, weekly assignments, and consistent daily practice. Prerequisites: MUS 245 and students must also be registered in an appropriate ensemble.

### **MUS 345 - Private Instruction in Voice and Instruments - Junior (3 credits)**

This course is a weekly tutorial with an assigned instructor in the particular instrument or voice. Emphasis is on skill building, expressive capabilities, weekly assignments, and consistent daily practice. Students will be required to register in an appropriate ensemble and complete a half recital. Prerequisite: MUS 344.

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## **MUS 354 - Teaching the Developing Voice (2 credits)**

Principles of voice building as applied to the voices of children and adolescents; a course for prospective choral music teachers. Research-based readings, guided one-on-one instruction of singers from area school music programs, and discussion of issues related to young singers. Restricted to music education majors. Offered winter semester. Prerequisite: MUS 200.

## **MUS 357 - Opera Theatre (1 credit)**

An ensemble course for voice students who have been assigned major roles in Opera Theatre mainstage productions. Emphasis on practical aspects of studio voice work, acting, and movement classes. Offered every semester. Prerequisite: Permission of instructor.

## **MUS 359 - Diction for Singers (2 credits)**

Develops a basis for proper pronunciation and understanding of foreign language songs. Offered fall semester. Prerequisites: FRE 101 and GER 101.

## **MUS 360 - Performance Literature (2 credits)**

Survey of solo musical literature representing the style periods typically associated with the students' applied area of musical study. Students will summarize, study, and examine appropriate vocal or instrumental repertoire for their applied area of musical study. Offered fall and winter semesters. Prerequisite: Permission of instructor.

## **MUS 361 - Piano Pedagogy I (3 credits)**

A study of fundamentals of piano playing designed for prospective teachers. Includes a practicum in which students do guided teaching. Required of Bachelor of Music students whose primary instrument is piano. Offered fall semester.

## **MUS 362 - Marching Band Techniques (2 credits)**

Designed to acquaint B.M.E. majors with all aspects of today's marching band. Offered fall semester. Required of all B.M.E. instrumental majors.

## **MUS 370 - Performance Pedagogy (2 credits)**

Performance Pedagogy focuses on teaching fundamentals, pedagogical traditions and techniques, interpretation of selected repertoire and musical progress, current pedagogical research pertaining to student's major performance area, and the maintenance and adjustment of the equipment/body for a successful performance. Offered fall and winter semesters. Prerequisite: Permission of instructor.

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## **MUS 371 - Piano Pedagogy II (3 credits)**

A study of intermediate and early-advanced materials for use in private and small group studio teaching. Includes review of journals, current technology, group strategies, and guided teaching. Required of B.M. students whose primary instrument is piano. Offered winter semester.

## **MUS 379 - Piano Pedagogy Masterclass (1 credit)**

A course which focuses on the performance and interpretation of pedagogical repertoire as well as pedagogical research. Designed for those interested in a lifelong career of teaching. Offered fall semester.

## **MUS 380 - Special Topics in Music (1 to 4 credits)**

The opportunity to develop certain advanced skills or study material not regularly offered as part of the music curriculum. Prerequisite: Permission of instructor.

## **MUS 399 - Special Readings in Music (1 to 4 credits)**

Independent study in problems of music and music education. To be arranged with the instructor. Offered fall and winter semesters.

## **MUS 441 - Private Instruction in Voice and Instruments - Senior (1 credit)**

This course is a weekly tutorial with an assigned instructor in the particular instrument or voice. Emphasis is on skill building, expressive capabilities, weekly assignments, and consistent daily practice. Students will be required to register in an appropriate ensemble and complete a half recital. Prerequisite: MUS 342.

## **MUS 442 - Private Instruction in Voice and Instruments - Senior (1 credit)**

This course is a weekly tutorial with an assigned instructor in the particular instrument or voice. Emphasis is on skill building, expressive capabilities, weekly assignments, and consistent daily practice. Students will be required to register in an appropriate ensemble. This course may be repeated for credit. Prerequisites: MUS 441 and students must also be registered in an appropriate ensemble.

## **MUS 444 - Private Instruction in Voice and Instruments - Senior (3 credits)**

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This course is a weekly tutorial with an assigned instructor in the particular instrument or voice. Emphasis is on skill building, expressive capabilities, weekly assignments, and consistent daily practice. Offered fall and winter semesters. Prerequisites: MUS 345 and students must also be registered in an appropriate ensemble.

### **MUS 445 - Private Instruction in Voice and Instruments - Senior (3 credits)**

This course is a weekly tutorial with an assigned instructor in the particular instrument or voice. Emphasis is on skill building, expressive capabilities, weekly assignments, and consistent daily practice. Offered fall and winter semesters. Prerequisite: MUS 444 and students must also be registered in an appropriate ensemble.

### **MUS 446 - Private Instruction in Voice and Instruments - Elective (3 credits)**

This course is a weekly tutorial with an assigned instructor in the particular instrument or voice. Emphasis is on skill building, expressive capabilities, weekly assignments and consistent daily practice. This course may be repeated for credit. Offered fall and winter semesters. Prerequisites: MUS 445 and students must also be registered in an appropriate ensemble.

### **MUS 456 - Teaching Music in the Elementary School (2 credits)**

Techniques and methods of teaching music to children in elementary schools. Students will explore developmentally appropriate music pedagogy and repertoire for the elementary music classroom. Restricted to music education majors. Offered fall semester. Prerequisite: MUS 200.

### **MUS 461 - Instrumental Music Methods and Materials (2 credits)**

Includes a brief survey of current practices in music education, techniques and methods of instrumental music education, and introduction to materials of the music industry designed for school use. Restricted to music education majors. Offered winter semester. Prerequisite: MUS 200.

### **MUS 465 - Choral/General Music in the Secondary School (2 credits)**

Techniques, trends, and materials in secondary general and choral music. Topics include: the adolescent voice, choral programming, the budget process, musicals, and contests and elective

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music classes. Restricted to music education majors. Offered winter semester. Prerequisites: MUS 200 and MUS 354.

### **MUS 479 - B.A. Senior Project (1 to 2 credits)**

The B.A. senior project is an intensive individual experience in one or more aspects of music. It can take several forms, such as an academic paper, a lecture-recital, the direction of a performance, or a music-related internship. Offered fall and winter semesters. Prerequisite: Permission of instructor.

### **MUS 495 - Analytical Techniques (Capstone) (3 credits)**

A comprehensive course in analysis, pursued through examination of scores, drawn from a wide range of periods, styles, media, and genres, with an emphasis on structural analysis, tonal relationships, motivic growth and development, and on the exploration of the aesthetic similarities of all music. Prerequisite: Completion of one upper-level music elective MUS 302-MUS 308, MUS 330-MUS 337.

### **MUS 499 - Independent Study and Research in Music (1 to 4 credits)**

Advanced independent study in problems of music and music education. To be arranged with the instructor. Offered fall and winter semesters.

### **MUS 643 - Applied Music (3 credits)**

Private instruction on one's principal performing instrument. Offered fall and winter semesters.

### **MUS 680 - Special Topics in Music (1 to 3 credits)**

Specialized topics ranging from specific genres of music to specific pedagogical issues in teaching. Offered on demand.

### **MUS 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

### **MUS 699 - Independent Study and Research (1 to 4 credits)**

Independent, graduate research or study in an area of music of special interest to the student. Prior to registration, the student must arrange for supervision by a faculty member and submit a

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contract (available in the Department of Music, Theatre, and Dance) specifying the scope of the proposed study. Offered every semester. Prerequisite: Permission of instructor and music department chair.

### **NRM 140 - The Climatic Factor (4 credits)**

A study of the atmosphere, broad aspects of weather and climate, microclimatology, and the geography of climate and effects on terrain, vegetation, and people. Does not count toward the NRM major. Fulfills Foundations - Physical Sciences with a lab (3-0-2). Offered fall and winter semesters.

### **NRM 150 - Introduction to Natural Resources (3 credits)**

An overview of the natural resources field, exploring how humans use and manage renewable natural resources and the associated ecosystems. Topics will include soils, wetlands, watersheds, fisheries, forestry, wildlife, resource policy and economics, restoration ecology, ecosystem management, and natural resource careers. Required in the NRM major and minor. (0-3-0) Offered fall and winter semesters.

### **NRM 180 - Special Topics in Natural Resources Management (1 to 4 credits)**

Lecture, discussion, laboratory, or field experience (or any combination of the preceding) in specific areas of resource management.

### **NRM 230 - Introduction to Wildland Fire Management (2 credits)**

This course provides students with a basic introduction to wildland and prescribed fire ecology, behavior, and management. This is required training for all personnel seeking to become wildland firefighters under National Wildfire Coordinating Group (NWCG) certification standards. NWCG certifications S-130, S-190, and L-180 are granted upon successful course completion. Offered winter and spring/summer semesters.

### **NRM 240 - Principles of Climatology (4 credits)**

The atmosphere, broad aspects of weather and climate, microclimatology, and paleoclimatology. Instrumentation, data presentation, ecoclimate, and microclimatological field observations. Lecture, laboratory, and field trips. (3-0-2)

### **NRM 250 - Resource Measurement and Maps (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Techniques of resource measurement including understanding spatial relationships and tools associated with data analysis. Introduction to navigation with compass, vegetation sampling, use of geographic information systems, global positioning systems, remote sensing, and their integration. (2-0-3) Offered fall semester.

## **NRM 263 - Forest Vegetation of the Great Lakes Region (2 credits)**

Nomenclature, classification, and identification of woody plants based on leaf, twig, bud, bark, fruit, and growth form. The course will focus on vegetation found in forests within the Great Lakes and Northeastern regions of the United States, and frequently planted ornamentals. Offered fall semester. Prerequisite: BIO 121.

## **NRM 280 - Special Topics in Natural Resources Management (1 to 4 credits)**

Lecture, discussion, laboratory, or field experience (or any combination of the preceding) in specific areas of resource management. Prerequisites: Variable.

## **NRM 281 - Principles of Soil Science (4 credits)**

Aspects of the physical, chemical, and biological properties of soils. (3-0-3) Offered fall semester. Prerequisite: CHM 109 or CHM 115.

## **NRM 300 - Ethical Recreation: Leave No Trace (1 credit)**

Learn how to reduce the impact of wildland recreation on nature and other visitors' experience. Students will apply the principles and practices of the Leave No Trace program in a two-day backpacking trip. LNT certification upon successful completion of the course. Offered spring/summer semester. Prerequisites: Completion of Foundations - Life Sciences requirement, junior standing, and permit required.

## **NRM 308 - Wildlife Ecology (4 credits)**

This course provides an introduction to wildlife ecology including population ecology as it relates to wildlife management and conservation. Offered winter semester. Prerequisite: BIO 215.

## **NRM 320 - Introduction to Resource Systems (3 credits)**

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Basic principles, terminology, and methodology for the analysis and modeling of resource systems, including natural environments and human ecosystems. (2-0-3) Offered winter semester. Prerequisites: BIO 215 and MTH 122.

### **NRM 330 - Environmental Pollution (3 credits)**

Investigation of causes and effects of water, soil, and air pollution. Prevention and management of pollution will be discussed and examined from natural and social science perspectives. Design of impact assessment studies, data interpretation, and laboratory methods. Topics may include waste disposal, acid deposition, climate change, toxicology, and risk assessment. (2-0-3) Offered winter semester. Prerequisite: CHM 109 or CHM 116.

### **NRM 380 - Special Topics in Natural Resources Management (1 to 4 credits)**

Lecture, discussion, laboratory, or field experience (or any combination of the preceding) in specific areas of resource management. Prerequisites: Variable.

### **NRM 386 - Ecological Restoration and Management (4 credits)**

This course will introduce students to ecological restoration and examines the practical methods and techniques used in ecosystem restoration and management. Cross-listed with BIO 386. Offered fall semester. Prerequisite: BIO 215.

### **NRM 395 - GIS Applications in Resource Management (3 credits)**

Explores applications of geographic information systems (GIS) in natural resources management. Students will work on projects and examine several case studies in which GIS is used for the management of natural resources, including watershed analysis, environmental impact of timber sales, habitat loss, and endangered species conservation. (2-0-3) Offered winter semester. Prerequisite: GPY 307 or NRM 250.

### **NRM 399 - Readings in Resource Management (1 to 3 credits)**

Independent readings on selected topics. Credit and topic must be arranged with the appropriate staff member before registering. No more than three credits can be applied to the major, none to the minor. Offered every semester.

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## **NRM 406 - Renewable Energy Systems: Structure, Policy, and Analysis (3 credits)**

A survey of the technological as well as economic, societal, and public policy issues associated with renewable energy systems. Topics include generation using renewable resources such as solar, wind, hydropower, and biomass, as well as advanced energy storage systems and distribution. Energy research and analysis techniques are introduced. Fulfills Cultures - Global Perspectives. Part of the Sustainability Issue. Cross-listed with EGR 406. Offered winter semester. Prerequisites: Junior standing and (STA 215 or STA 220 or STA 312).

## **NRM 407 - Natural Resources and Society: Study Abroad (1 to 4 credits)**

Natural resources topics related to biodiversity, sustainability, alternative energy, environmental policy and economics, land use, climate change, historical influences, and cultural/societal attitudes conducted within an international context. The society-based experience is combined with readings, lectures, papers, and discussions.

## **NRM 408 - Wildlife Management (4 credits)**

An examination of techniques used in the management, research, and conservation of wildlife species. Introduces the fundamental concepts of wildlife management, including wildlife habitat requirements, evaluation of habitat suitability, interpretation of data analysis techniques, and applied techniques of habitat and population management. Cross-listed with BIO 408, BIO 508, and NRM 508. Offered fall semester. Prerequisite: BIO 308 or NRM 308.

## **NRM 415 - Fire Ecology and Management (3 credits)**

An examination of fire as an ecological and biophysical process, its interactions with and effects on a variety of ecosystem components, and use as a resource management tool. A National Wildfire Coordinating Group Certification (RX - 310 Introduction to Fire Effects) is granted upon successful course completion. Cross-listed with BIO 415, BIO 515, and NRM 515. Offered winter semester. Prerequisite: BIO 215.

## **NRM 417 - International Field Studies in Resource Ecology and Management (1 to 4 credits)**

Intensive field work related to natural resources ecology, conservation, preservation, and management conducted within an international context. The field-based experience is combined with readings, lectures, papers, and discussions.

## **NRM 420 - Wildland Recreation Management (3 credits)**

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Learn about the challenges of managing wildland recreation that both meets the needs of users and preserves the ecological health of ecosystems. Learn techniques to manage dispersed recreation that occurs on public lands and waters and how to limit their impact on visitors and soil, vegetation, water, and wildlife. (3-0-0) Offered fall semester.

### **NRM 430 - Advanced Wildland Fire Management (2 credits)**

This course provides students with advanced skills and knowledge related to wildland- and prescribed-fire ecology, behavior, and management. This is advanced training for all personnel seeking to become Wildland Firefighters under National Wildfire Coordinating Group (NWCG) certification standards. NWCG certification S-290 is granted upon successful course completion. Class is credit/no-credit. Cross-listed with BIO 430. Offered winter and spring/summer semesters. Prerequisite: NRM 230.

### **NRM 450 - Applied Spatial Analysis of Natural Resources (3 credits)**

The course focuses on environmental and natural resource applications of computer-based spatial analysis concepts and techniques. Students will analyze contemporary environmental challenges using, for example, advanced geographic information systems (GIS) tools, image interpretation and analysis, simulation modeling, and spatial analysis. Offered fall semester. Prerequisite: NRM 395 or GPY 307.

### **NRM 451 - Natural Resource Policy (3 credits)**

Study of how natural resource policy is developed and implemented in the United States. Focuses on public policies toward renewable resources such as forests, biodiversity, land, recreation, and water. Includes foundations of the American legal system, choice of policy instruments, and basic methods of policy analysis. Part of the Sustainability Issue. (4-0-0) Cross-listed with NRM 551. Offered fall and winter semesters. Prerequisites: Junior standing and completion of Foundations - Natural Sciences; or permission of instructor.

### **NRM 452 - Watershed and Wetland Management (4 credits)**

Theory and application of urban, rural, and wildland hydrology, including the management of watersheds and wetlands to improve water quality, stabilize stream flows, and conserve stream and wetland biota. (3-0-3) Offered fall semester. Prerequisites: MTH 122, NRM 150, and NRM 250.

### **NRM 462 - Forest Ecosystem Management (4 credits)**

An introduction of traditional and contemporary forestry practices including tree identification, silviculture, and vegetation measurements. Course emphasizes integration of established

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practices with the concepts of sustainable forestry and ecosystem management. The presentation, discussion, and synthesis of new approaches to the management of forest ecosystems will be especially stressed. (3-0-3) Cross-listed with NRM 562. Offered winter semester. Prerequisites: NRM 150 and NRM 250.

## **NRM 480 - Special Topics in Natural Resources Management (1 to 4 credits)**

Lecture, discussion, laboratory, or field experience (or any combination of the preceding) in specific areas of resource management.

## **NRM 486 - Restoration Ecology (3 credits)**

This course will introduce students to the science of restoration ecology through an examination of underlying theories and contemporary research in ecosystem restoration. Cross-listed with NRM 586, BIO 486, and BIO 586. Course offered winter semester of even-numbered years. Prerequisites: BIO 215 and junior standing; or permission of instructor.

## **NRM 490 - Internship in Resource Management (1 to 5 credits)**

Internships are available in all areas of specialization. Location of placement and credit must be arranged with the appropriate faculty before registration. No more than five credits in NRM 490 and NRM 499 can be applied to the major; three to the minor. Offered each semester. Prerequisite: Junior standing in natural resource management.

## **NRM 495 - Trends in Natural Resource Management (Capstone) (4 credits)**

A comprehensive and integrative analysis of the fundamental assumptions, issues, and problems of natural resources management. Examines the historical roots of natural resource management, identifies factors that caused natural resource management to change, and explores proposals for managing natural resources in the future. (0-4-0) Offered fall and winter semesters. Prerequisites: Senior standing, STA 215, NRM 150, and one of the following: NRM 330, NRM 386, NRM 408, NRM 420, NRM 452, NRM 462.

## **NRM 496 - Trends in Western U.S. Natural Resource Management (2 credits)**

This course provides a comprehensive perspective on the fundamental assumptions, problems, and solutions to natural resources management issues in the Western U.S. We will examine the historical roots of management and explore new paradigms for managing natural resources. Must

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be taken prior to NRM 497 to fulfill the Capstone requirement. Offered winter semester.  
Prerequisites: Senior standing, STA 215, NRM 150, and one of the following: NRM 330, NRM 386, NRM 408, NRM 420, NRM 452, NRM 462.

## **NRM 497 - Field Trip - Issues in Western U.S. Natural Resources Management (2 credits)**

This field trip will provide a broad and comprehensive perspective on natural resource management issues in the Western United States. We will meet with public land management officials, representatives from nongovernment organizations, and private individuals to explore the challenges of managing public land and water resources. Cross-listed with NRM 597. Offered spring/summer semester. Prerequisite: NRM 496 or permission of instructor.

## **NRM 499 - Research in Resource Management (1 to 3 credits)**

Research conducted individually with faculty supervision and/or in cooperation with other majors in resource management. Research projects and credit hours must be approved by the appropriate faculty before registration. Limits: Three credits toward major or minor; five credits of NRM 490 plus NRM 499 toward major or three toward minor. Prerequisite: Junior standing in resource management.

## **NRM 508 - Wildlife Management (4 credits)**

An examination of techniques used in the management, research, and conservation of wildlife species. Introduces the fundamental concepts of wildlife management, including wildlife habitat requirements, evaluation of habitat suitability, interpretation of data analysis techniques, and applied techniques of habitat and population management. Cross-listed with BIO 408, BIO 508, and NRM 408. Offered fall semester. Prerequisite: Graduate standing.

## **NRM 515 - Fire Ecology and Management (3 credits)**

An examination of fire as an ecological and biophysical process, its interactions with and effects on a variety of ecosystem components, and use as a resource management tool. A National Wildfire Coordinating Group Certification (RX - 310 Introduction to Fire Effects) is granted upon successful course completion. Cross-listed with NRM 415, BIO 415, and BIO 515. Offered winter semester.

## **NRM 551 - Natural Resource Policy (3 credits)**

Study of how natural resource policy is developed and implemented in the United States. Focuses on public policies toward renewable resources such as forests, biodiversity, land, recreation, and water. Includes foundations of the American legal system, choice of policy

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instruments, and basic methods of policy analysis. Part of the Sustainability Issue. (4-0-0) Cross-listed with NRM 451. Offered fall and winter semesters. Prerequisite: Graduate standing.

### **NRM 552 - Fisheries Management (3 credits)**

An introduction to the principles of fisheries science and management, focusing on the process and tools for managing fish populations and their habitat as well as emphasizing quantitative methods for fisheries assessment. Prerequisite: Graduate standing or (BIO 362, STA 215, and permission of instructor).

### **NRM 562 - Forest Ecosystem Management (4 credits)**

An introduction to traditional and contemporary forestry practices including tree identification, silviculture, and vegetation measurements. Course emphasizes integration of established practices with the concepts of sustainable forestry and ecosystem management. The presentation, discussion, and synthesis of new approaches to the management of forest ecosystems will be especially stressed. Cross-listed with NRM 462. Offered winter semester.

### **NRM 576 - Aquatic Ecosystem Management (3 credits)**

Wise management of aquatic ecosystems is a pressing need with societal demands on freshwater increasing. This class allows for hands-on experience developing and implementing a management plan in a local setting by linking an understanding of aquatic ecosystem structure and function with management, restoration, and protection. Cross-listed with WAT 576. Offered winter of even-numbered years. Prerequisite: Graduate standing or permission of instructor.

### **NRM 580 - Special Topics in Natural Resources Management (1 to 4 credits)**

Lecture, discussion, laboratory, or field experience (or any combination of the preceding) in specific areas of resource management.

### **NRM 586 - Restoration Ecology (3 credits)**

This course will introduce students to the science of restoration ecology through an examination of underlying theories and contemporary research in ecosystem restoration. Cross-listed with NRM 486, BIO 486, and BIO 586. Offered winter semester of even-numbered years. Prerequisite: Graduate standing.

### **NRM 597 - Field Trip - Issues in Western U.S. Natural Resources Management (2 credits)**

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This field trip will provide a broad and comprehensive perspective on natural resource management issues in the western United States. We will meet with public land management officials, representatives from nongovernment organizations, and private individuals to explore the challenges of managing public land and water resources. Cross-listed with NRM 497. Offered spring/summer semester. Prerequisite: Graduate standing.

## **NRM 680 - Special Topics in Natural Resources Management (1 to 4 credits)**

Lecture, discussion, laboratory, or field experience (or any combination of the preceding) in specific areas of resource management.

## **NRM 691 - Graduate Internship (3 to 9 credits)**

Half- to full-time, on-the-job work performed at a sponsoring entity under the supervision of an approved mentor in an area related to natural resources or environmental science. A written internship analysis and a public oral presentation are required. The student will defend the internship analysis in front of the student's graduate committee. Offered every semester. Prerequisites: BIO 610 and successful completion of qualifying exams.

## **NRM 693 - Graduate Project (3 to 9 credits)**

Application of scientific knowledge to a problem in natural resources or environmental science. Projects will be performed under the supervision of an approved mentor from the sponsoring entity. A written report and public oral presentation are required. The student will defend the project report in front of the student's graduate committee. Offered every semester. Prerequisites: BIO 610, successful completion of qualifying exams and completion of the Responsible Conduct of Research Training within last three years.

## **NRM 695 - Graduate Thesis Research (3 to 9 credits)**

Original research related to natural resources or environmental science. Work will be performed under the supervision of the student's graduate committee chair or an approved research mentor. A written thesis and a public oral presentation are required. The student will defend the thesis in front of the student's graduate committee. Offered every semester. Prerequisites: BIO 610, successful completion of qualifying exams and completion of the Responsible Conduct of Research Training within last three years.

## **NRM 696 - Continuation of Master's Project or Thesis Research (1 credit)**

Continuation of work related to the master's project or thesis phase of the graduate student's program. Registration is required after all respective project or thesis credits are completed and

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the project or thesis is not completed. Work will be performed under the supervision of the project advisor or thesis committee chair. Offered every semester. Prerequisites: Completion of all required project or thesis credits and completion of the Responsible Conduct of Research Training within last three years.

### **NRM 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

### **NRM 699 - Independent Study (1 to 3 credits)**

Independent study in areas related to natural resources or environmental science of special interest to the student. Studies will be supervised by a faculty member approved by the student's graduate committee chair. May be elected for up to a maximum of six credits toward the M.S. in biology. Offered every semester. Prerequisite: Permission of the student's graduate committee chair, instructor, and department chair.

### **NUR 180 - Special Topics in Nursing (1 to 3 credits)**

Readings, lecture, discussion, or lab in specific nursing topics.

### **NUR 265 - Introduction to Nursing Research and Evidence-based Practice (3 credits)**

Foundation for integration of evidence-based concepts into the provision of nursing care. An introduction to the process of developing research evidence leading to acquisition of skills, knowledge, and attitudes necessary for an effective consumer of research. Evidence sources are identified and explored for their contribution to evidence-based practice. Offered fall and winter semesters. Prerequisites: Admission to the Kirkhof College of Nursing and STA 215 (may be taken concurrently).

### **NUR 266 - Professional Nursing I (4 credits)**

The key concepts for nursing practice are introduced with an emphasis on communication, health promotion, and health restoration at the individual level. Professional nurse roles of provider of care, coordinator/manager/designer of care, and member of the profession are introduced. Offered fall and winter semesters. Prerequisites: Admission to the Kirkhof College of Nursing and STA 215 (may be taken concurrently).

### **NUR 267 - Clinical Nursing I (4 credits)**

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Knowledge from core courses, liberal arts, and nursing is used to provide the development of nursing skills and the beginning application in the care of an individual patient. Emphasis is on communication, health promotion, health restoration, health assessment, and physical examination skills. Offered fall and winter semesters. Prerequisites: Admission to the Kirkhof College of Nursing, BMS 310, and NUR 266 (may be taken concurrently).

### **NUR 280 - Special Topics in Nursing (1 to 3 credits)**

Readings, lecture, discussion, or lab in specific nursing topics.

### **NUR 311 - Dimensions of Nursing Practice (2 credits)**

This course is one of two transition courses that students in the RN to B.S.N. program take for the baccalaureate degree. It focuses on concepts that are client oriented for the baccalaureate-prepared nurse level. Concepts to be emphasized include quality and safety, informatics, nursing roles, social, cultural, and ethical issues in nursing. Offered spring/summer semester. Prerequisites: Admission to the RN to B.S.N. program and/or permission to register.

### **NUR 312 - Professional Nursing Issues (2 credits)**

This course is one of two transition courses for the RN to B.S.N. program. It expands upon knowledge gleaned in the associate degree program, exploring concepts related to professional identity and communication in nursing. Professional identity includes accountability and nursing roles. Communication includes interpersonal and professional communication. Offered fall semester. Prerequisites: Admission to the RN to B.S.N. program and/or permission to register.

### **NUR 316 - Professional Nursing II (4 credits)**

Professional nurse roles of provider and coordinator/manager/designer of care, and member of a profession are expanded. Emphasis is on health promotion, health restoration, and risk reduction for adults/older adults and their families. Offered fall and winter semesters. Prerequisites: NUR 266 and NUR 267. The following courses may be taken concurrently: BMS 305, BMS 311, NUR 265, and NUR 317.

### **NUR 317 - Clinical Nursing II (6 credits)**

Knowledge from core courses, liberal arts, and nursing is used to formulate clinical judgments for adults/older adults and their families. Students collaborate with health team members to further refine skills in clinical reasoning, therapeutic nursing interventions, and communication in various settings. Offered fall and winter semesters. Prerequisites: NUR 266 and NUR 267. The following courses may be taken concurrently: BMS 305, BMS 311, NUR 265, and NUR 316.

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## **NUR 322 - Theoretical Foundations for Health Assessment and Promotion (3 credits)**

This course focuses on the assessment of well and ill patients in various health settings. Applications of liberal arts and sciences to health promotion, disease prevention, and risk reduction will be incorporated into health assessment and promotion. Offered fall and spring/summer semesters. Prerequisites: BIO 355, BMS 250, BMS 251, CHM 230, BMS 212, PSY 364, BMS 305, BMS 310, and STA 215. Corequisites: NUR 323 and NUR 325.

## **NUR 323 - Clinical Application of Health Assessment and Promotion (4 credits)**

Knowledge from core courses, liberal arts, and nursing is used to provide the development of nursing skills, clinical judgment, and the beginning application in the care of the individual patient. Emphasis on communication, health promotion, health assessment, physical examination skills, and basic nursing skills. Offered fall and spring/summer semesters. Prerequisites: BIO 355, BMS 212, BMS 250, BMS 251, BMS 305, BMS 310, CHM 230, PSY 364, and STA 215. Corequisites: NUR 322 and NUR 325.

## **NUR 324 - Introduction to Professional Nursing Theory (3 credits)**

This course focuses on the definitions and theories of professional nursing. The nursing process, nursing and health care theory, and health care settings will be explored. Foundational professional documents and competencies will be introduced. Offered fall and spring/summer semesters. Prerequisites: BIO 355, BMS 212, BMS 250, BMS 251, BMS 305, BMS 310, CHM 230, PSY 364, and STA 215.

## **NUR 325 - Clinical Judgment in Health Assessment and Promotion (1 credit)**

The concept of clinical judgment is introduced and explored in a variety of simulated clinical experiences that correlate with content in corequisite nursing courses. Intentional patient experiences focus on building the foundations for safe, quality nursing care. Offered fall and spring/summer semesters. Prerequisites: BIO 355, BMS 212, BMS 250, BMS 251, BMS 305, BMS 310, CHM 230, PSY 364, and STA 215. Corequisites: NUR 322 and NUR 323.

## **NUR 328 - Clinical Pharmacology for Nursing (3 credits)**

A lecture/discussion course designed to introduce nursing students to the principles of pharmacology for major classes of medications used in the treatment of disease. Application of these principles will be used in nursing clinical decision-making to promote safe and effective

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patient care. Offered every semester. Prerequisites: Admission into Kirkhof College of Nursing, BMS 310, and NUR 267 (may be taken concurrently).

## **NUR 332 - Adult Health Theory (6 credits)**

Professional nurse roles such as provider and coordinator/manager/designer of care, and member of the profession are expanded. Emphasis is on using the nursing process to build an understanding of concepts in the human experience of illness in adult/older adult patients. Offered fall and winter semesters. Prerequisites: NUR 322, NUR 323, NUR 324, NUR 325, and NUR 328. Corequisites: NUR 333 and NUR 335.

## **NUR 333 - Adult Health Clinical (5 credits)**

Knowledge from liberal arts/sciences and nursing courses promotes clinical judgment to care of adults/older adults. Students collaborate with the interprofessional healthcare team in acute care settings to refine skills in communication and the nursing process to ensure safe and effective patient outcomes (including Quality and Safety Education for Nurses). Offered fall and winter semesters. Prerequisites: NUR 322, NUR 323, NUR 324, NUR 325, and NUR 328. Corequisites: NUR 332 and NUR 335.

## **NUR 335 - Clinical Judgment in Adult Health (1 credit)**

The Clinical Judgment Model is used to further develop nursing skills in a variety of simulated patient experiences that correlate with content in corequisite nursing courses. Intentional patient experiences focus on the integration of concepts from NUR 332 and NUR 333 in the care of adults and older adults. Offered fall and winter semesters. Prerequisites: NUR 322, NUR 323, NUR 324, NUR 325, and NUR 328. Corequisites: NUR 332 and NUR 333.

## **NUR 336 - Research and Evidence Based Nursing Practice (3 credits)**

This course provides a foundation for integration of research, evidence-based practice into the delivery of quality nursing care. Emphasis is on understanding how research, evidence and data analytics lead to acquisition of skills, knowledge, and attitudes necessary for safe, comprehensive, evidence-based practice and impact patient outcomes. Offered fall and winter semesters. Prerequisites: NUR 322, NUR 323, NUR 324, NUR 325, and NUR 328.

## **NUR 338 - Critical Appraisal of Evidence Based Practice in Nursing (1 credit)**

This course will augment the knowledge of the research process demonstrated in prior coursework by applying those research principles to nursing evidence and practice. Offered fall and winter semesters. Prerequisite: Permission of the college.

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## **NUR 344 - Healthy Aging: A Lifelong Journey (3 credits)**

Healthy aging is a lifelong process. This course will explore factors that affect physical, mental, biological, and spiritual aspects of human aging. Emphasis will be placed on achieving and maintaining optimal health and well-being across the life course. Part of the Health Issue. Offered fall and winter semesters. Prerequisite: Junior standing.

## **NUR 354 - Living with Life-Limiting Illness (3 credits)**

This course is intended for persons interested in exploring issues surrounding death and dying. Content will explore common physical, psychosocial, spiritual, and culturally-specific needs of the dying, as well as ethical and legal considerations surrounding death. Standards of care from the discipline of hospice and palliative care are explored. Part of the Health Issue. (3-0-0-0) Offered every semester. Prerequisite: Junior standing.

## **NUR 362 - Professional Nursing III - Foundations (2 credits)**

Professional nurse roles of 1) provider, 2) coordinator/manager/designer of care, and 3) member of the profession are expanded further with a focus on the childbearing and childrearing families. Emphasis is on promotion and maintenance of family health, including family as client, to ensure optimal childbearing and childrearing. Offered fall semester. Prerequisites: NUR 265, NUR 266, and NUR 267. Corequisites: NUR 316, NUR 317, and NUR 363.

## **NUR 363 - Clinical Nursing III - Foundations (3 credits)**

Knowledge from liberal education and the discipline of nursing is used to inform family centered care for childbearing and childrearing populations. Students collaborate with health team members to further refine skills in clinical reasoning, therapeutic nursing interventions, and communication through experiences in various clinical settings. Offered fall semester. Prerequisites: NUR 265, NUR 266, and NUR 267. Corequisites: NUR 316, NUR 317, and NUR 362.

## **NUR 364 - Embracing Wicked Problems in Healthcare (3 credits)**

Wicked problems in healthcare are chronic, reoccurring issues that require both problem solving and polarity thinking. Students across disciplines work in groups applying principles of dialogue and polarity management to address polarizing tensions, where both sides are right and need each other's wisdom to create sustainable positive health outcomes. Part of the Health Issue. Offered fall and winter semesters. Prerequisite: Junior standing.

## **NUR 366 - Professional Nursing III (4 credits)**

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Professional nurse roles of provider and coordinator/manager/designer of care, and member of the profession are expanded further with a focus on the childbearing and childrearing families. Emphasis is on promotion and maintenance of family health to ensure optimal childbearing and childrearing. Offered fall and winter semesters. Prerequisites: BMS 311, NUR 316, and NUR 317. The following courses may be taken concurrently: BIO 355 and NUR 367.

### **NUR 367 - Clinical Nursing III (6 credits)**

Knowledge from liberal education and the discipline of nursing is used to inform clinical reasoning for childbearing and childrearing families. Students collaborate with health team members to further refine skills in clinical reasoning, therapeutic nursing interventions, and communication through laboratory practice and experiences in various settings. Offered fall and winter semesters. Prerequisites: NUR 316 and NUR 317. The following courses may be taken concurrently: BIO 355 and NUR 366.

### **NUR 380 - Special Topics in Nursing (1 to 4 credits)**

Readings, lecture, discussion, or lab in specific nursing topics.

### **NUR 381 - Perioperative Nursing Care (2 credits)**

This course focuses on the roles of the baccalaureate prepared nurse applying the nursing process while caring for individuals/populations undergoing surgical intervention. Course themes include: perioperative health, patient-centered care, quality and safety, communications, and professional identity. Content is informed by nationally accepted guidelines for perioperative nursing practice. Offered fall and winter semesters. Prerequisite: NUR 317 or proof of RN licensure.

### **NUR 399 - Readings in Nursing (1 to 4 credits)**

Independent supervised readings on selected topics. Credits and topic must be prearranged with faculty sponsor(s).

### **NUR 411 - Community-based Nursing Care (4 credits)**

This course focuses on the role of the baccalaureate prepared nurse in the application of the nursing process while caring for individuals and families in the community. Course concepts include development over the lifespan, group dynamics, systems, nursing roles, interdisciplinary behaviors and professional communication. Offered spring/summer semester. Prerequisites: NUR 311 and NUR 312.

### **NUR 412 - Nursing Care for Populations (4 credits)**

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This course focuses on the role of the baccalaureate-prepared nurse in assessing, planning, intervening and evaluating health care needs for populations. Concepts such as culture, social justice and vulnerability will be examined as to their effects on population health. Genetics, health promotion, and risk reduction will be emphasized. Offered fall semester. Prerequisites: NUR 311, NUR 312, and NUR 411.

## **NUR 414 - Collaboration for Nurses (2 credits)**

Post licensure nurses in professional practice have foundational and shared knowledge of interprofessional education and collaborative practice (IPECP) in terms of values and ethics, and roles and responsibilities of other healthcare professionals. This course applies the remaining principles of IPECP through the lenses of interprofessional communication and team collaboration. Offered every semester. Corequisite: NUR 411.

## **NUR 416 - Professional Nursing IV (4 credits)**

Professional nurse roles of provider and coordinator/manager/designer of care, and member of the profession are integrated. Emphasis is on restoration, maintenance, and promotion of health in individuals and families with long term physical and mental health limitations. Community as client will be introduced. Offered fall and winter semesters. Prerequisites: NUR 366 and NUR 367. Corequisites: NUR 417 and IPE 407.

## **NUR 417 - Clinical Nursing IV (6 credits)**

Knowledge from liberal education and the discipline of nursing is used to inform clinical reasoning for individuals, families, groups, and communities with complex mental and physical health issues. Students collaborate with health team members to further refine skills in nursing interventions and communication. Offered fall and winter semesters. Prerequisite: NUR 366. Corequisites: NUR 416 and IPE 407.

## **NUR 442 - Childbearing and Childrearing Theory (4 credits)**

Professional nurse roles of provider of care, designer/manager/coordinator of care, and member of the professional are expanded to childbearing and childrearing families. The stage of physical and psychosocial development is applied to care of families. Offered winter and spring/summer semesters. Prerequisites: NUR 332, NUR 333, NUR 335, and either NUR 336 or NUR 338. Corequisites: NUR 443 and NUR 445.

## **NUR 443 - Childbearing and Childrearing Clinical (3 credits)**

Knowledge from liberal education and the discipline of nursing is applied to the care of childbearing and childrearing families. Students collaborate with health team members in a

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variety of obstetric and pediatric settings to expand skills in clinical reasoning, therapeutic nursing interventions, and communication. Offered winter and spring/summer semesters. Prerequisites: NUR 332, NUR 333, NUR 335, and either NUR 336 or NUR 338. Corequisites: NUR 442 and NUR 445.

## **NUR 445 - Clinical Judgment in Childbearing, Childrearing, Community Health and Mental Health (1 credit)**

Students will utilize the clinical judgment model to expand understanding and skill in the care of childbearing and childrearing families as well as caring for those with mental health challenges in acute and community settings. Intentional patient experiences focus on the integration of concepts from NUR 442 and NUR 446. Offered winter and spring/summer semesters. Prerequisites: NUR 332, NUR 333, NUR 335, and either NUR 336 or NUR 338. Corequisites: NUR 442, NUR 443, NUR 446, and NUR 447.

## **NUR 446 - Community Health and Mental Health Theory (4 credits)**

This course builds knowledge of the roles of community health nursing in various settings, caring for individuals and aggregates, from culturally diverse backgrounds, across developmental stages and along the health-illness continuum. The nursing process facilitates applying concepts of the human experience of mental health and illness through the lifespan. Offered winter and spring/summer semesters. Prerequisites: NUR 332, NUR 333, NUR 335, and either NUR 336 or NUR 338. Corequisites: NUR 445 and NUR 447.

## **NUR 447 - Community Health and Mental Health Clinical (2 credits)**

Students care for individuals and aggregates in various settings, emphasizing collaboration with interprofessional health care teams, and using nursing process that incorporates social determinants of health to assess, implement nursing interventions and promote effective patient outcomes. Importance is placed on mental health/illness concerns and refining skills in communication. Offered winter and spring/summer semesters. Prerequisites: NUR 332, NUR 333, NUR 335, and either NUR 336 or NUR 338. Corequisites: NUR 445 and NUR 446.

## **NUR 456 - Transformative Nursing Leadership (4 credits)**

This Capstone course expands on the RN/B.S.N. preparation in the areas of member of the profession and coordinator of care. Through application of key concepts, this course further develops the student's professional identity, understanding of quality and health care systems, and the mechanisms for effective professional communication. Offered winter semester. Prerequisite: NUR 412.

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## **NUR 467 - Professional Nursing V (10 credits)**

Knowledge, skills, attitudes necessary for professional leadership and provision of care for individuals, families, groups, and communities are synthesized. Nursing care at the community level and a clinical immersion experience, which serves as the Capstone activity, facilitates transition into practice as a member of the profession. Offered fall and winter semesters. Prerequisites: NUR 416 and NUR 417. IPE 407 may be taken concurrently.

## **NUR 472 - Transitions to Professional Nursing (3 credits)**

In this course, students prepare to enter the nursing profession. The knowledge, skills, and attitudes necessary for professional leadership and provision of care for individuals, families, and groups are synthesized. Offered fall and spring/summer semesters. Prerequisites: NUR 442, NUR 443, NUR 445, NUR 446, and NUR 447. Corequisites: NUR 473 and NUR 475.

## **NUR 473 - Clinical Immersion (4 credits)**

In this course, students complete a clinical immersion experience that facilitates the transition into practice as a member of the profession. Application of the knowledge, skills and attitudes necessary for professional leadership and provision of care are synthesized. Prerequisites: NUR 442, NUR 443, NUR 445, NUR 446, and NUR 447. Corequisites: NUR 472 and NUR 475.

## **NUR 475 - Clinical Judgment in Immersion (1 credit)**

Simulated experiences will provide opportunities for exploring the role of the manager, delegator, member of a team. Offered fall and spring/summer semesters. Prerequisites: NUR 442, NUR 443, NUR 445, NUR 446, and NUR 447. Corequisites: NUR 472 and NUR 473.

## **NUR 476 - Population Health theory (3 credits)**

This course integrates nursing and public health concepts/trends to assess community health needs and program planning. Nursing process will be fully utilized at the community level to examine social, political, legal-ethical and environmental issues. Theory and research are emphasized to include collaborative practice, health policy, and interdisciplinary teamwork. Offered fall and spring/summer semesters. Prerequisites: NUR 442, NUR 443, NUR 445, NUR 446, and NUR 447. Corequisite: NUR 477.

## **NUR 477 - Population Health Clinical (2 credits)**

This Capstone course examines the essential competencies of the professional nurse in addressing population-focused and global public health issues. Students apply public health science, epidemiology, systems-level assessment, health policy development and program planning. Strategies to promote health and prevent disease in diverse populations through

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collaborative efforts are emphasized. Offered fall and winter semesters. Prerequisites: NUR 442, NUR 443, NUR 445, NUR 446, and NUR 447. Corequisite: NUR 476.

## **NUR 480 - Special Topics in Nursing (1 to 4 credits)**

Readings, lecture, labs, or discussions (or any combination) in specific nursing topics. Prerequisites dependent upon topic selected. May be repeated for credit when content varies. Graded credit/no-credit.

## **NUR 481 - Critical Care: Infants and Children (2 credits)**

The purpose of this course is to provide students with an opportunity to study concepts from nursing and the sciences specific to the care of critically ill infants and children. Offered every semester. Prerequisites: NUR 366 and NUR 367. Corequisites: NUR 416, NUR 417, and NUR 467.

## **NUR 499 - Research in Nursing (1 to 4 credits)**

Independent supervised research in special areas of nursing. Credits and topics must be prearranged with faculty sponsor(s).

## **NUR 500 - Comprehensive Health Assessment for Nurses (3 credits)**

This course builds upon the health assessment skills, knowledge, and experiences of practicing nurses. It is designed to enhance the knowledge and skills of the learner in the performance of comprehensive health histories and systematic physical examination. Offered every semester. Prerequisite: RN status.

## **NUR 580 - Special Topics in Nursing (1 to 3 credits)**

Readings, lecture, discussion, or lab in specific nursing topics.

## **NUR 581 - Chronic and Terminal Illness: The Palliative/Hospice Model (3 credits)**

Explores the trajectory of dying in America from multiple perspectives and disciplines. Content will be presented from theoretical, sociocultural, and political frameworks as they apply to care of those with life-limiting disease and palliative and/or hospice care within the U.S. health care system. Ethical, legal and sociocultural dilemmas will be examined. Offered fall semester. Prerequisite: Postbaccalaureate standing or permission of instructor.

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## **NUR 582 - Complex Pain and Symptom Management (3 credits)**

Explores common pain and symptom management issues in palliative and end-of-life care including utilization of complex therapies using a patient-centered, interdisciplinary approach. Offered winter semester. Prerequisite: Postbaccalaureate standing or permission of the instructor.

## **NUR 605 - Theoretical Perspectives in Nursing (3 credits)**

This course focuses on applying theory in nursing practice. Emphasis will be on the structure, types, and levels of theory, along with the use of theory in clinical situations, organizational change, implementation projects and research.

## **NUR 607 - Health Care System, Policy and Politics (3 credits)**

This course focuses on policy decisions related to the organization, financing, and delivery of health care in the global community. It provides a basis for understanding political and social forces that shape nursing practice and health care delivery. Ethical dimensions of public policy formulations and implementation will be highlighted. Prerequisite: NUR 605.

## **NUR 608 - Leadership Roles in Complex Systems (3 credits)**

In this course, students analyze and evaluate theories and research that influence leadership in complex systems. Leadership is explored in complex system domains. Core competencies and strategies for leadership effectiveness are examined and evaluated. Prerequisites: NUR 607 (may be taken concurrently).

## **NUR 610 - Advanced Assessment and Diagnostic Reasoning (4 credits)**

Students will demonstrate advanced assessment skills to detect and differentiate abnormal findings and to generate potential diagnoses. Through case study analysis and use of simulation with standard patients, students will use selected theoretical frameworks to guide clinical decision-making for patient encounters. Offered winter semester. Prerequisites: NUR 620, NUR 621, and NUR 691.

## **NUR 612 - Quality Improvement and Clinical Outcomes in Nursing (4 credits)**

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The course introduces the role of the M.S.N.-prepared nurse in quality improvement and outcomes management for patients at the microsystem level. Content includes assessment of the microsystem, quality improvement models and theory, data management, strategies to improve patient outcomes, and the role of the advanced generalist nurse. Offered winter semester.  
Prerequisite: NUR 613.

## **NUR 613 - Nursing Research and Evidence-Based Practice (3 credits)**

In this course students will relate research to evidence-based practice and explore ways to select, read, and critique the literature in order to address health care problems. In addition, they will explore methods to apply evidence-based practice models for selected health problems.  
Prerequisite: STA 610.

## **NUR 614 - Nursing Research and Evidence-Based Practice II (1 credit)**

Students work with a faculty mentor to finalize the evidence-based protocol developed in NUR 613. Students will include an implementation, evaluation and dissemination process with implications for nursing practice. This two-part course series serves as the culminating scholarly project for the M.S.N. Offered winter semester. Prerequisite: NUR 613. Corequisite: NUR 612.

## **NUR 615 - Advanced Generalist Clinical Practicum I (4 credits)**

This mentored advanced generalist practicum is the first in a two-course sequence of the clinical immersion experience. Students will apply previously applied knowledge/skills to implement the M.S.N. essential competencies. Using these competencies, they will plan and propose a quality improvement project to stakeholders. Offered spring/summer semester. Graded credit/no-credit.  
Prerequisite: NUR 612.

## **NUR 616 - Advanced Generalist Clinical Practicum II (4 credits)**

This mentored generalist practicum is the second in a two-course sequence of clinical immersion experiences. Students will apply previously acquired knowledge/skills to implement the M.S.N. essential competencies. Using these competencies, they will enact and evaluate a quality improvement project and disseminate the results. Offered fall semester. Graded credit/no-credit.  
Prerequisite: NUR 615.

## **NUR 620 - Clinical Pharmacology (3 credits)**

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Explores pharmacological categories of drugs used by practitioners with a variety of patient groups. Selected drugs within categories are presented and compared on parameters such as indications, therapeutic and/or adverse effects, monitoring, doses, and common drug interactions. (3-0-0-0) Numbers in parentheses indicate the number of classroom-seminar-skills laboratory-clinical laboratory hours per week. Offered spring/summer semester. Prerequisite: BMS 608.

### **NUR 621 - Clinical Pathophysiology (4 credits)**

This course utilizes the scientific underpinnings of the biologic basis of disease to understand the pathophysiology, clinical assessment and treatment of clinical conditions across the lifespan. Content includes: cellular injury, inflammation, immunity, genetics, and various disease states in oncology, endocrinology, cardiovascular, pulmonary, neurology, gastroenterology, hematology, nephrology, and gynecology. Offered fall semester. Prerequisite: Admission to a graduate nursing program or permission of the instructor.

### **NUR 625 - Health Issues in Vulnerable Populations (4 credits)**

This course incorporates epidemiologic methods in addressing health disparities in vulnerable populations. Course content will explore issues in health access and disparity in U.S. populations and examine current trends, societal consequences, contributory cause(s), and potential advance practice nurse roles. Offered every year. Prerequisites: STA 610 and NUR 690.

### **NUR 628 - Psychopharmacology for Advanced Practice (3 credits)**

Therapeutic use of psychotropic medications including biological mechanisms of action, safety issues, advanced treatments, as well as common side effects and adverse reactions, will be explored. The neurobiological components important in understanding symptom etiology and effective treatments of commonly occurring mental health conditions across the lifespan are incorporated. Offered spring/summer semester upon demand. Prerequisites: NUR 620 and NUR 621, or the equivalent.

### **NUR 629 - Developmental Health: Child/Adolescent (3 credits)**

Exploration of theoretical concepts and advanced nursing strategies related to health of infants, children, adolescents and families. Provides theoretical base for pediatric advanced practice nursing. (3-0-0-0) Numbers in parentheses indicate the number of classroom-seminar-skills laboratory-clinical laboratory hours per week. Offered winter semester every third year. Prerequisites: NUR 610, NUR 704, and NUR 750.

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## **NUR 630 - Developmental Health: Adult/Older Adult (3 credits)**

Exploration of theoretical concepts and advanced nursing strategies related to the health of adults and older adults. Provides the theoretical base for adult/older adult advanced practice nursing. Offered spring/summer semester. Prerequisites: NUR 610, NUR 620, NUR 628, NUR 677, and NUR 691. Corequisite: NUR 625.

## **NUR 631 - Human Development Across the Lifespan (3 credits)**

Exploration of concepts and advanced nursing strategies related to human development across the lifespan. Provides the theoretical basis for advanced nursing practice. Offered winter semester. Prerequisite: Admission to psych mental health NP certificate or permission of instructor.

## **NUR 646 - Theories of Health Systems Leadership Part I (4 credits)**

Theories of health systems leadership will be explored. Identified theories will be utilized to assess, diagnose, plan, and evaluate nurse leader organizational strategies for health care systems through the development and evaluation of an organizational assessment. Offered winter semester, odd-numbered years. Prerequisites: NUR 608 and NUR 691.

## **NUR 650 - Business and Quality in Nursing (3 credits)**

Provides students in the health systems leadership emphasis area with knowledge and expertise in organizational and systems leadership for optimal business functioning, in sustaining change through the processes of quality improvement, and in assuring that the business of nursing is conducted in a safe, ethical, and efficient manner. Prerequisites: PNH 614, PNH 632, NUR 607, and NUR 608.

## **NUR 676 - Health Perspectives: Mental Health (3 credits)**

Theoretical concepts related to the health of individuals and families. Focus is on the application of theories to clinical practice of mental health. Students will examine psychosocial theories that provide explanations for individual and family responses that affect health. (2-0-0-0) Numbers in parentheses indicate the number of classroom-seminar-skills laboratory-clinical laboratory hours per week. Offered fall semester. Prerequisite: NUR 605.

## **NUR 677 - Mental Health Practicum: Diagnosis and Treatment of Individuals (3 credits)**

Prepares the advanced psychiatric mental health nurse practitioner student to care for individuals with mental health disorders. Explores the differential diagnoses and etiologies of mental illnesses across the lifespan. Examines selected theories of psychopathology and scientific findings. Integrates analysis and application of selected clinical modalities within a clinical practicum. Offered fall semester every third year. Prerequisites: NUR 610, NUR 628, and NUR 676.

## **NUR 678 - Mental Health Practicum: Group and Family Therapy (3 credits)**

Exploration and application of advanced clinical nursing strategies in group and family treatment. Focus is on development, implementation, and evaluation of the comprehensive advanced psychiatric mental health nurse practitioner role with individuals in groups and families experiencing acute or chronic disruptions in mental health across the lifespan. Offered fall semester. Prerequisite: NUR 677.

## **NUR 679 - Advanced Psychiatric Mental Health Nurse Practitioner Practicum (4 credits)**

Students gain independence in managing selected acute and chronic disruptions in mental health using advanced mental health treatment strategies (individual, group, and family). Focus is on continued development, implementation and evaluation of the comprehensive advanced psychiatric mental health nurse practitioner role treating mental health disruptions across the lifespan. Offered winter semester. Prerequisite: NUR 678.

## **NUR 680 - Special Topics in Nursing (1 to 6 credits)**

Lecture, discussion, and/or clinical laboratory course on topics of special interest to graduate nursing students.

## **NUR 690 - Introduction to Scientific Inquiry (3 credits)**

An in-depth examination of the research process in health care. Includes the use of quantitative and qualitative methodology to explore researchable problems. Students use a systematic approach to develop a clinical research or project proposal and acquire competencies to evaluate the scientific and clinical merit of published research reports. Offered fall and winter semesters. Prerequisite: NUR 605. Corequisite: STA 610.

## **NUR 691 - Evidence-Based Practice in Nursing (3 credits)**

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This course focuses on the review, analysis, synthesis, and application of scientific evidence for nursing and health care. Emphasis is placed on integrative and systematic reviews as tools to achieve evidence-based practice. Consideration is given to the ethical, legal, cultural, and financial implications of evidence-based advanced nursing practice. Prerequisites: NUR 690 and STA 610.

### **NUR 696 - Continuation of Nursing Inquiry M.S.N. Project (1 credit)**

This course serves as the continuation of the M.S.N. scholarly project course allowing students to complete their M.S.N. inquiry project. It requires completion of the M.S.N. project that translates evidence into practice. Offered every semester. Prerequisites: NUR 616.

### **NUR 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

### **NUR 699 - Readings in Nursing (1 to 3 credits)**

Independent supervised reading on selected topics. Credits and topic must be prearranged with faculty.

### **NUR 702 - Nursing Leadership and Health Services Research (3 credits)**

Examines methods for evaluating the effectiveness, efficiency, and equity of health care services. Approaches to evaluating relevant structure, process, and outcome variables used to address effectiveness, efficiency, and equity issues are explored. Linkages are made between specific health care policies, systems leadership practice, organizational planning, patient outcomes, and nursing. Prerequisites: NUR 608, NUR 691, and STA 610. Corequisite: NUR 646.

### **NUR 703 - Health Care Informatics (3 credits)**

This course provides an in-depth introduction to information systems and technologies that support systems of practice in health care. Relevant theories, as well as informatics issues and standards including ethical and privacy concerns will be addressed. Tools and strategies for building and managing information system components will also be incorporated. Offered fall semester. Prerequisite: Admission to the D.N.P. program or permission of instructor.

### **NUR 704 - Quality Management in Healthcare (3 credits)**

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This course provides knowledge and expertise in the application of key concepts from quality improvement (QI), implementation science (IS) and project management as a foundation for the development of the D.N.P. Scholarly Project. A project plan will be designed integrating key course areas of emphasis, including outcomes for project evaluation. Offered fall semester. Prerequisites: NUR 607, NUR 608, NUR 625 and NUR 691.

## **NUR 705 - Healthcare Decision Support (3 credits)**

Offers practical experience in the technical and user-friendly design of electronic solutions to support decisions in healthcare, using relevant theoretical and evidence-based principles. Creation and use of products promoting quality, safety, and efficiency in health care processes will be emphasized. Offered every semester. Prerequisites: Admission to the health informatics certificate program and either CIS 665 or NUR 703. Students in a nursing, health professions, or health informatics degree program may enroll for elective credit with instructor permission.

## **NUR 706 - Telehealth (3 credits)**

This course prepares the interprofessional team in evidence-based design, telehealth technologies and etiquette to promote quality, safety and efficiency in health care processes, the patient-provider relationship, and population health. Offered every semester. Prerequisite: PNH 630 or permission of instructor (for students with health care related backgrounds).

## **NUR 710 - D.N.P. Clinical Immersion I: Nurse Practitioner (1 credit)**

Provides opportunity for the enactment of the advanced practice role in the implementation of evidence-based strategies in the delivery of health care to the population of interest. Integration of clinical knowledge and skills as the student progresses through the curriculum. Offered spring/summer semester. Prerequisites: NUR 629; NUR 751; NUR 752; NUR 760; NUR 761 or NUR 630; NUR 770; and NUR 771. Corequisites: NUR 763 or NUR 773.

## **NUR 711 - DNP Clinical Immersion II: Nurse Practitioner (2 credits)**

Provides ongoing opportunity for the enactment of the D.N.P. advanced practice role in the implementation of evidence-based strategies in the delivery of health care to the population of interest. Integration of clinical knowledge and skills as the student progresses through the curriculum. Offered fall semester. Prerequisites: NUR 703; NUR 710; NUR 762; and NUR 763 OR NUR 703; NUR 710; NUR 772; and NUR 773. Corequisite: NUR 765 or NUR 775.

## **NUR 712 - DNP Clinical Immersion III: Nurse Practitioner (1 credit)**

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Provides continued opportunity of the enactment of the advanced practice role in the implementation of evidence-based strategies through delivery of health care to the population of interest. Clinical knowledge and skills are integrated at the proficient level at this point in the curriculum. Offered spring/summer semester. Prerequisites: NUR 711; and both NUR 764 and NUR 765, or both NUR 774 and NUR 775. Corequisites: NUR 767 or NUR 777.

### **NUR 722 - Management of Chronic Conditions: Child/Adolescent (3 credits)**

Expands the theoretical foundations for management of primary health care to include chronic conditions in children, adolescents, and their families across the health care continuum.

### **NUR 723 - Chronic Care Practicum: Child/Adolescent (4 credits)**

Clinical application of knowledge and advanced nursing strategies for management of health care needs of children, adolescents, and their families who have chronic conditions and long-term alterations in functional health patterns. Prerequisite: NUR 722 (may be taken concurrently).

### **NUR 724 - Chronic and Complex Care: Child/Adolescent (3 credits)**

This course provides theoretical foundations for management of chronic and complex health dysfunctions of children and adolescents, and related family needs, across the health care delivery system. Offered spring/summer semester. Prerequisites: NUR 722 and NUR 723.

### **NUR 725 - Chronic and Complex Care Practicum: Child/Adolescent (4 credits)**

This course prepares students to apply knowledge and advanced nursing strategies in the management of chronic and complex health dysfunctions of children/adolescents, and related family needs, across the health care delivery system. Offered spring/summer semester. Prerequisites: NUR 722, NUR 723, and NUR 724 (may be taken concurrently).

### **NUR 726 - Complex Behavioral Problems: Child/Adolescent (3 credits)**

Intensive study of the enactment of advance practice nursing (APN) roles in managing the health care of infants, children, adolescents, and families throughout the health care system. Management of children/families with complex behavioral issues is addressed. The impact of

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health systems, policies, and health innovations in selecting appropriate nursing strategies is emphasized. Prerequisites: NUR 724 and NUR 725.

### **NUR 732 - Management of Chronic Conditions in Adults and Older Adults (3 credits)**

Expands the theoretical foundations for management of primary health care to include chronic conditions in adults/older adults across the health care continuum. Offered winter semester. Prerequisite: NUR 630.

### **NUR 733 - Chronic Care Practicum: Adult/Older Adult (4 credits)**

Clinical application of knowledge and advanced nursing strategies for management of health care needs of adults/older adults with chronic illness and long-term alterations in functional health patterns. Offered winter semester. Prerequisite: NUR 732 (may be taken concurrently).

### **NUR 734 - Transitions and Complex Care of the Adult/Older Adult (3 credits)**

Provides theoretical foundations for management of complex health dysfunctions of adult/older adults and transitions of care within their social context across the care delivery system. Offered spring/summer semester. Prerequisites: NUR 732 and NUR 733.

### **NUR 735 - Transitions and Complex Care Practicum: Adult/Older Adult (4 credits)**

Students apply knowledge and advanced nursing strategies in the management of complex health care needs of adults and older adults, focusing on primary care and transitions of care throughout the care continuum. Offered spring/summer semester. Prerequisites: NUR 732, NUR 733, and NUR 734 (may be taken concurrently).

### **NUR 736 - Complex Behavioral Problems: Adult/Older Adult (3 credits)**

Intensive study of enactment of advance practice nursing (APN) roles in managing the health care of adults/older adults throughout the health care system. The impact of health systems, policies, and health innovations in selecting nursing strategies is emphasized. Addresses management of adults/older adults with complex and behavioral issues. Offered fall semester. Prerequisites: NUR 734 and NUR 735.

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## **NUR 740 - Health Systems Leadership: Practicum I (4 credits)**

In this beginning leadership practicum, students apply theories of health systems leadership in an agency setting and analyze the administrative structure within the context of the health care system. An organizational assessment is developed after a theoretically based analysis with recommendations for an advanced health systems leadership intervention. Prerequisites: NUR 646, NUR 702, and NUR 704.

## **NUR 741 - Health Systems Leadership: Practicum II (5 credits)**

A preceptor experience with a health systems nurse leader at a health care organization or system is completed. Students utilize advanced strategies with the guidance of health systems leaders to address organizational priorities and enact selected competencies essential to the practice of health systems leadership. Offered spring/summer semester. Prerequisite: NUR 650 and NUR 740.

## **NUR 742 - Health Systems Leadership: Practicum III (5 credits)**

In this practicum, students enhance their performance of competencies essential to the doctor of nursing practice prepared health systems nurse leader. Prerequisites: NUR 703 and NUR 741.

## **NUR 743 - Health Systems Leadership: Practicum IV (5 credits)**

In this practicum, students enhance their performance of competencies essential to the Doctor of Nursing Practice-prepared health systems nurse leader to the proficient level. Offered winter semester. Prerequisite: NUR 742.

## **NUR 750 - Mental Health for Primary Care Practitioners (3 credits)**

Mental health conditions that are typically identified and often treated in primary care will be explored. Mental health conditions that also require comprehensive primary care management will be examined. Integrated behavioral health and primary care models will be analyzed. Current best practices and evidence-based treatment methods will be investigated. Prerequisites: NUR 620 and NUR 621.

## **NUR 751 - Primary Care Mental Health Practicum: Child/Adolescent (2 credits)**

Application of advanced nursing strategies in managing psychiatric-mental health care for children and adolescents in a primary care or an integrated primary/behavioral health practice, including strategies for providing comprehensive primary care for individuals with chronic mental health conditions and for addressing frequent mental health conditions in primary care practices. Offered winter semester. Prerequisites: NUR 610, NUR 704, and NUR 750. Corequisite: NUR 761.

## **NUR 752 - Primary Care Mental Health Practicum: Adult/Older Adult (2 credits)**

Application of advanced nursing strategies in managing psychiatric-mental health care for adults and older adults in a primary care or an integrated primary/behavioral health practice, including strategies for providing comprehensive primary care for individuals with chronic mental health conditions and for addressing frequent mental health conditions in primary care practices. Offered winter semester. Prerequisites: NUR 610, NUR 704, and NUR 750.

## **NUR 753 - Primary Care for Mental Health Practitioners (4 credits)**

Prevention and treatment of health issues encountered by the psych/mental health nurse practitioner will be discussed and analyzed in the context of the interplay between primary care and mental health settings. Integrated behavioral health and primary care models and best practices from an interdisciplinary perspective will be investigated. Offered winter semester. Prerequisites: NUR 610, NUR 620, NUR 621, and NUR 628.

## **NUR 760 - Health Promotion and Risk Management: Child/Adolescent (2 credits)**

This course provides application of theories, advanced nursing strategies and evidence-based practices in health promotion and management of common health problems in care for infants, children, adolescents and their families. It incorporates principles of epidemiology for the improvement of population health outcomes, and provides foundation for pediatric primary care. Offered winter semester. Prerequisites: NUR 610, NUR 704, and NUR 750. Corequisite: NUR 761.

## **NUR 761 - NP Practicum I: Health Promotion-Risk Management: Child/Adolescent (2 credits)**

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Clinical application of theory, knowledge, and evidence-based clinical skills necessary to provide primary health care to infants, children and adolescents through the completion of required clinical hours. This course introduces the Doctor of Nursing Practice (D.N.P.) student to health promotion and risk management in children and adolescents. Offered winter semester. Prerequisites: NUR 610, NUR 704, and NUR 750. Corequisites: NUR 751 and NUR 760.

## **NUR 762 - Common Health Problems: Child/Adolescent (2 credits)**

This course provides theoretical foundations and advanced nursing strategies for management of common health problems of children and adolescents including related family needs across the care delivery system. Offered spring/summer semester. Prerequisites: NUR 629 and NUR 760. Corequisite: NUR 763.

## **NUR 763 - NP Practicum II: Common Health Problems: Child/Adolescent (3 credits)**

Clinical application of theory, knowledge and evidence-based clinical skills necessary to provide primary health care to infants, children and adolescents through the completion of required clinical hours. This course introduces the Doctor of Nursing Practice (D.N.P.) student to common health problems in children and adolescents. Offered spring/summer semester. Prerequisites: NUR 629, NUR 751, NUR 760, and NUR 761. Corequisite: NUR 762.

## **NUR 764 - Complex Health Problems: Child/Adolescent (2 credits)**

This course provides theoretical foundations and advanced nursing strategies for management of complex health problems of infants, children, and adolescents, and related family needs, across the health care delivery system. Offered fall semester. Prerequisites: NUR 703, NUR 762, and NUR 763. Corequisite: NUR 765.

## **NUR 765 - NP Practicum III: Complex Health Problems - Child/Adolescent (3 credits)**

Clinical application of theory, knowledge, and evidence-based clinical skills necessary to provide primary health care to infants, children and adolescents through the completion of required clinical hours. This course introduces the Doctor of Nursing Practice (D.N.P.) student to complex health problems in children and adolescents. Prerequisites: NUR 703, NUR 762, and NUR 763. Corequisite: NUR 764.

## **NUR 766 - Care Transitions/Interprofessional Practice: Child/Adolescent (3 credits)**

Students apply advanced nursing strategies using transitional and interprofessional concepts regarding development of the nurse practitioner role in primary care. This course provides theoretical foundations, evidence-based, and advanced nursing strategies for management of complex problems of infants, children, adolescents, and families, through interdisciplinary care transitions across the care delivery system. Offered winter semester. Prerequisites: NUR 764 and NUR 765. Corequisite: NUR 767.

## **NUR 767 - NP Practicum IV: Care Transitions/Interprofessional Practice: Child/Adolescent (3 credits)**

Clinical application of theory, knowledge, and evidence-based clinical skills necessary to provide primary health care to infants, children and adolescents through the completion of required clinical hours. This course incorporates the Doctor of Nursing Practice (D.N.P.) role across care delivery systems through care transitions and collaborative, interprofessional practice. Offered winter semester. Prerequisites: NUR 764 and NUR 765. Corequisite: NUR 766.

## **NUR 770 - Health Promotion and Risk Management in the Adult and Older Adult (2 credits)**

This course provides application of interdisciplinary theories, advanced nursing strategies and practices in health promotion and risk management for adults/older adults. It will introduce the nurse practitioner role to students while incorporating principles of epidemiology, improvement of population outcomes, and foundations for providing care for this population. Offered winter semester. Prerequisites: NUR 610, NUR 704, and NUR 750. Corequisite: NUR 771.

## **NUR 771 - NP Practicum I: Health Promotion-Risk Management: Adult/Older Adult (2 credits)**

Clinical application of theory, knowledge, and evidence-based skills to provide primary health care to adults/older adults. Introduction to the D.N.P.-prepared nurse practitioner (NP) role in primary care. Focus is on development of the D.N.P.-prepared NP role in health promotion and risk management of selected adult/older adult problems in primary care. Offered winter semester. Prerequisites: NUR 610, NUR 704, and NUR 750. Corequisite: NUR 752.

## **NUR 772 - Common Health Problems in Adults and Older Adults (2 credits)**

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This course provides theoretical foundations and advanced nursing strategies for management of common health problems of adults and older adults including related family needs across the health care delivery system. Offered spring/summer semester. Prerequisites: NUR 630 and NUR 770. Corequisite: NUR 773.

### **NUR 773 - NP Practicum II: Common Health Problems: Adult/Older Adult (3 credits)**

Clinical application of theory, knowledge, and evidence-based skills to provide primary health care to adults and older adults. Focus is on continued development of the D.N.P.-prepared nurse practitioner (NP) role in primary care with a focus on managing common health problems of adult/older adults. Offered spring/summer semester. Prerequisites: NUR 630, NUR 752, NUR 770, and NUR 771. Corequisite: NUR 772.

### **NUR 774 - Complex Health Problems in the Adult and Older Adult (2 credits)**

This course provides theoretical foundations and advanced nursing strategies for management of complex health problems of adults and older adults including related family needs across the health care delivery system. Offered fall semester. Prerequisites: NUR 703, NUR 772, and NUR 773. Corequisite: NUR 775.

### **NUR 775 - NP Practicum III: Complex Health Problems: Adult/Older Adult (3 credits)**

Clinical application of theory, knowledge, and evidence-based skills to provide primary health care to adults and older adults. Focus is on continued development of the D.N.P.-prepared nurse practitioner (NP) role in primary care with a focus on managing complex health problems of adult/older adults. Offered fall semester. Prerequisites: NUR 703, NUR 772, and NUR 773. Corequisite: NUR 774.

### **NUR 776 - Care Transitions Interprofessional Practice: AOA (3 credits)**

This course provides theoretical foundations and advanced nursing strategies for management of complex health problems of adult/older adults and including social support needs. Focus is on refinement of the D.N.P. prepared nurse practitioner (NP) role in managing care transitions and interprofessional practice with adults and older adults within primary care. Prerequisites: NUR 774 and NUR 775. Corequisite: NUR 777.

## **NUR 777 - NP Practicum IV: Care Transitions: Adult/Older Adult (3 credits)**

Clinical application of theory, knowledge and evidence-based skills to provide primary health care to adults/older adults. Continuing development in the D.N.P.-prepared nurse practitioner (NP) role in primary care. Focus is on development of the NP skills in managing care transitions and interprofessional practice with adult/older adults in primary care. Offered winter semester. Prerequisites: NUR 774 and NUR 775. Corequisite: NUR 776.

## **NUR 792 - Scholarly Inquiry in Nursing Practice I (1 to 2 credits)**

This course offers a scholarly immersion experience linking practice and scholarship for the D.N.P. student. Identification of a project is required for the translation of evidence into practice. This course is taken for three consecutive semesters and prepares students to complete the scholarly project in NUR 793. Prerequisites: NUR 646, NUR 702, and NUR 704; or NUR 610 and NUR 704; and completion of the Responsible Conduct of Research Training within last three years.

## **NUR 793 - Scholarly Inquiry in Nursing Practice II (2 credits)**

This course offers a culminating project-based immersion experience linking practice and scholarship for the Doctor of Nursing Practice (D.N.P.) student. Implementation and completion of the developed D.N.P. project is required to exemplify proficient application of the D.N.P. essentials. Offered every semester. Prerequisites: NUR 792 and completion of the Responsible Conduct of Research Training within last three years.

## **NUR 796 - Continuation of Doctoral Project or Dissertation Research (1 credit)**

Continuation of work related to the doctoral project or dissertation phase of the graduate student's program. Registration is required after all respective project or dissertation credits are completed and the project or dissertation is not completed. Work will be performed under the supervision of the project advisor or dissertation committee chair. Offered every semester. Prerequisites: Completion of all required project or dissertation credits and completion of the Responsible Conduct of Research Training within last three years.

## **NUR 797 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

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## **OSH 180 - Special Topics in Occupational Safety and Health (1 to 4 credits)**

Course content varies. Refer to schedule of classes to determine course description and prerequisites. Students may repeat this course under different topics.

## **OSH 300 - Introduction to Occupational Safety and Health (3 credits)**

An overview of safety and health concepts (accidents, legal accountability, hazard recognition/remediation, countermeasures, and risk) as they apply in a variety of occupational settings. (3-0-0)

## **OSH 310 - Hazard Control (3 credits)**

A study of general and mechanical hazards found in the workplace and methods of controlling them to limit employee exposure. (3-0-0) Prerequisite: Admitted to the OSHM major.

## **OSH 316 - Health and Safety Techniques (3 credits)**

Laboratory experience designed to expose students to various monitoring tools used in the development and maintenance of a comprehensive safety program in an occupational setting. (2-0-2). Prerequisite: Admitted to the OSHM major.

## **OSH 326 - Principles of Industrial Hygiene (3 credits)**

A study of industrial hygiene methods, measurement, and equipment. Prerequisites: CHM 230 or CHM 232; and STA 215 or (STA 220 and MTH 201), and admitted to the OSHM major.

## **OSH 330 - Principles of Loss Control (3 credits)**

A study of methods, tools, and techniques used to administer loss control programs in occupational settings. (3-0-0) Prerequisite: Admitted to the OSHM major.

## **OSH 350 - Behavioral Aspects of Safety (3 credits)**

An examination of various pathways in psychology, their impact on the individual, on safety, and the application of basic psychological principles in the safety profession. (3-0-0) Prerequisite: Admitted to the OSHM major.

## **OSH 360 - Motor Fleet Safety (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

An analysis of motor fleet safety problems and programs in the United States. The course offers a detailed study of the truck transportation industry, motor carrier responsibilities, federal regulations, and safety supervision programs. Offered winter semester of odd-numbered years. (3-0-0) Prerequisite: Admitted to the OSHM major.

### **OSH 370 - Product Safety and Liability (3 credits)**

An analysis of the product safety and liability issues. Emphasis will be on legal requirements of product safety to include design, warranty, warnings, and labels. Landmark litigation providing the basis for case law will be covered. (3-0-0) Offered fall semester of odd-numbered years. Prerequisite: Admitted to the OSHM major.

### **OSH 380 - Special Topics in Occupational Safety and Health (1 to 4 credits)**

Course content varies. Refer to schedule of classes to determine course description and prerequisites. Students may repeat this course under different topics.

### **OSH 390 - OSH Internship Preparation (1 credit)**

Introduces potential occupational safety and health internship students to the industrial environment and the basic principles of leadership. Helps students develop a better self-understanding through self-assessment and career development theory and prepares students for the internship interview process as well as the internship experience. Offered fall semester. Prerequisites: OSH 300 and admitted to the OSHM major.

### **OSH 400 - Critical Incident Analysis (3 credits)**

An examination of fundamental techniques for conducting a critical incident analysis. Special attention will be given to the concept of accident investigation in occupational settings. (3-0-0) Prerequisite: Admitted to the OSHM major.

### **OSH 410 - Ergonomic Safety Engineering (3 credits)**

An examination of various ergonomic engineering and human factors engineering methods used by safety specialists to reduce injury producing work conditions. Topics covered include systems safety analysis, fault tree analysis, MORT, as these tools relate to an effective ergonomic program. (3-0-0) Prerequisite: Admitted to the OSHM major.

### **OSH 414 - Environmental Safety and Health Regulations (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

A study of laws addressing environmental pollution and hazardous waste management. (3-0-0)

### **OSH 416 - Advanced Industrial Hygiene (3 credits)**

A study of chemical hazards found in the workplace, their toxicological influence, and methods of controlling them to limit employee exposure. Offered winter semester. Prerequisites: OSH 326 and admitted to the OSHM major.

### **OSH 420 - Health Care Facility Safety (3 credits)**

An examination of the critical aspects of protecting the employees, patients, and assets in health care settings. Topics include JCAHO, OSHA, EPA and state health care facility regulations, environment of care, emergency and contingency planning, and policy and procedures development. (3-0-0) Offered winter semester of even-numbered years. Prerequisite: Admitted to the OSHM major.

### **OSH 424 - Fire Science (3 credits)**

An examination into key fire science principles and issues in the work environment. Course will examine topics that include fundamental of building design, life safety codes, human behavior and fire, and characteristics and behavior of fire. (3-0-0) Prerequisite: Admitted to the OSHM major.

### **OSH 430 - Construction Safety (3 credits)**

An examination of the practices of managing occupational safety and health programs in the construction industry. The course provides an understanding of how the regulatory and financial responsibilities of accident prevention, health preservation, and loss reduction in the construction industry are met. (3-0-0) Offered fall semester of even-numbered years. Prerequisite: Admitted to the OSHM major.

### **OSH 440 - Safety and Health Program Development (3 credits)**

An examination of the concepts and tools used in safety program development and implementation for a variety of work settings (3-0-0) Prerequisite: Admitted to the OSHM major.

### **OSH 460 - Environmental Compliance Applications (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Instruction in the professional management of environmental regulations, utilizing classroom and practical applications. Offered winter semester. Prerequisite: OSH 414 or permission of instructor.

## **OSH 480 - Special Topics in Occupational Safety and Health (1 to 9 credits)**

A field study conducted in a selected industry. The student will be expected to identify a cooperating company and conduct an investigation addressing a safety problem, including development of appropriate countermeasures. The study will produce a paper following a modified research format. Prerequisite: Permission of OSHM advisor.

## **OSH 485 - Field Case Study (1 to 3 credits)**

A field study conducted in a selected industry. The student will be expected to identify a cooperating company and conduct an investigation addressing a safety or health problem, including development of appropriate countermeasures. The study will produce a paper following a modified research format. Credits repeatable to a maximum of three credits. Prerequisite: Permission of OSHM advisor.

## **OSH 490 - Internship in Occupational Safety and Health Management (3 to 6 credits)**

A structured opportunity for students to make practical application of classroom theory to an actual work situation. Prerequisites: Permission of intern advisor and admitted to the OSHM major.

## **OSH 495 - Safety and Health Administration (3 credits)**

An integrative exploration of the administrative function of a comprehensive safety program with emphasis on operations analysis, design, implementation, and evaluation. (3-0-0)  
Prerequisites: OSH 490 (may be taken concurrently), senior standing, and admitted to the OSHM major.

## **OSH 499 - Independent Study in Occupational Safety and Health (1 to 3 credits)**

An individually designed learning project in the field of occupational safety and health. Prerequisite: Permission of instructor.

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## **OST 502 - Theoretical Foundations in Occupational Therapy (3 credits)**

Introduces the conceptual and scientific theories that underlie occupational therapy interventions. These include theories related to occupational science, as well as those related to the therapeutic use of occupation. Incorporates an introduction to theory analysis, along with concepts of application and evaluation. Offered fall semester. Prerequisite: Admission to the occupational therapy program.

## **OST 503 - Group Occupations in Practice (3 credits)**

Provides basic information about the use of groups in occupational therapy. Two different approaches to group work will be studied. Students will have an opportunity to develop and facilitate a group intervention, selecting an approach, justifying that choice, and describing the value of the group to participating clients. Offered fall and spring/summer semesters.

## **OST 505 - Limitations on Occupation (3 credits)**

This course will examine the impact of inherent and acquired conditions and medical problems on occupational performance components. The course will analyze how the completion of occupational performance areas may be affected as etiology and symptoms are considered. Course will include potential intervention strategies for covered conditions. Offered fall semester. Prerequisite: Admission to occupational therapy program.

## **OST 551 - Conceptual Foundations of Occupational Therapy (3 credits)**

Conceptual foundations for understanding the scope of occupational therapy practice. Reviews common health care concepts as well as foundational patient assessments. Examines health care knowledge in relation to daily activities and performance contexts, through the perspective of individuals, groups/families, and communities/populations. (0-3-0) Offered fall semester. Corequisite: OST 552.

## **OST 552 - Practical Foundations of Occupational Therapy (3 credits)**

Practical foundations for understanding the scope of occupational therapy practice. Reviews common occupational therapy assessments as well as foundational patient intervention strategies. Serves as an introduction to occupational therapy constructs that are woven throughout the remainder of the M.S. in occupational therapy curriculum. Offered fall and winter semesters. Corequisite: OST 551.

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## **OST 553 - Level I Fieldwork (Part 1) (2 credits)**

This experience is designed to provide students familiarity with a variety of clients, diagnoses, age ranges, and contexts and to see the roles or potential roles of occupational therapy. It provides the opportunity to observe the occupational therapy process and interact with clients, which complements the didactic experience. (0-2-8) Offered fall semester.

## **OST 555 - Professional Socialization in Occupational Therapy (3 credits)**

Addresses the theories and issues of professional socialization, the process of taking on the identity of an occupational therapist, and internalizing professional norms. Content will include the role of the professional association; personal responsibility to the profession in the forms of advocacy, education, leadership, and research; and responsibility to society. Offered fall semester. Prerequisite: Admission to the OT program.

## **OST 557 - Research Design in Occupational Therapy (2 credits)**

Course will focus on several qualitative and quantitative research designs used in studies in the field of occupational therapy. The most common designs will be selected with intent to focus on most appropriate designs using mixed qualitative and quantitative methods together in a single research study. Offered fall and spring/summer semesters.

## **OST 558 - Mental Health Services in Occupational Therapy (3 credits)**

This course will address the nature of occupational therapy intervention with clients having mental health diagnoses. The content will include approaches to use with different diagnoses, client and therapist safety, ethics related to mental health treatment, settings for mental health treatment, referrals, and documentation. Offered fall and spring/summer semesters.

## **OST 559 - Mental Health Laboratory (2 credits)**

This is the coordinating laboratory course for OST 558 - Mental Health Services in Occupational Therapy. In this course, students will practice activities and interventions that are used with clients having mental health diagnoses. Activities will include ADLs, small and moderate sized crafts, prevocational activities, and appropriate play/leisure occupations. Offered spring/summer and winter semesters.

## **OST 561 - Child and Adolescent Practice (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Theoretical and practice concepts, assessment and intervention methods are developed for OT services at individual, group, and population levels for children and adolescents. Students learn to identify barriers to occupational performance at all levels and address barriers through selecting and conducting assessments, designing interventions, conducting advocacy, research, education, and documentation. (0-3-0) Offered winter semester. Prerequisite: OST 560. Corequisites: OST 562 and OST 563.

## **OST 562 - Child and Adolescent Laboratory (2 credits)**

Laboratory sessions to experience and practice occupational therapy assessments and interventions learned in concurrent occupational opportunities course. (0-0-4) Offered winter semester. Prerequisite: OST 560. Corequisites: OST 561 and OST 563.

## **OST 563 - Level I Fieldwork (Part 2) (1 credit)**

This experience is designed to provide students familiarity with the child and adolescent population and the associated diagnoses and contexts. It provides the opportunity to observe the occupational therapy (OT) process, interact with clients, and to see the role of an OT in a specific setting, which complements the didactic experience. Offered winter semester. Prerequisite: OST 553. Corequisites: OST 561 and OST 562.

## **OST 564 - Occupational Therapy Research Proposal (2 credits)**

This course will focus on development of a research proposal including three chapters, an introduction, a focused literature review, and methodology. Students will review successful proposals and have an opportunity to submit drafts before final proposal is due. Successful proposal defense and HRRC approval required to complete course. Offered winter semester. Prerequisites: Admission to the occupational therapy program and STA 610.

## **OST 565 - Occupational Therapy Services Administration (3 credits)**

This course stresses understanding and applying concepts of evidence-based practice to management and leadership in occupational therapy. Includes study of organizational behaviors, structures, systems, leadership theories, ethics, evaluation, and quality assurance. Focuses on competencies needed for administrative roles and responsibilities. Prerequisites: OST 551, OST 552, and OST 553.

## **OST 571 - Adult Practice (3 credits)**

Theoretical and practice concepts, assessment and intervention methods are developed for OT services at individual, group and population levels for adults. Students learn to identify barriers

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to occupational performance at all levels and address barriers through selecting and conducting assessments, designing interventions, conducting advocacy, research, education, and documentation. (0-3-0) Offered spring/summer semester. Prerequisite: OST 563. Corequisites: OST 572 and OST 573.

### **OST 572 - Adult Laboratory (3 credits)**

Laboratory sessions to experience and practice occupational therapy assessments and interventions learned in the concurrent Adult Practice course. Offered spring/summer semester. Prerequisite: OST 563. Corequisites: OST 571 and OST 573.

### **OST 573 - Level I Fieldwork (Part 3) (1 credit)**

This is the third of four Level I Fieldwork experiences in the curriculum. It is designed to provide students familiarity with the adult population and the associated diagnoses and contexts which complements the didactic experience. Offered spring/summer semester. Prerequisite: OST 563.

### **OST 599 - Independent Study in Occupational Therapy (1 to 3 credits)**

Hours, credits, topics, and time to be arranged with individual faculty members with approval of the department.

### **OST 600 - Occupational Science for Therapy (2 credits)**

Introduces the science of occupation. Discusses the scope, practice, language, culture, and inquiry process for the study of occupation. Includes the relationship of occupation to health and wellness, domestic and global occupation inequities, how occupations are shaped by social and political processes, and ways in which people engage in occupation. Offered fall semester. Prerequisite: Students must be admitted to the occupational therapy program.

### **OST 651 - Older Adult Practice (3 credits)**

Theoretical and practice concepts, assessment and intervention methods are developed for occupational therapy services at individual, group, and populations levels for older adults. Students learn to identify barriers to occupational performance at all levels and address barriers through selecting and conducting assessments, designing interventions, conducting advocacy, research, education, and documentation. (0-3-0) Offered fall semester. Prerequisite: OST 573. Corequisites: OST 652 and OST 653.

### **OST 652 - Older Adult Laboratory (3 credits)**

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Laboratory sessions to experience and practice occupational therapy assessments and interventions learned in the concurrent Older Adult Practice course. Offered fall semester. Prerequisites: OST 571, OST 572, and OST 573.

### **OST 653 - Level I Fieldwork (Part 4) (1 credit)**

This course is designed to provide students familiarity with the older adult population and the associated diagnoses and contexts. Opportunities are provided to observe and participate in the occupational therapy (OT) process, interact with clients, and see the role of an OT in various settings, which complements the didactic experience. Offered fall semester. Prerequisite: OST 573.

### **OST 660 - Level II Fieldwork (Part 1) (9 credits)**

The first half of the final practice experience in the curriculum. Designed to assist students in making the student/therapist transition, it is completed in a practice setting supervised by an experienced occupational therapist. Experience includes a variety of diagnoses and age ranges to complement the didactic experience. (0-0-40) Offered winter semester.

### **OST 661 - Level II Fieldwork (Part 2) (9 credits)**

The second full-time practice experience in the curriculum is designed to assist students making the student/therapist transition. Each student will be supervised by a qualified occupational therapist. This experience includes exposure to a variety of diagnoses and age ranges, allowing students to apply content from the didactic experience. (0-0-4) Offered spring/summer semester. Prerequisite: OST 660.

### **OST 680 - Special Topics in Occupational Therapy (1 to 6 credits)**

Course content varies. Refer to schedule of classes to determine course description and prerequisites. Students may repeat this course under different topics. Prerequisite: Admitted to occupational therapy program.

### **OST 693 - Occupational Therapy Research Project (1 to 3 credits)**

The final course of the four-course research sequence, this course focuses on the organization and synthesis of the results of the research project. Following analysis of results, students report these and then discuss findings as related to occupational therapy theory, practice, and education in a document suitable for publication. Offered spring/summer semester. Prerequisites: STA 610 and OST 564.

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## **OST 695 - Occupational Therapy Master's Thesis (2 to 4 credits)**

This course focuses on the execution of an approved research topic as an independent master's thesis. Following data collection and analysis, the student will report and defend results and conclusions, then discuss findings as related to occupational therapy theory, practice, and education in a five chapter format. Offered spring/summer semester. Prerequisites: STA 610 and OST 564.

## **OST 696 - Continuation of Master's Project or Thesis Research (1 credit)**

Continuation of work related to the master's project or thesis phase of the graduate student's program. Registration is required after all respective project or thesis credits are completed and the project or thesis is not completed. Work will be performed under the supervision of the project advisor or thesis committee chair. Offered every semester. Prerequisites: Completion of all required project or thesis credits and completion of the Responsible Conduct of Research Training within the last three years.

## **OST 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

## **OST 699 - Independent Study in Occupational Therapy (1 to 3 credits)**

Students will complete a reading project or other approved activity building upon identified student interest that is approved by the department chair. Tangible final product must be completed according to a written agreement developed by the student and the instructor, and signed by both individuals. Offered every semester. Prerequisite: Good standing in the occupational therapy program.

## **OST 710 - Health Disparities and Social Determinants of Health (3 credits)**

Course introduces the concept of social determinants of health, specifically social inequalities and patterns of inequity in health status and care as related to occupational therapy. Theory and practice approaches to participatory justice will be studied. Topics include race, class, education, family, neighborhood, media influence, gender, and global concerns. Offered winter semester. Prerequisite: Admission to the Dr.O.T. program.

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## **OST 715 - Critical Analysis of Occupational Science (3 credits)**

Course will focus on principles and tenets of occupational science as related to occupational therapy and global occupational justice. Will include a history of occupational science, concepts and research that support occupational therapy practice, with application and reflection on one's own practice from an occupational science perspective. Offered fall semester. Prerequisite: Admission to the Dr.O.T. program.

## **OST 720 - Cultural and Contextual Influences on Occupational Performance (3 credits)**

Course will further student understanding and application of various influences on the profession of occupational therapy from macro, meso, and micro perspectives. These new perspectives will be used to address the influence these factors have on therapy outcomes within practice settings and occupational performance for clients. Offered winter semester. Prerequisite: Admission to the Dr.O.T. program.

## **OST 725 - Leadership for Occupational Therapy (3 credits)**

Considers leadership practices that transcend professional boundaries as applied to the disability community and emphasizes relationships with other professionals, governing boards, regulatory bodies, and key stakeholders. Concepts of change in organizational, community, political, and social action/social movement contexts will be included, along with exploration of personal styles of leadership. Offered spring/summer semester. Prerequisite: Admission to the Dr.O.T. program.

## **OST 730 - Applied Research Strategies for Practice (3 credits)**

Course is designed to enhance current practice through the application of evidence-based interventions. Includes development of line of inquiry, based on clinical scenarios, with intent to demonstrate population-specific outcomes, validity of intervention, and cost effectiveness of service delivery. Offered fall and winter semesters. Prerequisite: Admission to the Dr.O.T. program or consent of instructor.

## **OST 735 - Public Policy and Advocacy (3 credits)**

Reviews the historical impact of major legislation on occupational therapy practice, the ramifications of political decisions on health care delivery, and the importance of professional advocacy. U.S. political process and roles of stakeholders in health care policy development are

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analyzed, including lobbyists, professional associations, and individual members of the profession. Offered winter semester. Prerequisite: Admission to the Dr.O.T. program.

## **OST 738 - Outcome Measures for Occupational Performance (3 credits)**

Course will further student understanding and ability to select relevant assessment tools and outcome measures for clinical practice. Content covers development of these tools and the evaluation of their psychometric properties. Students will be able to apply materials to daily clinical practice for clinical and research applications. Offered winter and spring/summer semesters. Prerequisite: Admission to the Dr.O.T. program.

## **OST 740 - Best Practice in School-Based Occupational Therapy (3 credits)**

Course covers current education initiatives and laws related to occupational therapy services provided to general and special education students, best practices applying the occupational therapy practice framework in schools, and advanced topics including system-level issues, population-based planning, performance-based considerations, and activity-based considerations for enhancing and increasing student participation. Offered fall and winter semesters. Prerequisite: Admission to the Dr.O.T. program.

## **OST 744 - Advanced Occupational Therapy Practice: Birth to 3 years (3 credits)**

This course will explore advanced topics related to birth to three: development, occupational engagement, limitations, family-centered implications, and quality of life, community-based programs, assistive technologies, impact of federal legislation, and ways to articulate and demonstrate our expertise in transitioning birth to three development into occupational engagement in natural contexts. Offered fall and spring/summer semesters. Prerequisite: Admission to the Dr.O.T. program or consent of instructor.

## **OST 750 - Critical Thinking and Transformative Learning (3 credits)**

Course is designed to enhance current practice through the application of evidence-based interventions. Includes development of line of inquiry, based on clinical scenarios, with intent to demonstrate population-specific outcomes, validity of intervention, and cost effectiveness of service delivery. Offered fall and winter semesters. Prerequisite: Admission to the Dr.O.T. program or consent of instructor.

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## **OST 754 - Curriculum Design in Occupational Therapy (3 credits)**

This course will address the process of curriculum design that is progressive and includes the challenge of engaging students in critical thinking to develop reasoned judgment. Focuses on the philosophical roots of curriculum design, purpose of program, selection of educational experiences, organization and sequencing of content, and program assessment. Offered fall semester. Prerequisite: Admission to the Dr.O.T. program or consent of the instructor.

## **OST 758 - Evaluation in Occupational Therapy Education (3 credits)**

This course is focused on evaluation processes used in occupational therapy education. Expectations from the Accreditation Council for Occupational Therapy Education (ACOTE) for content, appropriate philosophical underpinnings, rigor, and organization, will be included. The course will stress current trends and practical application of research techniques and skills in program evaluation. Offered winter and spring/summer semesters. Prerequisite: Admission to the Dr.O.T. program or consent of instructor.

## **OST 760 - Introduction to Hand Rehabilitation (3 credits)**

This course will include an introduction to the science of examination, evaluation, and clinical intervention of specific hand conditions. Some of these conditions will include nerve injuries, tendon injuries, hand stiffness, arthritis, and bone injuries. Offered winter and spring/summer semesters. Prerequisite: Admission to the Dr.O.T. program or consent of instructor.

## **OST 780 - Special Topics in Occupational Therapy (1 to 3 credits)**

Readings, lectures, and/or discussions in specific topics not normally covered by other courses in the program.

## **OST 790 - Doctoral Project Preparation (3 credits)**

First course in the Dr.O.T. doctoral sequence, this course will focus on topic development, nature and scope of project, and identification of community partners as needed. Students who are selecting a research-oriented project will also be expected to complete an IRB proposal and gain approval before implementation. Offered spring/summer semester. Prerequisite: Admission to the Dr.O.T. program.

## **OST 793 - Doctoral Project Defense (1 to 6 credits)**

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The final course in the Dr.O.T. project sequence, students will complete implementation of project, and publicly defend the results and assessment of the project. Students will also display their project results in a poster format, which will be on exhibit at the time of the defense. Offered every semester. Prerequisite: Admission to the Dr.O.T. program.

## **OST 797 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

## **OST 799 - Independent Study in Occupational Therapy (1 to 3 credits)**

Hours, credits, topics, and time to be arranged with individual faculty members with approval of the department.

## **PAS 501 - Clinical Applications I (2 credits)**

This is the first of four sequential courses designed to facilitate the development of medical history taking, physical examination skills, patient communication, clinical problem solving, clinical procedures, and ethical/legal considerations for the physician assistant. This first course focuses on history taking and physical examination in the healthy adult. Offered fall semester and other semesters as determined by the program director. Prerequisite: Admission to the physician assistant studies program. Corequisite: PAS 561.

## **PAS 502 - Clinical Applications II (1 credit)**

This is the second of four sequential courses designed to facilitate the development of medical history taking, physical examination skills, patient communication, clinical problem solving, clinical procedures, and ethical/legal considerations for the physician assistant. Focus is on physical examination skills and procedures that coincide with topics in Clinical Medicine I. Offered winter semester and other semesters as determined by the program director. Prerequisite: Admission to the physician assistant studies program. Corequisite: PAS 562.

## **PAS 503 - Clinical Applications III (1 credit)**

This is the third of four sequential courses designed to facilitate the development of medical history taking, physical examination skills, patient communication, clinical problem solving, clinical procedures, and ethical/legal considerations for the physician assistant. Focus is on physical examination skills and procedures that coincide with topics in Clinical Medicine II. Offered spring/summer and other semesters as determined by the program director. Prerequisite: Admission to the physician assistant studies program. Corequisite: PAS 563.

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## **PAS 504 - Clinical Applications IV (1 credit)**

This is the fourth of four sequential courses designed to facilitate the development of medical history taking, physical examination skills, patient communication, clinical problem solving, clinical procedures, and ethical/legal considerations for the physician assistant. Focus is on physical examination skills and procedures that coincide with topics in Clinical Medicine III. Offered fall semester. Prerequisite: Admission to the physician assistant studies program. Corequisite: PAS 564.

## **PAS 511 - Foundations of Clinical Medicine (4 credits)**

Designed as an introduction to clinical medicine topics, this course will lay the foundation for future clinical medicine courses by helping the student understand and apply fundamental concepts to patient care. Topics presented include historical medicine, epidemiology, oncology, infectious disease, laboratory studies, imaging, and preventative and genetic principles. Offered fall or other semesters as approved by the director. Prerequisite: Admission to the physician assistant studies program.

## **PAS 512 - Clinical Medicine I (6 credits)**

This course is the first of a three-course sequence that provides students with a systematic approach to the etiology, epidemiology, manifestations, laboratory and diagnostic studies, and prognosis and treatment of disease. This course will focus on but is not limited to the hematological, cardiovascular, pulmonary, gastrointestinal, and renal systems. Offered winter semester and other semesters as determined by the program director. Prerequisite: Admission to the physician assistant studies program.

## **PAS 513 - Clinical Medicine II (6 credits)**

This course is the second of a three-course sequence that provides students with a systematic approach to the etiology, epidemiology, manifestations, laboratory and diagnostic studies, and prognosis and treatment of specific diseases. This course will focus on but is not limited to the dermatologic, endocrine, neurologic, psychiatric, musculoskeletal, and rheumatologic systems. Offered spring/summer and other semesters as determined by the program director. Prerequisite: Admission to the physician assistant studies program.

## **PAS 514 - Clinical Medicine III (6 credits)**

This course is the third of a three-course sequence that provides students with a systematic approach to the etiology, epidemiology, manifestations, laboratory and diagnostic studies, prognosis and treatment of specific diseases. This course will focus on but is not limited to women's health, pediatrics, ENT/ophthalmology/allergy, surgery, and emergency medicine. Offered fall or other semesters as determined by the program director. Prerequisite: Admission to the physician assistant studies program.

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## **PAS 521 - Medical Physiology (3 credits)**

This course is designed for graduate students to learn and gain knowledge in the physiological principles. These concepts are essential for further progress in understanding mechanisms of disease and body systems. This understanding is essential for clinical medicine. Weekly problem-solving discussions will emphasize clinical application of physiologic concepts. Offered fall and other semesters as determined by the program director. Prerequisite: Admission into the physician assistant studies program or permission of instructor.

## **PAS 522 - Clinical Pathophysiology I (1 credit)**

This is the first of three pathophysiology courses offered concurrently with the clinical medicine series. Pathophysiology at the molecular, cellular, organ, and total body levels will be applied in each organ system. Systems covered include, but are not limited to, hematologic, cardiovascular, pulmonary, gastrointestinal, and renal. Offered winter or other semesters as determined by the program director. Prerequisite: Admission to the physician assistant studies program.

## **PAS 523 - Clinical Pathophysiology II (1 credit)**

This is the second of three pathophysiology courses offered concurrently with the clinical medicine series. Pathophysiology at the molecular, cellular, organ, and total body levels will be discussed in each body system. Systems covered include, but are not limited to, dermatologic, endocrine, neurologic, psychiatric, and musculoskeletal/rheumatologic. Offered spring/summer or other semesters as determined by the program director. Prerequisite: Admission to the PAS program.

## **PAS 524 - Clinical Pathophysiology III (3 credits)**

This is the third of three pathophysiology courses offered concurrently with the clinical medicine series. Pathophysiology at the molecular, cellular, organ, and total body levels will be discussed in each body system. Systems covered include, but are not limited to, women's health, pediatrics, ENT/ophthalmology/allergy, and multisystem disorders. Offered fall or other semesters as determined by the program director. Prerequisite: Admission to the physician assistant studies program.

## **PAS 532 - Practical Therapeutics I (2 credits)**

This is the first course in a series of three clinical pharmacology courses taught in a systems-based approach with the clinical medicine series. The course explores clinical implications of pharmacology for these topics (but is not limited to) hematologic, cardiovascular, pulmonary, gastrointestinal, and renal. Offered winter or other semesters as determined by the program director. Prerequisite: Admission to the physician assistant studies program.

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## **PAS 533 - Practical Therapeutics II (2 credits)**

This is the second course in a series of three clinical pharmacology courses taught in a systems-based approach with the clinical medicine series. The course explores clinical implications of pharmacology for these topics (but not limited to) dermatologic, endocrine, neurologic, psychiatric, and musculoskeletal/rheumatologic. Offered spring/summer or other semesters as determined by the program director. Prerequisite: Admission to the physician assistant studies program.

## **PAS 534 - Practical Therapeutics III (2 credits)**

This is the third course in a series of three clinical pharmacology courses taught in a systems-based approach with the clinical medicine series. The course explores clinical implications of pharmacology focusing on but not limited to women's health, pediatrics, surgery, ENT/ophthalmology/allergy, and emergency medicine. Offered fall or other semesters as determined by the program director. Prerequisite: Admission to the physician assistant studies program.

## **PAS 542 - Clinical Problem Solving Sessions I (1 credit)**

Designed for first-year physician assistant studies (PAS) students, this laboratory course is the first of three labs for development of PAS students' clinical problem-solving and decision-making skills. Using problem-based learning methods, this course corresponds with modules of PAS clinical medicine and exposes students to an array of clinical health care issues. Offered winter semester, or as approved by the program director. Prerequisite: Admission to the physician assistant studies program.

## **PAS 543 - Clinical Problem Solving Sessions II (1 credit)**

Developed for first-year physician assistant studies (PAS) students, this laboratory course is the second of three courses for development of PAS students' clinical problem-solving and decision-making skills. Using problem-based learning methods, this course supplements the modules of PAS clinical medicine and exposes students to an array of clinical health care issues. Offered spring/summer or as approved by the program director. Prerequisite: Admission to the physician assistant studies program.

## **PAS 544 - Clinical Problem Solving Sessions III (1 credit)**

Specifically for physician assistant studies (PAS) students, this laboratory course will facilitate the development of PAS students' clinical problem-solving and decision-making skills. Utilizing problem-based learning methods, this course encompasses all of the modules of the PAS clinical medicine series through active learning for an array of clinical health care issues. Offered fall semester or as approved by the program director. Prerequisite: Admission to the PAS program.

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## **PAS 551 - Physician Assistant Profession Issues I (1 credit)**

Designed for first-year graduate physician assistant studies (PAS) students, this introductory course is the first of two professional issues courses to develop PAS students' awareness and professional attributes. Professional history, certification, physician assistant (PA) professional organizations, and other health delivery topics will be discussed. Offered fall semester or as approved by the program director. Prerequisite: Admission to the PAS program.

## **PAS 554 - Physician Assistant Profession Issues II (1 credit)**

Designed for second-year physician assistant studies (PAS) students, this course is the second of two professional issues courses to develop PAS students' skills in office and professional procedures prior to clerkships. Socioeconomic issues, billing and coding, risk management, and other legal issues in the PA profession will be explored. Offered fall semester, or as approved by the program director. Prerequisite: Admission to the PAS program.

## **PAS 561 - Clinical Applications Lab I (1 credit)**

The first in a four-part lab series focused on the development of history and physical examination skills. The lab will focus on well patients and occasionally special patient populations (pregnant female, pediatric, and the geriatric population). The topics will correspond with PAS 501 lecture material. Offered fall semester. Prerequisite: Admission to the physician assistant studies program. Corequisite: PAS 501.

## **PAS 562 - Clinical Applications Lab II (1 credit)**

The second in a four-part lab series on history, physical examination, and procedures. This lab will focus on advanced history and physical examination techniques in the ill population. The topics will correspond with PAS 502 lecture material. Clinical problem solving will be utilized. Offered winter semester. Prerequisite: Admission to the physician assistant studies program. Corequisite: PAS 502.

## **PAS 563 - Clinical Applications Lab III (1 credit)**

The third in a four-part lab series on history, physical examination, and procedures. The focus of this course will be on advanced history taking and physical examination techniques in the ill population. The topics will correspond with PAS 503 lecture material. Offered spring/summer semester. Prerequisite: Admission to the physician assistant studies program. Corequisite: PAS 503.

## **PAS 564 - Clinical Applications Lab IV (1 credit)**

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Final in a four-part lab series on history, physical examination, and procedures. The focus of this lab will be advanced history taking and physical examination techniques in the ill, pediatric, female, and surgical patients. Some review, also learning new advanced physical exam tests in correspondence with PAS 504 lecture material. Offered fall semester. Prerequisite: Admission to the physician assistant studies program. Corequisite: PAS 504

### **PAS 572 - Hospital Community Experience I (1 credit)**

The first course in a three-part series. This course is designed to expose students to a variety of health care related hospital and community experiences. Learning opportunities may include, but are not limited to, long-term care, clinical job shadowing, public health, research, and virtual and simulated patient experiences. Offered winter semester. Prerequisite: Admission to the physician assistant studies program.

### **PAS 573 - Hospital Community Experience II (1 credit)**

The second in a three-part series. Designed to provide students with continued exposure to a variety of health care related hospital and community experiences. Learning opportunities may include, but are not limited to, long-term care, clinical job shadowing, public health, research, and virtual and simulated patient experiences. Offered spring/summer semester. Prerequisite: Admission to the physician assistant studies program.

### **PAS 574 - Hospital Community Experience III (1 credit)**

The third in a three-part series. Designed to provide students with continued exposure to a variety of health care related hospital and community experiences. Learning opportunities may include, but are not limited to, long-term care, clinical job shadowing, public health, research, and virtual and simulated patient experiences. Offered fall semester. Prerequisite: Admission to the physician assistant studies program.

### **PAS 580 - Special Topics in Physician Assistant Studies (1 to 3 credits)**

A study of special topics not regularly covered in the curriculum. Expectations of this course approximate those in other 500-level courses. May be repeated for credit when the content varies. Prerequisites: Variable depending upon the semester in which the special topics course is utilized; admission to the physician assistant studies program.

### **PAS 582 - Evidence-based Medicine I (3 credits)**

This course introduces students to evidence-based medicine and research design concepts, while emphasizing the examination of the best available evidence as a basis for clinical decision-making. Students will develop the skills to perform medical literature searches yielding

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evidence-based results. Methods for appraising the medical literature will be emphasized. Offered winter semester. Prerequisite: Admission to the physician assistant studies program.

## **PAS 583 - Evidence-based Medicine II (2 credits)**

This course builds upon the prerequisite evidence-based medicine (EBM) course (PAS 582) through continued implementation of the EBM strategies introduced in PAS 582. Students will use concepts introduced in PAS 582 and apply them to help solve clinical problems. Methods for appraising the medical literature will be emphasized. Offered spring/summer semester. Prerequisite: PAS 582.

## **PAS 584 - Evidence-Based Medicine III (2 credits)**

This course builds upon the prerequisite evidence-based medicine (EBM) courses (PAS 582 and PAS 583) through continued implementation of the EBM strategies introduced. Students will use concepts introduced in PAS 582/PAS 583 and apply them to help solve clinical problems. Methods for appraising the medical literature will be emphasized. Offered fall semester. Prerequisites: PAS 582 and PAS 583.

## **PAS 610 - Clinical Rotations I (12 credits)**

First course to transition students from didactic to clinical training. Students will be assigned to a combination of clinical rotations selected from: family practice, internal medicine, OB/GYN, geriatric medicine, pediatrics, psychiatric medicine, emergency medicine, surgery, rural medicine, underserved medicine, and clinical electives. (4-3-45) Offered winter semester, other semesters with director approval. Prerequisite: Successful completion of all professional didactic coursework.

## **PAS 620 - Clinical Rotations II (12 credits)**

Second course to transition students from didactic to clinical training. Students will be assigned to a combination of clinical rotations selected from family practice, internal medicine, OB/GYN, geriatric medicine, pediatrics, psychiatric medicine, emergency medicine, surgery, rural medicine, underserved medicine, and clinical electives. (4-3-45) Offered spring/summer semester, other semesters with director approval. Prerequisite: Successful completion of all professional didactic coursework.

## **PAS 630 - Clinical Rotations III (12 credits)**

Third course to transition students from didactic to clinical training. Students will be assigned to a combination of clinical rotations selected from family practice, internal medicine, OB/GYN, geriatric medicine, pediatrics, psychiatric medicine, emergency medicine, surgery, rural medicine, underserved medicine, and clinical electives. (4-3-45) Offered fall semester, other

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semesters with director approval. Prerequisite: Successful completion of all professional didactic coursework.

### **PAS 680 - Special Topics in Physician Assistant Studies (1 to 3 credits)**

A study of special topics not regularly covered in the curriculum. Expectations of this course approximate those in other 600-level courses. May be repeated for credit when the content varies. Prerequisites: Variable depending upon the semester in which the special topics course is utilized; admission to the physician assistant studies program.

### **PAS 690 - Master's Thesis Proposal (1 credit)**

The individual student will select a significant and original research question pertinent to the physician assistant profession. Coursework involves literature review, research design, and submission of a research proposal with the guidance of a faculty committee. Prerequisites: PAS 610 and good standing in the physician assistant studies professional program.

### **PAS 693 - Physician Assistant Research II (3 credits)**

Second of two courses in which a group of students defines a problem within physician assistant studies. Coursework involves data collections, analysis, and interpretation. Students will present written and oral reports discussing pertinent findings. Research studies will be guided by appropriate faculty. Prerequisites: Good standing in one of the PAS professional programs and completion of the Responsible Conduct of Research Training within the last three years.

### **PAS 695 - Master's Thesis (3 credits)**

Continuation of research activity developed in PAS 690. The individual student will conduct a significant and original proposed study. Coursework involves data collection, analysis and interpretation. The student will present written and oral reports discussing pertinent findings. Research will be guided by a faculty committee. Prerequisites: PAS 690, good standing in the physician assistant studies program, and completion of the Responsible Conduct of Research Training within the last three years.

### **PAS 696 - Continuation of Master's Project or Thesis Research (1 credit)**

Continuation of work related to the master's project or thesis phase of the graduate student's program. Registration is required after all respective project or thesis credits are completed and the project or thesis is not completed. Work will be performed under the supervision of the project advisor or thesis committee chair. Offered every semester. Prerequisites: Completion of

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all required project or thesis credits and completion of the Responsible Conduct of Research Training within the last three years.

### **PAS 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

### **PAS 699 - Independent Study - Physician Assistant Studies (1 to 3 credits)**

Students will complete a reading project or other approved activity building upon identified student interest that is approved by the department chair. Tangible final product must be completed according to a written agreement developed by the student and the instructor and signed by both individuals. Prerequisite: Good standing in the physician assistant studies professional program.

### **PCK 495 - Integrated Discipline-Based Research in the PK-6 Classrooms (Capstone) (3 credits)**

This course will address problems of practice in the disciplinary and interdisciplinary content of elementary education. Students will reflect on their program experience, address issues in pedagogical content knowledge for teaching, and create a thesis paper and presentation. Content will come from the language arts, mathematics, science, and social studies. Offered fall and winter semesters. Prerequisites: Pedagogical content knowledge for elementary teaching major and junior standing.

### **PED 180 - Special Topics in Physical Education (1 to 3 credits)**

Lecture, discussion, laboratory, or field study on a topic related to physical education. Offered on demand.

### **PED 207 - Personal Health and Wellness (3 credits)**

Provides students with the knowledge, skills, and ability to assess personal health status and reduce risk behaviors. Social and behavioral models facilitating physical activity, health, and wellness are explored. Students will analyze physical, social, emotional, spiritual, intellectual, and environmental wellness. Fulfills Foundations - Social and Behavioral Sciences.

### **PED 218 - Officiating Seasonal Sports (2 credits)**

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Theory, skills, and practice of officiating seasonal sports: fall-football, basketball, volleyball; winter-wrestling, baseball, and softball. A study of rules and procedures used in sports officiating as prescribed by the Michigan High School Athletic Association. (1-1-0)

## **PED 265 - Teaching Health in Elementary Schools (2 credits)**

This course provides the knowledge and skills necessary for teaching health education content in elementary schools. Particular attention is given to curriculum sequence, resource materials, and learning activities. The course is required of all elementary education students. Offered every semester.

## **PED 266 - Move-Dance-Learn! PE and Dance for Elementary Education (2 credits)**

Provides knowledge and skills for elementary classroom teachers to utilize best practices in physical education and dance to enhance their teaching. Focuses on developmentally appropriate elementary physical education and dance content and instruction, curriculum resources, classroom management, and cross-curricular integration. Required of all elementary education students. Offered every semester.

## **PED 280 - Special Topics in Physical Education (1 to 3 credits)**

Lecture, discussion, laboratory, or field study on a topic related to physical education.

## **PED 345 - Disability, Sport and Physical Activity (3 credits)**

This course is designed to explore the issues related to persons with disabilities and their participation in physical activity. Topics will include risks and benefits of physical activity, legal issues related to participation, the historical context of disability sport, inclusion versus segregation, and opportunities for activity across the lifespan. This course will require students to synthesize and apply content information. Students will work independently and in groups to better understand how individuals with disabilities participate in sport and physical activity. Part of the Identity Issue. Offered fall semester. Prerequisite: Junior standing.

## **PED 380 - Special Topics in Physical Education (1 to 3 credits)**

Study of special problems in physical education upon consultation with advisor and approval of department chair. Offered on demand.

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## **PED 399 - Independent Readings (1 to 3 credits)**

Special studies in physical education upon consultation with faculty advisor and approval of department chair.

## **PED 480 - Special Topics in Physical Education (1 to 3 credits)**

Lecture, discussion, laboratory, or field study on a topic related to physical education.

## **PED 499 - Independent Study and Research (1 to 3 credits)**

Special studies in physical education upon consultation with advisor and approval of department chair.

## **PED 580 - Special Topics in Physical Education (1 to 3 credits)**

Lecture, discussion, laboratory, or field study on a topic related to physical education.

## **PED 680 - Special Topics in Physical Education (1 to 3 credits)**

Lecture, discussion, laboratory, or field study on a topic related to physical education.

## **PED 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

## **PH 222 - Public Health Concepts (3 credits)**

Introduction to the history, philosophy, current concepts, practice, and administration of public health in the United States. Offered fall semester.

## **PH 500 - Introduction to Public Health (3 credits)**

A survey of the basic principles of public health practice, including an introduction to the infrastructure of public health, the analytical tools employed by public health practitioners, health promotion and prevention of disease and injury, quality in public health, and legal and ethical concerns. Offered fall semester. Prerequisite: Admission to the Master of Public Health.

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## **PH 505 - Social and Behavioral Public Health (3 credits)**

This course examines the broad foundation in public health theory and tools for its application within the larger scope of public health research and practice. The course will provide an understanding of how both social and behavioral theory is essential in the creation of effective intervention approaches. Offered winter semester. Prerequisite: Admission to the Master of Public Health.

## **PH 510 - Public Health Epidemiology (3 credits)**

Basic concepts of epidemiology including measurement of disease occurrence and intervention strategies within a public health/community context. This course will introduce students to study designs commonly utilized in public health, as well as their application to evaluation and policy. Offered fall semester. Prerequisite: Admission to the Master of Public Health.

## **PH 520 - Environmental and Occupational Health (3 credits)**

Presents basic concepts of environmental health and occupational health. Students will explore the biological, chemical, and physical factors from the environment (community and occupational) that impact the health of the public at a global and local level. Topics covered include air and water quality and industrial hygiene. Offered winter semester. Prerequisite: Admission to the Master of Public Health.

## **PH 525 - Quantitative Research Methods in Public Health (3 credits)**

Focuses on data collection and management, study design, selection of study subjects, evaluation of bias, confounding, interaction for randomized trials, prospective and retrospective cohort studies, and case-control studies. Offered winter semester. Prerequisites: PH 510 and admission to the Master of Public Health.

## **PH 530 - Qualitative Research Methods in Public Health (3 credits)**

Provides students with an understanding of the characteristics of qualitative research by utilizing methods to gain insight into health problems. Students will gain experience in various qualitative methods, techniques, and software. Offered fall semester. Prerequisite: Acceptance into the Master of Public Health or clinical dietetics program.

## **PH 540 - Public Health Law and Ethics (3 credits)**

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This course investigates elements of legal and ethical theories in public health. Students will use a case study approach to scrutinize ethical and legal issues in public practice, administration, and research. Offered spring/summer semester. Prerequisite: Admission to the Master of Public Health.

## **PH 580 - Special Topics in Public Health (1 to 9 credits)**

Lecture, discussion, laboratory, or field experience (or any combination of the preceding) in specific areas of public health. Prerequisites: Variable.

## **PH 600 - Advanced Quantitative Research Methods in Public Health (3 credits)**

Focus on advanced epidemiology and statistical methods used in clinical and public health research. This course will focus on analysis of categorical data, survival data, and longitudinal data with an emphasis on the interpretation and application of results obtained. Offered winter semester. Prerequisite: PH 525.

## **PH 602 - Chronic Disease Epidemiology (3 credits)**

Promotes a research-based approach to the prevention and management of chronic diseases from a public health standpoint. This course will educate students on the determinants of chronic diseases in populations and will emphasize interventions that have effectively reduced morbidity and mortality associated with chronic diseases. Offered spring/summer semester. Prerequisite: Admission to the Master of Public Health.

## **PH 603 - Epidemiology of Aging (3 credits)**

Introduces the epidemiology of aging and age-related disorders from a public health perspective with a specific focus on epidemiologic methods and their application to the study of function and disease in older adults. Course offered spring/summer semester. Prerequisite: PH 602.

## **PH 604 - Women's and Children's Epidemiology (3 credits)**

Provides students with a broad understanding of the influences on health and disease among women and children, including reproductive issues, infant, child, and maternal morbidity and mortality, abnormal growth and development, and early life factors. Offered fall semester. Prerequisite: Admission to the Master of Public Health program.

## **PH 605 - Pharmacoepidemiology (3 credits)**

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Introduces the basic concepts of pharmacoepidemiology from a public health perspective with a specific focus on epidemiologic methods and their application to pharmacoepidemiologic studies. Offered spring/summer semester. Prerequisite: PH 510.

## **PH 606 - Environmental and Occupational Epidemiology (3 credits)**

Environmental and occupational epidemiology will introduce students to the epidemiologic methods utilized in studying health effects of environmental and occupational agents. This course will also provide students with an understanding of how these agents affect the health of workers, as well as the health of the community. Offered spring/summer semester. Prerequisite: Admission to the Master of Public Health.

## **PH 608 - Infectious Disease Epidemiology (3 credits)**

Will introduce students to the principles, concepts, and methods of conducting an epidemiologic investigation, including epidemiologic study designs and laboratory methods used in infectious disease research. This course will also provide students with a broad understanding of public health surveillance for infectious diseases. Offered spring/summer semester. Prerequisite: Admission to the Master of Public Health.

## **PH 610 - Cancer Epidemiology (3 credits)**

Will promote a research-based approach to the understanding of cancer etiology. This course will provide students with a broad understanding of the prevalence of cancer, ranging from the distribution of susceptibility markers, cancer screening, and related health services in a population setting to cancer control and prevention programs. Offered fall semester. Prerequisite: Admission to the Master of Public Health.

## **PH 612 - Public Health Genetics (3 credits)**

Application of advances in genetics and molecular biotechnology to improve public health and prevent disease. This course provides an introduction to the field of genomics, integrating findings from genetic epidemiology and genetic screening, with the goal of preventing disease at the population level. Offered winter semester. Prerequisite: Admission to the Master of Public Health.

## **PH 613 - Psychiatric Epidemiology (3 credits)**

Introduces the epidemiology of psychiatric disorders from a public health perspective with a specific focus on epidemiologic methods and their application to the study of mental disorders of childhood, adulthood, and late adult life. Offered winter semester. Prerequisites: PH 602 and PH 612.

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## **PH 620 - Health Education (3 credits)**

Focuses on the design of effective learning programs to include specification of objectives, selection and organization of learning activities, and program assessment. Moves between theoretical bases for program development and application examinations. Offered spring/summer semester. Prerequisite: Admission to the Master of Public Health.

## **PH 621 - Introduction to Urban Health Studies (3 credits)**

Urban settings have unique assets and problems that are often different from traditional health demands. In this course, students will develop the skill set needed to understand and improve the health of those residing in urban environments. Offered fall semester. Prerequisite: Admission to the Master of Public Health.

## **PH 622 - Health Behavior and Promotion (3 credits)**

Provides students with the background on health-related behavior theories and health status, to develop and evaluate educational activities designed to improve individual and community health and quality of life. Offered spring/summer semester. Prerequisite: Admission to the Master of Public Health.

## **PH 623 - Food, Health, and Justice (3 credits)**

This course provides students with an introduction to the urban food movement. Concepts such as access to food, quality of food, affordability of food, and food-related policies are explored through both traditional and nontraditional learning opportunities, leaving students with a unique perspective of food in the urban environment. Offered winter semester. Prerequisite: Admission to the Master of Public Health.

## **PH 625 - Urban Health Field Studies (3 credits)**

The Urban Health Field Studies course will provide students an opportunity to couple their knowledge of the urban environment with interdisciplinary research in an urban community setting. Offered winter semester. Prerequisite: PH 621.

## **PH 626 - Health Advocacy and Literacy (3 credits)**

This course examines public health patient advocacy and health literacy methods and provides an understanding of the relationship between how literacy and advocacy effect the overall health of the population. Offered fall semester. Prerequisite: Admission to the Master of Public Health.

## **PH 627 - Public Health Interest Groups (3 credits)**

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This course provides a critical assessment of the impact that public health interest groups have on the American political system and public health policy. Public health interest groups will be categorized and explored as to goals, functionality, and impact on health policy. Offered spring/summer semester. Prerequisite: Admission to the Master of Public Health.

### **PH 628 - Health Program Evaluation (3 credits)**

Presents methods for the identification of population-based needs for public health intervention, development of programs to meet those needs, and evaluation of the effectiveness of these public health interventions. It integrates several knowledge and skill areas including: research methods, epidemiology, biostatistics, proposal writing, and health disparities. Offered winter semester. Prerequisite: Admission to the Master of Public Health.

### **PH 629 - Advocacy Strategies in Public Health (3 credits)**

This course provides students with the opportunity to critique and analyze case studies from a variety of both successful and unsuccessful public health advocacy examples. There will be an emphasis on how online environments and social media tools contribute to public health advocacy debates and campaigns. Offered winter semester. Prerequisite: Admission to the Master of Public Health.

### **PH 630 - Health and Disease Disparities in Diverse Communities (3 credits)**

Presents patterns, causes, and possible solutions to health disparities. The course will identify the role of race, ethnicity, and socioeconomic status in health research and access and utilization of health services. Offered winter semester. Prerequisite: Admission to the Master of Public Health.

### **PH 631 - Critical Issues in Public Health Advocacy and Policy (3 credits)**

This course provides students with the skills to analyze and evaluate current controversial topics in public health and challenges the student to develop problem-solving, communication, influence and collaborative skills to effect public policy. Offered spring/summer semester. Prerequisites: PH 500, PH 505, PH 510, and PH 520.

### **PH 632 - Public Health Social Campaigning and Distribution (3 credits)**

Analysis of the components and applications of public health social campaigning and distribution: theoretical foundations, research methods, strategy development, program design

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and implementation, material pretesting, and ethics. Offered winter semester. Prerequisite: Admission to the Master of Public Health.

### **PH 633 - Public Health and Environmental Impact Assessment (3 credits)**

The course will emphasize related concepts, theory, assessment methods, and integration and evaluation of models to examine contamination due to air, water, and soil pollution. Offered spring/summer semester. Prerequisite: PH 520.

### **PH 634 - Environmental Justice (3 credits)**

This course addresses the unequal burdens of environmental contamination and health disparities affecting marginalized communities across the U.S. and internationally. Environmental health/justice theories and illness and disease related to environmental atrocities will be discussed. Offered spring/summer semester. Prerequisite: PH 520.

### **PH 645 - Global Environmental and Occupational Health (3 credits)**

This course addresses environmental and occupational health in respect to developed, emerging, and less developed countries. Students are educated from an international perspective to analyze global trends in core areas of environment-human interaction with emphasis on vulnerable populations. Offered fall semester. Prerequisite: PH 520.

### **PH 660 - Public Health in a Global Setting (3 credits)**

This course will compare the practices and venues of public health education in a global setting to those within the United States. It will include extensive hands-on public health experiences in health education design, program planning, implementation, evaluation, resource availability, and application of research principles. Offered spring/summer semester.

### **PH 680 - Special Topics in Public Health (1 to 9 credits)**

Lecture, discussion, laboratory, or field experience (or any combination of the preceding) in specific areas of public health. Prerequisites: Variable.

### **PH 688 - Public Health Practicum (3 credits)**

The public health practicum experience provides a comprehensive and integrated application of the curriculum that allows students to demonstrate professional competency in public health in a practice setting. Offered each semester. Prerequisites: All core public health courses must be

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complete prior to enrolling in the practicum course and be in good standing within the public health program. The core curriculum includes: PNH 650, PH 500, PH 505, PH 510, PH 520, PH 525, PH 530, and STA 610.

## **PH 689 - Public Health Practicum in a Global Setting (3 credits)**

Students will complete a global public health experience by pursuing their practicum in an international setting, building upon identified student interest that is approved by the program coordinator. Tangible final product must be completed according to a written agreement developed by the student and the instructor. Offered each semester. Prerequisites: All core public health courses must be completed prior to enrolling in the practicum course and be in good standing within the public health program. The core curriculum includes: PNH 650, PH 500, PH 505, PH 510, PH 520, PH 525, PH 530, and STA 610.

## **PH 693 - Public Health Master's Project (1 to 3 credits)**

Guided research project development in public health. This course may be taken in sections and be repeated for up to three credits. Offered every semester. Prerequisites: Students must complete the core curriculum prior to enrollment and complete the Responsible Conduct of Research Training within the last three years.

## **PH 695 - Public Health Master's Thesis (3 credits)**

The individual student will select a significant and original research question pertinent to the public health profession and will complete six continuous credits to complete the thesis. Offered every semester. Prerequisites: Good standing in the public health program, completion of the core curriculum, approval of the program director, and completion of the Responsible Conduct of Research Training within last three years.

## **PH 696 - Continuation of Master's Project or Thesis Research (1 credit)**

Continuation of work related to the master's project or thesis phase of the graduate student's program. Registration is required after all respective project or thesis credits are completed and the project or thesis is not completed. Work will be performed under the supervision of the project advisor or thesis committee chair. Offered every semester. Prerequisites: Completion of all required project or thesis credits and completion of the Responsible Conduct of Research Training within last three years.

## **PH 697 - Professional Learning (1 to 3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

## **PHI 101 - Introduction to Philosophy (3 credits)**

Inquiry into different perspectives on reality, reason, experience, and human excellence. Intensive reading of at least one classical text and its implications for life in the present. Fulfills Foundations - Philosophy and Literature. Offered fall and winter semesters.

## **PHI 102 - Ethics (3 credits)**

What is good? What is evil? Are there objective standards for right and wrong? What are these objective standards? How can they be applied to important contemporary moral problems? This course considers the answers philosophers give to these and related questions. Fulfills Foundations - Philosophy and Literature. Offered fall and winter semesters.

## **PHI 103 - Logic (3 credits)**

What does it mean to think clearly and correctly? What rules govern classification and definition? What is the nature of propositions? What are the rules for correct reasoning? How can we improve our reasoning skills? This course addresses these questions with the help of a standard textbook in classical logic. Fulfills Foundations - Mathematical Sciences. Offered fall and winter semesters. Prerequisite: MTH 110 or equivalent.

## **PHI 202 - Philosophy and Ethics of Health (3 credits)**

What is health and what ethical issues surround the care of health? Explore classic theories about the nature of physical and mental health through primary texts and philosophize about key issues in health care, such as consent, augmentation, distribution, and the value of health. Fulfills Foundations - Philosophy and Literature. Offered every semester.

## **PHI 203 - Intermediate Logic (3 credits)**

A thorough introduction to classical quantificational logic. This course develops the syntax and semantics of the language of quantificational logic, assesses its relation to English, and introduces proof methods for, and some of meta-logic of, quantificational logic. The course also introduces some extensions of, or alternatives to, classical quantificational logic. Offered fall semester, even-numbered years. Prerequisite: PHI 103 or CIS 160 or CIS 162 or MTH 110 or MTH 122 or MTH 201.

## **PHI 204 - Knowledge, Politics, and Social Media (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

An introduction to philosophy focused on humans as knowing beings and as social-political beings. The course explores classical philosophical issues concerning how these facets of human existence interact, and applies the understanding gained to analyze how these interactions affect and are affected by the Internet and social media. Fulfills Foundations - Philosophy and Literature. Offered fall and winter semesters.

## **PHI 210 - Eastern Philosophy (3 credits)**

Because the world is getting smaller, the scope of our knowledge and vision must expand. This course introduces students to major philosophies of the East, such as Hinduism, Buddhism, Confucianism, and Daoism, through the study of classic texts. Fulfills Cultures - Global Perspectives. Offered fall and winter semesters.

## **PHI 220 - Aesthetics (3 credits)**

An inquiry into the nature, criteria, and significance of the fine arts and/or artistic creation and response. Fulfills Foundations - Arts. Offered fall and winter semesters.

## **PHI 230 - American Philosophy (3 credits)**

Focuses on the history and context of American philosophy, from the precolonial indigenous wisdom traditions to contemporary philosophers. Special emphasis on American Pragmatism, as a distinctively American philosophical movement, and on the issues of race as a common theme in American philosophy. Fulfills Cultures - U.S. Diversity. Offered fall semester of odd-numbered years.

## **PHI 240 - Middle Eastern Philosophy (3 credits)**

This course introduces students to Middle Eastern philosophy from the medieval period through the contemporary era. The course will give students a thorough understanding of what Middle Eastern philosophy is, what makes it unique, and how both medieval and modern thinkers tackle philosophical problems of their day. Fulfills Cultures - Global Perspectives. Offered winter semester of even-numbered years. Prerequisite: Prior work in philosophy or permission of instructor.

## **PHI 250 - Existentialism (3 credits)**

An investigation of a major philosophical and literary movement in the 19th and 20th century. Important existentialists include Dostoevsky, Kierkegaard, Nietzsche, Heidegger, Sartre, and Camus. Topics include authenticity, freedom, consciousness, commitment, our relations to others and God, how emotions provide insights unavailable to reason, and the limits of philosophy. Fulfills Cultures - Global Perspectives. Offered fall semester.

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## **PHI 300 - Theories of Human Nature (3 credits)**

Survey of philosophical, scientific, and religious conceptions of the human being, from past and present and from various cultures. Issues include meaning of life, destiny of humanity, relations between humans, human development and evolution, relations of humans to their creator/origins and to their environments, and methodologies for investigating human nature. Part of the Identity Issue. Offered fall and winter semesters. Prerequisite: Junior standing.

## **PHI 311 - Origins of Western Thought: Ancient Philosophy (3 credits)**

A study of one or several ancient great philosophers, such as the pre-Socratics, Plato, Aristotle, and Lucretius. Focus will be on the philosophers' writings, but attention also will be given to context and tradition. Cross-listed with CLA 311. May be repeated for credit if content varies. Prerequisite: Prior work in philosophy or permission of instructor.

## **PHI 312 - Divine Revelation meets Greek Rationality: Medieval Philosophy (3 credits)**

A study of one or several medieval great philosophers, such as: Plotinus, Augustine, Thomas Aquinas, and Maimonides. Focus will be on the philosophers' writings, but attention will also be given to context and tradition. May be repeated for credit, if content differs. Prerequisite: Prior work in philosophy or permission of instructor.

## **PHI 313 - Reason, Experience, Morality at the Dawn of Modernity: Early Modern Philosophy (3 credits)**

A study of one or several modern great philosophers, up to Kant, such as Descartes, Spinoza, Leibniz, Berkeley, Hume, and Kant. Focus will be on the philosophers' writings, but attention also will be given to context and tradition. May be repeated for credit if content differs. Prerequisite: Prior work in philosophy or permission of instructor.

## **PHI 314 - Capitalism, Secularism, Nationalism: 19th Century Philosophy (3 credits)**

A study of one or several later modern great philosophers beginning with Kant, such as Fichte, Schelling, Hegel, Kierkegaard, Nietzsche, and Marx. Focus will be on the philosopher's writings, but attention will also be given to context and tradition. May be repeated if content differs. Prerequisite: Prior work in philosophy or permission of instructor.

## **PHI 315 - Philosophy Now: Contemporary Great Philosophers (3 credits)**

A study of one or several recent great philosophers, such as James, Wittgenstein, Heidegger, Dewey, Arendt, Merleau-Ponty, Peirce, Whitehead. Focus will be on the philosophers' writings, but attention also will be given to context and tradition. May be repeated for credit if content varies. Prerequisite: Prior work in philosophy or permission of instructor.

## **PHI 320 - Power, Justice, and Freedom: Social and Political Philosophy (3 credits)**

Analyzes the intellectual appropriation of the concept of freedom over time. Emphasis will be given to the dynamic interaction between freedom and social control in classics of Western philosophy from ancient times to modernity. Authors include Plato, Epicurus, Aristotle, Aurelius, Augustine, Hobbes, Rousseau, and Marx. Part of Human Rights Issue. Offered fall and winter semesters. Prerequisite: Junior standing.

## **PHI 325 - Ethics in Professional Life (3 credits)**

Examination of ethical principles and practice in business, medicine, education, law, and government. This course aims at providing students with the intellectual framework for an ethical analysis of situations which arise within various professions. Also seeks to foster mutual understanding across professional lines. Part of the Human Rights Issue. Offered fall and winter semesters. Prerequisite: Junior standing.

## **PHI 330 - Crime, Morality, Punishment: Philosophy of Law (3 credits)**

Laws create and preserve rights. We will explore the nature, formation and interpretation of laws. What are they? Where do they come from? And how do we tell what they mean? We will also consider specific issues such as equality and affirmative action, and punishment and the death penalty. Part of the Human Rights Issue. Offered fall semester of even-numbered years. Prerequisite: Junior standing.

## **PHI 341 - Philosophy of Death and Dying (3 credits)**

A philosophical exploration of ethical, religious, and metaphysical questions about death and dying, such as care for the dying, euthanasia, suicide, life after death. What is a human being? The meaning of life? Our place in the universe? Classical and contemporary writings, East and West, will be examined. Offered fall semester.

## **PHI 343 - God, Faith, and Reason: Philosophy of Religion (3 credits)**

Does God exist? Is there a life after death? How did evil enter the world? Is there any place for reason in religion, or is religious faith only a matter of subjective experience? Questions like these will be considered, as well as the answers that have been given to them by some important religious philosophers. Part of the Identity Issue. Prerequisites: Junior standing and prior work in philosophy or permission of instructor.

## **PHI 370 - Sex Matters: Feminist Philosophy in the Contemporary World (3 credits)**

Sex and gender are central to our identity. The course explores these concepts within the intersection of race, class, sexualities, and ethnicities. Philosophical analyses will be used to investigate how gendered biases infuse the structures of thought and action such that sex is a central component of our lives. Part of the Identity Issue. Offered fall semester. Prerequisite: Junior standing.

## **PHI 380 - Special Topics in Philosophy (3 credits)**

A variable topics course on a problem, theme, or figure of importance to the practice of philosophy in the present. Offered as needed. Prerequisite: Prior work in philosophy or permission of instructor.

## **PHI 399 - Independent Readings (1 to 4 credits)**

Reading on a topic or a philosopher, arranged both as to credit and content with a member of the department. Offered fall and winter semesters. Prerequisite: Prior work in philosophy or permission of instructor.

## **PHI 400 - Wisdom of the East: Advanced Topics in Asian Philosophy (3 credits)**

Study of one or more Hindu, Buddhist, Confucian, or Taoist philosophers (The Buddha, Nagarjuna, Lao Zi, Zhuangzi, Confucius, etc.) Topics include human nature, society and individual, moral practice, suffering and liberation, and religiosity. Fulfills Cultures - Global Perspectives. Repeatable for credit, if content differs. Offered winter semester. Prerequisite: Prior coursework in philosophy or permission of instructor.

## **PHI 420 - Philosophy of Science (3 credits)**

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Scientific knowledge is compared with that acquired in other disciplines. Topics common to the physical, biological, and social sciences, such as discovery, explanation, confirmation, and the nature of scientific models and laws are also considered. Offered fall semester of even-numbered years. Prerequisite: Prior coursework in philosophy or permission of instructor.

### **PHI 430 - Mind, Brain, Consciousness: Philosophy of Mind (3 credits)**

A study of classical and contemporary philosophical perspectives on the human mind. Topics may include materialistic vs. nonmaterialistic conceptions of thought and consciousness; relation between mind and brain, body, behavior, and environment; artificial intelligence; animal cognition; mental illness; altered states of consciousness, self-consciousness, and personhood. Offered fall semester of even-numbered years. Prerequisite: Prior coursework in philosophy or permission of instructor.

### **PHI 440 - Perception, Hallucination, Trust: Perspectives on Knowledge (3 credits)**

What is knowledge? What is the relation of knower to known? How is knowledge distinguished from belief? What are the nature and ground of certainty? Varieties of objectivism and subjectivism, ancient and modern, will be considered. Offered winter semester. Prerequisite: Prior work in philosophy or permission of instructor.

### **PHI 450 - Reality, Identity, Change: Metaphysics (3 credits)**

A study of representative metaphysical systems and problems through the writings of the classical, medieval, modern and recent periods. Topics include being, substance, causation, essence, matter, form, space, time, relation, etc. Some attention to non-Western metaphysical thought. Offered fall semester of odd-numbered years. Prerequisite: Prior work in philosophy or permission of instructor.

### **PHI 460 - Rights, Duties, and the Meaning of Life: Moral Philosophy (3 credits)**

This course is dedicated to some of the most fundamental questions about value: What is value? Where does it come from? How many kinds of it are there? What are the relationships between the different kinds of value? Readings will be drawn from classical and contemporary philosophical literature. Offered winter semester of odd-numbered years. Prerequisite: Prior work in philosophy or permission of instructor.

### **PHI 470 - Truth, Meaning, Communication: Philosophy of Language (3 credits)**

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A survey course in the philosophy of language. Topics include theories of meaning, truth, and reference; meaning and interpretation; semantics vs. pragmatics; speech acts; language and thought; knowledge of language. Offered winter semester of even-numbered years. Prerequisite: One philosophy course or permission of the instructor.

## **PHI 480 - Special Topics in Philosophy (3 credits)**

According to the needs of the students, seminars in historical and systematic studies in areas, philosophers, and movements, of which the following are examples: Aristotle, Thomas, Hume, Kant, Hegel, Hellenistic philosophy, philosophy of history, advanced logic, advanced ethics, theory of knowledge, philosophy of science, advanced political philosophy, and philosophy of education.

## **PHI 495 - Reality, Knowledge, and Value (Capstone) (3 credits)**

The purpose is -- by a review of basic presuppositions about knowledge, reality, and value to make clear what unites and what separates the main traditions in people's search for wisdom. Offered fall and winter semesters. Prerequisites: Major or minor in philosophy and senior standing.

## **PHO 171 - Photography I (4 credits)**

An introductory course in the use of the still camera and in the essentials of black-and-white darkroom photography. Emphasis on the basic aesthetics and techniques that underlie photographic communication. Offered every semester. Access to a 35mm film camera, with manual control option, required.

## **PHO 172 - Photography II (3 credits)**

The aesthetic and technical concepts beyond basic photography. Emphasis on fine-tuning black-and-white negative and printing methods, including the zone system. Students register for one lab section in addition to lecture. Access to 35mm camera, with manual control option, required. Offered every semester.

## **PHO 175 - Understanding Still Photography (3 credits)**

An introductory course in still photography. Covers camera operation, composition, aesthetics, post-production, and visual communication. Access to a digital camera with manual exposure controls is required. Counts toward the photography minor, but not the major. Fulfills Foundations - Arts. Offered fall and winter semesters.

## **PHO 266 - History of Photography I (3 credits)**

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A survey of the origins and developmental phases of photography. Technical innovations will be examined, but emphasis will be on the historical motivations and changing climates of aesthetic intent, philosophical rationale, and visual experimentation in the history of photography from the early 19th century to the present. Offered fall semester.

## **PHO 272 - Digital Photography 1 (3 credits)**

Introduction to the use of computers in photography with emphasis on digital image processing. Students will gain experience with hardware and software used to access, manipulate, and output photographs for use in display, print, and the digital environment. Offered every semester. Prerequisites: ART 149 or ART 150 and one of the following: PHO 175, PHO 172, FVP 226, or permission of instructor.

## **PHO 273 - Classic 4 x 5 Photography (3 credits)**

Emphasis upon the use and application of the large format camera, the zone system of previsualization and exposure/development control, and the production of the classic black and white print. Subject areas represent the classic themes drawn from the history of photography. Offered fall and winter semesters. Prerequisite: PHO 172 or permission of instructor.

## **PHO 279 - Color Photography 1 (3 credits)**

Introduction to color theory and expressive use of color in photography. Offered fall and winter semesters. Prerequisite: PHO 272.

## **PHO 280 - Special Topics in Photography (1 to 3 credits)**

A study of topics not regularly covered in the curriculum. May be repeated for credit when topic varies. Prerequisite: Sophomore standing or permission of instructor.

## **PHO 366 - History of Photography II (3 credits)**

An examination of the principal theories and debates in photography from the early 19th century to the present, their social and political contexts, and their expression in both photographic practice and critical writings. Offered winter semester. Prerequisites: PHO 266 and junior standing; or permission of the instructor.

## **PHO 368 - Alternative Photographic Print Processes (3 credits)**

An introduction to photographic-based printmaking processes such as cyanotype, polymer photogravure, and photo-stencil silkscreen. Emphasis is on the technical and aesthetic mastery of

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these media for the development of the student's creative visual work. Cross-listed ART 368. Offered fall semester.

## **PHO 371 - Experimental Black and White Photography (3 credits)**

An advanced production course that investigates experimental and nontraditional applications of black-and-white imaging materials and processes. Historical and contemporary experimental work will be examined. Emphasis is on the expressive and visual significance of experimentally generated imagery. Offered winter semester. Prerequisite: PHO 273.

## **PHO 373 - Digital Photography 2 (3 credits)**

An exploration of the history, contemporary trends, and future possibilities of digital imaging processes. Includes an examination of visual communication within the digital environment. Student readings and discussions will be augmented with digital imaging projects. Offered winter semester. Prerequisite: PHO 272 or permission of instructor.

## **PHO 374 - Color Photography 2 (3 credits)**

An advanced course emphasizing various approaches to color photographic image making. Areas of investigation include color theory, color and perception, color and light, color strategies, and color as image, as well as contemporary trends in color photography. Offered winter semester. Prerequisite: PHO 279 or permission of instructor.

## **PHO 375 - Studio Photography (3 credits)**

Creation of studio still-lives, artificial studio lighting, and principles of studio portraiture. All work done with digital photography. Prerequisite: PHO 272.

## **PHO 377 - The Social Eye (4 credits)**

Explores the photographic tradition of the social documentary. Practical emphasis on black-and-white image making depicting people: their activities, relationships, and conditions. Color slides optional with permission of instructor. Photo essays will be produced. Lab to be arranged. Offered fall semester of even-numbered years. Prerequisite: PHO 272.

## **PHO 378 - Advanced Problems in Photography (3 credits)**

An intensive investigation and a sustained image-making activity in one area of photographic practice. Examines both historical and contemporary approaches, as well as aesthetic and cultural attitudes that have informed them. Students will produce various solutions within the course theme. Offered fall semester. Prerequisite: PHO 272.

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## **PHO 380 - Special Topics in Photography (1 to 3 credits)**

A study of advanced topics not regularly covered in the curriculum. May be repeated for credit when topic varies. Prerequisite: Junior standing or permission of instructor.

## **PHO 399 - Independent Study (1 to 6 credits)**

An experience of an essentially scholarly and/or creative nature undertaken by a student under the supervision of one or more faculty members. Initiated by the student who has a special interest in a subject that is not available in the current curriculum. The student and the faculty sponsor agree on the scope of the study, its components, and methods of evaluation. Offered every semester.

## **PHO 480 - Special Topics in Photography (1 to 3 credits)**

A study of advanced topics not regularly covered in the curriculum. May be repeated for credit when topic varies. Prerequisite: Senior standing or permission of instructor.

## **PHO 490 - Internship (1 to 6 credits)**

A supervised work experience in an area of a student's potential career interest. Initiated by the student, who plans the work experience with the advisor, the faculty sponsor chosen to supervise the internship, and the supervisor at the worksite. Credit is awarded only when the student, the faculty sponsor, and the work supervisor have completed evaluations of the internship. Offered every semester.

## **PHO 495 - Photography Capstone and Thesis Seminar (1 to 6 credits)**

A culminating course in which students demonstrate their conceptual understanding and creative abilities in photography and visual communication. Each student develops a coherent body of work and a thesis paper reflecting on that work from a personal, historical, and critical perspective. Offered fall and winter semesters, but not necessarily in the summer. Prerequisites: PHO 266 with a grade of C or better and PHO 366.

## **PHY 105 - Descriptive Astronomy (3 credits)**

A general survey of astronomy topics, including the motion of celestial objects, light and telescopes, information about the solar system, its formation, and stellar evolution. The class includes lecture, laboratory, and night observations. Fulfills Foundations - Physical Sciences with a lab.

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## **PHY 180 - Special Topics in Physics (1 to 4 credits)**

Exploration at the introductory level of topics not addressed at the same level in other physics courses.

## **PHY 200 - Physics for the Life Sciences (4 credits)**

Physics topics particularly applicable to occupations in safety, health science, biology, medicine, and industry. A practical survey of physics also applicable to humanities and non-science majors. Includes a laboratory. Background course for making decisions about science and technology. Mechanics, fluids, sound, heat, basic electricity, light optics, and nuclear radiation. (3-1-2) Offered every semester. Prerequisite: MTH 110 or MTH 122 or MTH 201.

## **PHY 201 - Inquiry: The Mechanical and Thermal World (4 credits)**

Course stresses understanding physical science to allow one to explain concepts to others, whatever the audience. Focus is on the development of fundamental concepts, reasoning, and critical-thinking skills through discovery learning and Socratic dialogue in the laboratory setting. Topics include mass, volume, density, buoyancy, heat, temperature, and electric circuits. Ideal for students preparing for careers in education. Fulfills Foundations - Physical Sciences with a lab. (0-0-6) Offered fall semester.

## **PHY 202 - Physics for K-8 Teachers, Motion, Energy, and Forces (2 credits)**

A study of motion, its descriptions, and causes. Includes energy models and force models. Develops the ability to explain concepts to a range of audiences. Course is intended for integrated science majors. Content reflects national and Michigan science education standards. Offered fall semester.

## **PHY 203 - Physics for K-8 Teachers, Light, Sound, and Electromagnetism (2 credits)**

Introduction to sound, light, electricity, and magnetism. Includes electric and magnetic forces, simple electric circuits, ray models of light, and wave models of sound. Develops the ability to explain concepts to a range of audiences. Course is intended for integrated science majors. Content reflects national and Michigan science standards. Offered winter semester.

## **PHY 205 - Astronomy for K-8 Pre-Service Teachers (2 credits)**

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Introduction to astronomy. Includes origin, evolution, characteristics, and motion of objects in the solar system, galaxy, and universe. Course is intended for integrated science majors. Course is not intended for science majors or minors. Content reflects national and Michigan science standards. Offered fall and winter semesters.

## **PHY 216 - Physics of Sports (4 credits)**

A biomechanically oriented physics course about sporting activities. Topics include real projectile motion, forces including the ground reaction force, energy conservation and transformation, and other traditional mechanics topics. Students will use college level algebra (multiple equations and unknowns) and develop skills in right triangle trigonometry. Designed for exercise science majors. Offered fall and winter semesters. Prerequisite: MTH 110.

## **PHY 220 - General Physics I (5 credits)**

The first half of a two-semester noncalculus sequence with a laboratory; recommended for life science majors. Kinematics, vectors, Newtonian mechanics, gravity, work, conservation of energy and momentum, fluids, and properties of matter. Fulfills Foundations - Physical Sciences with a lab. (2-2-3). Offered every semester. Prerequisites: MTH 122 and MTH 123.

## **PHY 221 - General Physics II (5 credits)**

The second half of a standard one-year noncalculus sequence with a laboratory; recommended for life science majors. Electricity and magnetism, fields, simple electrical circuits, light and optics, and introduction to quantum and nuclear phenomena. (2-2-3) Offered every semester. Prerequisite: PHY 220.

## **PHY 230 - Principles of Physics I (5 credits)**

The first course in a two-course calculus-based sequence for students of science, mathematics, and engineering with a laboratory. Topics include vectors, kinematics, dynamics, work, conservation of energy, linear and angular momentum, gravitation, mechanical waves and oscillations, and sound. Fulfills Foundations - Physical Sciences with a lab. Offered every semester. Prerequisite: MTH 201. Corequisite: MTH 202.

## **PHY 231 - Principles of Physics II (5 credits)**

The second course in a two-semester sequence for students of science and engineering, with a laboratory. Topics include thermodynamics, Coulomb's law, electric fields and potential energy, Gauss's law, circuits, electrical waves and oscillations, Maxwell's equations, and optics. Offered every semester. Prerequisites: PHY 230 and MTH 202.

## **PHY 234 - Engineering Physics (4 credits)**

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A second course in calculus-based physics designed for engineering majors. Topics include electromagnetic theory, optics, and atomic and nuclear physics. Course content emphasizes areas of physics not covered in-depth by the engineering curriculum while minimizing areas of overlap. (3-0-2) Offered fall semester. Prerequisites: PHY 230 and MTH 202.

## **PHY 280 - Special Topics in Physics (1 to 4 credits)**

Exploration at a moderate level of topics not addressed at the same level in other physics courses.

## **PHY 302 - Introduction to Modern Physics (4 credits)**

A course in modern physics for students in science, math, and engineering, with a laboratory. Special relativity, particle-like properties of radiation, wave-like properties of matter, atomic models, and the Schrödinger equation with applications. (3-0-3) Offered fall and winter semesters. Prerequisite: PHY 231.

## **PHY 309 - Experimental Methods in Physics (4 credits)**

Course consists of four modules: instrumentation, statistics pertaining to physics, electronics, and an introduction to machine shop methods. Course culminates in a final project that includes the design, implementation, analysis, and written and oral report of an experiment geared toward student interest. (2-0-4) Offered fall semester. Prerequisites: PHY 302 and a Supplemental Writing Skills course.

## **PHY 311 - Advanced Laboratory II (2 credits)**

Experimental laboratory activities related to physics at the intermediate level. The experiments assigned are dependent on student interest and goals. (0-0-6) Offered winter semester. Prerequisites: PHY 309 and a Supplemental Writing Skills course.

## **PHY 320 - Optics (3 credits)**

Geometric optics, including intermediate study of reflection and refraction. Physical optics, including intermediate study of interference and diffraction. Includes lasers and other applications. Offered fall of odd-numbered years. Prerequisite: PHY 231.

## **PHY 330 - Intermediate Mechanics (4 credits)**

An intermediate-level study of Newtonian classical mechanics for students in science, math and engineering. Newton's laws of motion, conservation laws, and applications, including conservative and nonconservative forces, velocity-dependent forces, work and energy, linear

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oscillations, central forces, and noninertial reference frames. Offered fall semester. Prerequisites: PHY 230 and (either MTH 302 or MTH 304) or permission of the instructor.

## **PHY 340 - Electromagnetic Fields (4 credits)**

An intermediate-level study of electricity and magnetism for students in science, math, and engineering. Vector calculus, electrostatic and magnetostatic fields in vacuum and in matter, and Maxwell's equations and applications. Offered winter semester. Prerequisites: PHY 231 and (either MTH 302 or MTH 304).

## **PHY 350 - Introduction to Quantum Mechanics (4 credits)**

An introduction to quantum physics for students in science, math, and engineering. Vector spaces, orbital and spin angular momentum, time-independent and time-dependent Schrödinger equation, operators, and eigenvectors and eigenvalues. Applications include tunneling, the hydrogen atom, and the simple harmonic oscillator. Offered fall semester. Prerequisites: PHY 302 and (either MTH 302 or MTH 304). MTH 300 recommended.

## **PHY 360 - Statistical Thermodynamics (4 credits)**

Basic concepts of heat, thermodynamics, and statistical physics for students of applied and theoretical physics. Temperature, equations of state, laws of thermodynamics, properties and behavior of pure substances, ideal gases, and mixtures. Introduction to statistical physics including statistical ensembles, probability, kinetic theory, heat capacity, and ideal gas velocity distributions. (4-0-0) Offered winter semester. Prerequisite: PHY 231.

## **PHY 370 - Solid State Physics (3 credits)**

A first course on the physics of solids. Topics may include crystal structure and x-ray diffraction; lattice vibrations and phonons; free electron Fermi gas; energy bands; properties of metals, semiconductors, and insulators; superconductivity; magnetism and magnetic materials. Offered winter semester of odd-numbered years. Prerequisites: PHY 302 and (either MTH 302 or MTH 304).

## **PHY 380 - Special Topics in Physics (1 to 4 credits)**

Lecture, discussion, and/or laboratory in specific areas of physics. Topics will reflect the special interests of the students and/or the instructor. Prerequisite: Permission of instructor.

## **PHY 399 - Readings in Physics (1 to 4 credits)**

Independent supervised readings on selected topics. Offered fall and winter semesters. Prerequisite: Permission of instructor.

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## **PHY 430 - Advanced Mechanics (3 credits)**

Study of classical mechanics at an advanced mathematical level. Systems of particles, rotating coordinate systems, generalized coordinates, virtual work, and Lagrange's and Hamilton's equations. Offered winter semester of even-numbered years. Prerequisites: PHY 330 and MTH 300.

## **PHY 440 - Advanced Electricity and Magnetism (3 credits)**

Study of Maxwell's equations at an advanced mathematical level. Electromagnetic wave propagation in free space and in materials. Reflection and refraction of electromagnetic waves, waveguides and coaxial lines, and electromagnetic radiation. Offered fall semester. Prerequisites: PHY 340 and MTH 300.

## **PHY 450 - Quantum Mechanics (3 credits)**

Addition of angular momenta, scattering, and approximation methods. Pauli principle, applications to transitions, molecular, and solids. Offered winter semester of odd-numbered years. Prerequisites: PHY 350 and MTH 300.

## **PHY 475 - General Relativity (3 credits)**

A comprehensive treatment of special relativity including the notion of four vectors on Minkowski space time. An introduction to curved space time including Geodesics and classic tests of General Relativity. Applications include black hole physics, cosmology, Einstein's equations and more. Offered winter semester. Prerequisites: MTH 304, PHY 302, and PHY 330.

## **PHY 480 - Special Topics in Physics (1 to 4 credits)**

Exploration at the advanced undergraduate level of topics not addressed at the same level in other physics courses.

## **PHY 485 - Senior Physics Project (Capstone) (1 credit)**

An independent investigation of theoretical or experimental physics. The nature and scope of the project are determined by the student in consultation with the instructor. Normally this project is carried out during the entire senior year-one hour credit during the fall semester and two hours credit during the winter semester. A written technical report is required. All seniors meet each week to discuss their projects with each other and their supervisor. Open only to senior physics students in good standing. (1-0-4) Offered fall semester.

## **PHY 486 - Senior Physics Project (Capstone) (2 credits)**

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Continuation of student's work in PHY 485. Both an oral report and a final written technical report are required. (1-0-8) Offered winter semester. Prerequisite: PHY 485.

### **PHY 499 - Research in Physics (1 to 4 credits)**

Investigation of current ideas in physics for upper class students majoring in physics. Content determined by the student in conference with tutor. Completion of a substantial paper based upon the work. Offered fall and winter semesters. Prerequisites: 25 credits in physics and permission of the department chair.

### **PHY 670 - Modern Physics with Computer Visualization (3 credits)**

Uses visual quantum mechanics instructional units to integrate interactive computer programs with hands-on, minds-on activities to learn modern physics and quantum principles. Visualization techniques will replace higher level mathematics. The important historical experiments done at the turn of the century will also be reproduced and studied. (2-0-2) Offered fall semester of odd-numbered years. Prerequisites: PHY 220 and PHY 221 or equivalent.

### **PHY 680 - Special Topics in Physics (1 to 4 credits)**

Exploration at the advanced level of topics not addressed at the same level in other physics courses.

### **PHY 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

### **PLS 102 - American Government and Politics (3 credits)**

A prerequisite to all courses listed in the subfield of American Government and Politics. Examines American political values, governmental functions, political processes, policy issues, and decision-making processes. Fulfills Foundations - Social and Behavioral Sciences. Offered every semester.

### **PLS 103 - Issues in World Politics (3 credits)**

Analysis and discussion of contemporary issues in world politics as a vehicle for introducing core concepts in comparative politics, such as democracy, dictatorship, civil society, power, nationalism, political economy, social policy, identity politics, and development. Students will gain basic familiarity with the institutions, actors, and processes that influence world politics.

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Fulfills Foundations - Social and Behavioral Sciences. Fulfills Cultures - Global Perspectives. Offered every semester.

## **PLS 105 - Introduction to Human Rights (3 credits)**

Introduction to the historical and conceptual development of human rights as moral, legal, and cultural constraints on the behavior of states in relation to their citizens. Analysis is theoretical, exploring philosophical arguments surrounding the historical development of human rights and their current role in legal, cultural, literary, and political products. Fulfills Foundations - Philosophy and Literature. Cross-listed with HRT 105. Offered fall and winter semesters.

## **PLS 180 - Special Topics in Political Science (3 credits)**

Course content varies. Refer to schedule of classes to determine course description and prerequisites. Students may repeat this course under different topics.

## **PLS 202 - American Election Campaigns (3 credits)**

An examination of the strategies and tactics of American election campaigns. Particular focus on the role of the mass media and computer technology as instruments of campaign communication and persuasion. Offered fall semester of even-numbered years. Prerequisite: PLS 102 or junior standing.

## **PLS 203 - State Politics (3 credits)**

Examines the relationship between the states and the national government (federalism), state political institutions, and the politics and policies that characterize contemporary state governing. Emphasizes devolution (the shift of responsibility from the national government to the states), the relationship between governing and the economy, and Michigan politics and policy. Offered fall semester. Prerequisite: PLS 102 or junior standing.

## **PLS 205 - The Policy Process (3 credits)**

An introduction to the study of public policy. Examines the politics of the policy-making process in the United States. Students will gain an understanding of how issues emerge and ultimately become policies, how politics shapes public policies, and how these policies affect people's lives. Offered winter semester. Prerequisite: PLS 102 or junior standing.

## **PLS 206 - American Constitutional Foundations (3 credits)**

Integrates the perspectives of political science and constitutional law to examine the principles and institutional structures of the American political system. Analyzes political and constitutional sources of presidential, congressional, state and national power. Investigates

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federalism, voting, parties, interest groups, civil rights, and civil liberties. Primarily for social studies majors. Offered every semester.

## **PLS 211 - International Relations (3 credits)**

This introductory course in international relations (IR) examines interactions among states and non-state actors in the international environment. Class focuses on military, economic, ethnic, and religious conflict. Topics include power, organizations, nationalism, and economic integration. Major IR theories are exemplified by current topics, such as terrorism, poverty, trafficking, and climate change. Fulfills one of the Foundations - Social and Behavioral Sciences. Fulfills Cultures - Global Perspectives. Offered every semester.

## **PLS 212 - Great Decisions (3 credits)**

Defining moments in international relations and foreign policy decision-making are used to illustrate the impact of leaders, institutions, and public opinion on foreign policy. Students attend the "Great Decisions" lecture series and hear high-ranking foreign policy analysts discuss controversial issues in contemporary world affairs. Offered winter semester.

## **PLS 215 - Global Migration (3 credits)**

An interdisciplinary analysis of the global movement of immigrants and refugees and its relationship with the economy, politics, development, and culture. Students learn about migration as a key feature of globalization. Possible topics: migration history, immigration policies, border control, integration, citizenship, migrant transnationalism, diaspora, remittances, child migrants, and migration theories. Fulfills Cultures - Global Perspectives. Fulfills Foundations - Social and Behavioral Sciences. Cross-listed with GSI 215. Offered fall semester.

## **PLS 221 - Government and Politics of Western Europe (3 credits)**

A comparative analysis of government and politics in France, Germany, Italy, the United Kingdom, and other European countries. Topics include political participation, parties and elections, interest groups, political economy, social welfare policy, and the European Union. Offered fall semester.

## **PLS 231 - Classical Political Thought (3 credits)**

Survey of selected classical political theorists, including Plato, Aristotle, Cicero, Aquinas, and Machiavelli. Emphasis on the concepts of justice, human nature, and the state. Offered fall and winter semesters.

## **PLS 232 - Modern Political Thought (3 credits)**

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Survey of selected modern political theorists, including Hobbes, Locke, Rousseau, Mill, and Marx. Emphasis on the concepts of the role of government, nature of justice, human nature, property, and political change. Offered fall and winter semesters.

### **PLS 240 - The Holocaust (3 credits)**

Investigates the psychological, social, political, historical, cultural, and economic sources of human aggression and cooperation by focusing on the Nazi destruction of European Jews in World War II. Cross-listed with HNR 231. Offered winter semester.

### **PLS 281 - Comparative Political Systems: Canada (3 credits)**

An analysis of the socioeconomic factors that influence the political processes, through a comparison of the political system in the United States with Canada. Fulfills Cultures - Global Perspectives. Offered fall semester of even-numbered years.

### **PLS 283 - Chinese Politics and U.S.-China Relations (3 credits)**

A historical and thematic survey of Chinese politics by examining the patterns and dynamics of its political, economic, and social developments, as well as its interaction with the United States. Fulfills Cultures - Global Perspectives. Offered fall semester.

### **PLS 284 - Latin American Politics (3 credits)**

The course analyzes the socioeconomic factors that influence political processes in Latin American countries, combining themes and case studies. Topics include theories of development, the historical role played by various political actors, and the current nature of development, inequality, democracy, and the politics of gender and race relations in the region. Fulfills Cultures - Global Perspectives. Offered fall semester.

### **PLS 300 - Political Analysis (3 credits)**

Empirical analysis of domestic and international political issues. Topics include data collection strategies and problems, statistical techniques for analyzing small and large data sets, as well as other formal methods of political analysis. Offered fall and winter semesters. Prerequisite: STA 215.

### **PLS 301 - Poverty, Inequality, and U.S. Public Policy (3 credits)**

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This course examines poverty and inequality in the United States. Topics include definitions of poverty and inequality, historical trends, and policy responses. Diverse perspectives, including international comparisons, will be presented. Students will explore various dimensions of inequality through small group activities. Part of the Identity Issue. Offered fall and winter semesters. Prerequisite: Junior standing.

### **PLS 302 - Women, Politics, and Public Policy (3 credits)**

This course explores the ways that gender influences government and policy decisions. Students will explore many gendered issues and the relevant policy responses. Topics include domestic violence, reproductive policies, divorce and the family, marriage and the family, poverty, class, and compensation. Cross-listed with WGS 302. Offered fall semester. Prerequisite: PLS 102 or junior standing.

### **PLS 303 - Introduction to U.S. Environmental Policy (3 credits)**

This course examines the decision-making processes to cope with modern environmental problems. The course focuses on both domestic and international environmental issues with special attention to interests, ideas, and institutions. Part of the Sustainability Issue. Cross-listed with ENS 303. Offered fall and winter semesters. Prerequisite: Junior standing.

### **PLS 304 - Political Parties and Interest Groups (3 credits)**

A theoretical examination of the roles that these two different types of groups play in politics and an empirical examination of what they do and how they do it. Although the primary focus is on the U.S. political system, some comparative material will be presented. Offered winter semester. Prerequisite: PLS 102 or junior standing.

### **PLS 305 - Congress and the Presidency (3 credits)**

An examination of the interrelationships among the modern president, Congress, and the federal bureaucracy, stressing contemporary forces and personalities affecting the relationship. Offered fall semester. Prerequisite: PLS 102 or junior standing.

### **PLS 306 - American Constitutional Law I (3 credits)**

This course examines the constitutional foundations of the power relationship between the federal government and the states, among the three branches of the federal government, and between the government and the individual, with special emphasis given to the role of the Supreme Court in a democratic political system. Offered fall semester. Prerequisite: PLS 102 or junior standing.

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## **PLS 307 - American Constitutional Law II (3 credits)**

Civil liberties and civil rights. Constitutional principles, theories of constitutional interpretation, Supreme Court rulings, political consequences of rulings, and political and legal factors that influence Supreme Court decisions, especially civil rights decisions. Offered winter semester. Prerequisite: PLS 102 or junior standing.

## **PLS 310 - Politics and Health Policy (3 credits)**

Explores contemporary issues in health policy and politics. The course will present the historical context, institutions, participants, and issues that structure health policy. Cross-listed with PNH 310. Offered fall semester. Prerequisite: PLS 102 or PNH 270 or junior standing.

## **PLS 311 - International Conflict and Conflict Resolution (3 credits)**

Analysis of the causes of war and conditions for peace. Topics also include peacekeeping operations and the outcomes and ethics of war. Offered winter semester. Prerequisite: PLS 211 or junior standing.

## **PLS 312 - U.S. Foreign Policy (3 credits)**

Survey of factors and forces that shape the making and implementation of U.S. foreign and defense policy. Emphasis on the perceptions of decision-makers, the impact of the policy-making process on decisions, and actual policies made since World War II. Offered fall and winter semesters. Prerequisite: PLS 102 or PLS 211 or junior standing.

## **PLS 313 - International Organization (3 credits)**

Analysis of the major global and regional institutions that promote order and cooperation in the international system, including the United Nations, World Bank, European Union, and NATO. Explores the theory and practice of government and nongovernment organizations in addressing issues such as poverty, human rights, and the environment. Offered winter semester of even-numbered years. Prerequisite: PLS 211 or junior standing.

## **PLS 314 - International Law (3 credits)**

A study of the general principles of international law with emphasis on the role of law in political and economic relations of nations. Offered winter semester of odd-numbered years. Prerequisite: PLS 211 or junior standing.

## **PLS 315 - International Political Economy (3 credits)**

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Analysis of the politics of international economic relations, with an emphasis on globalization, regional integration, trade, foreign investment, debt, and foreign aid. Offered winter semester. Prerequisite: One of PLS 211, ECO 200, ECO 210, or ECO 211.

## **PLS 316 - Human Rights in International Politics (3 credits)**

An analysis of human rights as an increasingly influential principle in international relations, and the friction between sovereignty and international standards of behavior. Topics covered within class may include the theoretical origins of human rights, international norms, international law, sovereignty, interventionism, particularly viewed through historical and contemporary human rights cases. Cross-listed with HRT 316. Offered fall semester. Prerequisite: PLS 103 or PLS 211 or junior standing.

## **PLS 319 - African Politics (3 credits)**

A study of social and economic forces that shape the political processes in Africa through a combination of individual cases and general themes. Topics include colonization, regional integration, democratic transitions, state collapse and violence, politics of ethnicity, religion, gender and class, civil society, development, and Africa's role in world affairs. Fulfills Cultures - Global Perspectives. Part of the Globalization Issue. Cross-listed with AAA 319. Offered fall semester. Prerequisite: Junior standing.

## **PLS 320 - Comparative Politics of the Middle East (3 credits)**

This course presents a survey of current Middle East comparative politics. Students will be introduced to the most salient political issues in the Middle East. It will focus on examining the region's political institutions, actors, regime types, gender politics, political economy, civil society organizations, and political processes. Offered winter semester.

## **PLS 321 - The European Union (3 credits)**

An examination of politics and policies in the European Union that includes participation in an international political simulation. Students spend three days in Indianapolis in April to take part in the Midwest Model EU. Topics include integration theory, institutional reform, enlargement, and economic, social, environmental, and security policies. Offered winter semester of odd-numbered years. Prerequisite: PLS 221 or permission of instructor.

## **PLS 325 - Human Rights and Democracy in Russia and the Post-Communist World (3 credits)**

A comparative analysis of the intersection of human rights and political regimes in Russia, the former Soviet Union, and post-communist Europe. Emphasis will be placed on the different

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levels of state repression and protections as well as civil, political, social, and economic rights across the broader post-communist region. Offered winter semester. Prerequisite: PLS 103 or junior standing.

### **PLS 327 - Politics of Developing Countries (3 credits)**

An examination of government and political economy in developing countries. Topics include nation and state building, authoritarianism and democratization, and contemporary policy issues, including population growth, urbanization, hunger, and economic structural adjustment. Offered winter semester. Prerequisite: PLS 103 or junior standing.

### **PLS 330 - Religion and Politics in America (3 credits)**

Explores the interaction of politics and religion in the United States. Surveys the political beliefs, behaviors, and organizations within major religious traditions. Other topics include the role of religion in crafting public policy, the politics of church and state, and general theories of religion and public life. Offered winter semester of odd-numbered years. Prerequisite: PLS 102 or junior standing.

### **PLS 333 - Contemporary Political Thought (3 credits)**

An examination of political thought from roughly the beginning of the 20th century to present. Schools of thought under study may include pragmatism, neoconservatism, critical theory, poststructuralism, philosophical hermeneutics, feminism, neoliberalism, and communitarianism. Offered winter semester. Prerequisite: PLS 231 or PLS 232 or junior standing.

### **PLS 334 - Sex, Power, and Politics (3 credits)**

Explores the ways that gender identity and sexual orientation matter politically, intersect with race and class issues, and impact human flourishing. Examines these issues from a philosophical perspective, sets them in historical and contemporary political contexts, and investigates the role public policy and social norms play in the process. Part of the Identity Issue. Cross-listed with WGS 334. Offered winter semester. Prerequisite: Junior standing.

### **PLS 335 - Theory of Human Rights (3 credits)**

Critical examination of theories of human rights, with emphasis on classical ethical and political thought and the development of modern rights theory. Assessment of arguments both supporting and denying human rights, and applications to contemporary issues of slavery and trafficking, torture, genocide, and rights of women and sexual minorities. Cross-listed with HRT 335. Offered winter semester. Prerequisite: PLS 105 or PLS 231 or PLS 232 or HNR 263.

### **PLS 337 - U.S. Political Thought (3 credits)**

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An examination of U.S. political thought from the colonial period to the present. Readings may include Federalist and Antifederalist papers, and works by Thoreau, Emerson, Cady Stanton, Anthony, Calhoun, DuBois, Dewey, Addams, King, and Malcolm X. Special attention is paid to political ideas emerging from the struggles for equal rights for all citizens. Offered fall semester. Prerequisite: Junior standing.

### **PLS 338 - Citizenship (3 credits)**

Citizenship addresses a core political issue, defining membership in a political community. Course studies classic statements about citizenship, the approach to citizenship taken historically in the U.S., a nation of immigrants, and several different contemporary visions of ethically appropriate citizenship. Offered fall and winter semesters. Prerequisite: Junior standing.

### **PLS 339 - Democracy and the Authoritarian Challenge (3 credits)**

Comparative examination of theories of democratization and resilience of authoritarianism. Explores regime definitions, theoretical debates of democracy and dictatorship, factors associated with democratic deepening, and the consequences for human rights protection. Includes contemporary case studies from Africa, East and South Asia, Europe and Eurasia, Latin America, and the Middle East. Part of the Human Rights Issue. Offered fall semester. Prerequisite: Junior standing.

### **PLS 340 - Mass Media and American Politics (3 credits)**

An examination of the role of the mass media in American politics, including the news media as a political institution, the news media as policy makers, media influence on political leaders, and media impact on public opinion. Offered winter semester. Prerequisite: PLS 102 or junior standing.

### **PLS 341 - Elections and Voting Behavior (3 credits)**

An empirical analysis of the electoral systems through which citizens in democracies select leaders and influence public policy and factors that influence how and whether people vote; considers major recent changes in the United States' electoral system and alternatives to it. Offered winter semester. Prerequisites: PLS 102, STA 215, and PLS 300.

### **PLS 350 - Comparative Public Opinion (3 credits)**

This course examines the methodology and application of international survey research in the comparative analysis of public opinion. The primary emphasis is the comparison of mass politics in the United States of America to other advanced industrial democracies. Subjects studied

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include electoral behavior, civic involvement, political attitudes, and ideologies. Offered fall and winter semesters. Prerequisites: STA 215 and PLS 300; or permission of the instructor.

### **PLS 380 - Special Topics in Political Science (3 credits)**

The study of special and interesting problems, domestic and/or international, will be scheduled from time to time. Offered on sufficient demand.

### **PLS 399 - Readings in Political Science (1 to 3 credits)**

Independent advanced readings on selected topics. Offered fall and winter semesters. Prerequisites: Previous coursework in the area of interest and permission of the instructor supervising the reading. A maximum of six credits in PLS 399 and PLS 499 and no more than nine credits in PLS 399, PLS 499, and PLS 490 may be taken. Graded credit/no-credit.

### **PLS 490 - Internship (2 to 6 credits)**

Supervised field experience with a legislative office, executive agency, political campaign organization, interest group, lobbying organization, legal office, or international organization. The purpose is to allow the student to apply academic knowledge to a work experience. Offered every semester. Prerequisites: Junior standing and permission of sponsoring instructor. A maximum of six credits in PLS 490 and no more than nine credits in PLS 399, PLS 499, and PLS 490 may be taken. Graded credit/no-credit.

### **PLS 495 - Seminar in the Study of Politics (Capstone) (3 credits)**

Review of the political science discipline; consideration of special problems in the study of politics (subject to be announced at least one term in advance). Research paper, readings, and discussions. Offered fall and winter semesters. Prerequisites: Senior standing in political science.

### **PLS 499 - Independent Research (2 to 6 credits)**

Supervised individual research in an area of interest to the student which culminates in a research paper and oral report. Offered fall and winter semesters. Prerequisites: Junior standing and permission of the instructor supervising the research. A maximum of six credits in PLS 399 and PLS 499 and no more than nine credits in PLS 399, PLS 499, and PLS 490 may be taken. Graded credit/no-credit.

### **PNH 150 - Careers in the Nonprofit Sector (1 credit)**

The purpose of this course is to introduce students to careers that are available in the nonprofit sector, with an emphasis on the management and administrative positions that are available.

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Specific areas of interest include careers in fundraising, program management, and volunteer management. Graded credit/no-credit. Offered fall and winter semesters.

### **PNH 151 - Careers in the Public Sector (1 credit)**

The purpose of this course is to introduce students to careers that are available in the public sector at the local, state, or federal level. Students will learn about the skills needed for successful careers in government, public policy or advocacy. Graded credit/no-credit. Offered fall and winter semesters.

### **PNH 152 - Careers in Health Administration (1 credit)**

This course will introduce students to careers that are available in healthcare administration. Students will learn about the exceptional career opportunities available in health administration, hospital leadership, and health care management, in both the private and public sector, including the skills necessary to secure and maintain these positions. Graded credit/no-credit. Offered fall and winter semesters.

### **PNH 209 - Introduction to Urban and Regional Planning (3 credits)**

An introductory course for people interested in careers in planning and public administration. The course explores the relationship between the goals of a community and the techniques needed to implement long term and sustainable strategies. Cross-listed with GPY 209. Offered fall semester.

### **PNH 220 - Organizing to Make a Difference (3 credits)**

The purpose of this course is to provide an introduction to community organizing, outreach and advocacy; specifically, the knowledge, skill and value base underpinning community organizing, planning, development and change. It will emphasize the myriad roles, goals, and strategies in effecting social change in the public and nonprofit sectors. Offered fall and winter semesters.

### **PNH 270 - Public and Nonprofit Administration (3 credits)**

A survey of what is involved in the administration of public and nonprofit entities. How to hire, evaluate, and reward the right people, developing and carrying out public policies, preparing and interpreting budgets, dealing with various pressure groups and governmental agencies, and organizing human resources to carry out the public's business honestly and effectively. Several case studies will be used. Fulfills one of the Foundations - Social and Behavioral Sciences. Offered every semester.

### **PNH 300 - Research Methods (3 credits)**

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This course involves an examination of basic investigatory methods in public administration. Focus is on logic, theory, and ethics of research; the formulation and testing of hypotheses; research designs and sampling procedures; data collection and analysis; and the communication of findings. Prerequisites: STA 215, junior standing, and PA major.

### **PNH 307 - Local Politics and Administration (3 credits)**

Comparative study of government systems, rural and urban. Students specialize in their own governments. Offered every semester.

### **PNH 310 - Politics and Health Policy (3 credits)**

Explores contemporary issues in health policy and politics. The course will present the historical context, institutions, participants, and issues that structure health policy. Cross-listed with PLS 310. Offered fall semester. Prerequisite: PLS 102 or PNH 270 or junior standing.

### **PNH 313 - Land Use Planning (3 credits)**

This course deals with the fundamental concepts, principles, strategies, and tools of city and regional land use planning. The focus is on the real-world and sustainable land use planning process and implementation. Cross-listed with GPY 310. Offered every semester.

### **PNH 324 - Urbanization (3 credits)**

Examines the process of urbanization, its impact on various cultures, and its long-term sustainability. Considers the rapid urbanization in the developing countries and the dynamic growth of global urban systems, emphasizing the evolution of cities over time, space, and vastly different social, political, and cultural environments. Fulfills Cultures - Global Perspectives. Part of the Sustainability Issue. Cross-listed with GPY 324. Offered fall semester. Prerequisite: Junior standing.

### **PNH 330 - Health Care Financing (3 credits)**

Explores the complexity of the financing of health care in the U.S. with emphasis on its impact on the delivery of services. Offered winter semester.

### **PNH 335 - Grant Writing (3 credits)**

Provides instruction in writing grants, evaluating grant proposals, and in researching and cultivating funding sources. Students will gain an understanding of the link between organizational mission and program development by preparing a full proposal to meet a real-life community need. Offered fall semester.

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## **PNH 360 - Voluntarism and the Nonprofit Sector (3 credits)**

A survey of voluntarism and the nonprofit sector in America. Historical development, policy questions, funding issues and trends of major subsectors (religion, education, health, social services, the arts) are examined. The sector's interdependence with government and business and its basis in philanthropy and democracy are interwoven throughout the topics. Offered fall and winter semesters.

## **PNH 370 - Human Dynamics of Nonprofit Organizations (3 credits)**

This course is designed to provide students with an understanding of the important roles that staff, board members and volunteers play in successful nonprofit organizations. Topics covered in the course include: nonprofit personnel management; board organization and governance; and volunteer motivation and management. Offered every semester. Prerequisites: PNH 360 and PNH 376.

## **PNH 372 - International and Comparative Administration (3 credits)**

An examination of administrative structures in selected countries; the relationship of administrative structures to political, economic, and cultural systems; comparative administration and developmental models. Case studies from the U.S., Europe, Latin America, and Asia may be used. Offered on sufficient demand. Part of the Globalization Issue. Prerequisite: Junior standing.

## **PNH 374 - Fundraising and Financial Management for Nonprofit Organizations (3 credits)**

This course is designed to provide students with an understanding of the important roles that resource development and financial management play in the success of a nonprofit organization. Key topics include: securing contributed revenue; special events fundraising; grant writing and grants management; financial reporting; evaluating financial performance; and budgeting. Offered every semester. Prerequisite: PNH 360.

## **PNH 375 - Public Budgeting and Finance Administration (3 credits)**

The content, tools, and techniques of budgeting from the perspectives of the manager, legislator, and citizen. A survey of revenue raising methods and administration. Applicable to public jurisdictions and nonprofit agencies of all sizes. Includes accounting principles essential to public management. Offered fall and winter semesters.

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## **PNH 376 - Public Personnel Policy and Administration (3 credits)**

Managing the human resources of government and nonprofit agencies. An examination of public personnel functions (recruitment, training, employee relations, remuneration, conduct, and organization) and special issues such as collective bargaining and equal opportunity employment. Offered fall and winter semesters.

## **PNH 380 - Special Topics in Public and Nonprofit Administration (1 to 3 credits)**

Consideration of selected topics not ordinarily dealt with in other courses. Topics to be determined by faculty interest and student request. Offered on sufficient demand.

## **PNH 390 - Leadership Dynamics (3 credits)**

Examines and applies leadership issues, concepts, and situations that are evident in various community and public or nonprofit organizational contexts. Offered once a year.

## **PNH 395 - Emergency Management (3 credits)**

Students develop crisis/emergency management and preparedness skills for themselves, for disaster volunteers, for workplaces, and for government agencies. Students study a comprehensive approach to emergency planning, response, and recovery, with roles for federal, state, and local governments, nonprofit agencies, and private sector organizations. Offered winter semester.

## **PNH 399 - Independent Readings in Public Administration (1 to 3 credits)**

Independent, supervised readings on selected topics that are not dealt with in-depth in another course. Offered every semester. Graded credit/no-credit. Prerequisite: Permit only.

## **PNH 420 - Organization Theory and Dynamics (3 credits)**

An exploration of the various theories that inform the structures of organizations and the resulting dynamics of accommodation, direction, control, permission, and ethical dilemmas that are set in place within and between the public structures of our society. Offered fall and winter semesters.

## **PNH 449 - Policy Research and Evaluation (3 credits)**

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This course uses a policy studies framework to examine systematically the nature, causes, and effects of alternative public policies, with an emphasis on implementation. Offered fall and winter semesters. Prerequisite: Senior standing or permission of instructor.

## **PNH 480 - Special Topics in Public Administration (1 to 9 credits)**

Consideration of selected topics not ordinarily dealt with in other courses. Topics to be determined by faculty interest and student request. Offered on sufficient demand.

## **PNH 490 - Public Administration Internship (3 credits)**

Supervised internship in a local or state agency, program, or legislative body. The purpose of the internship is to allow the student to apply academic knowledge of professional skills to a work situation. Offered every semester. Graded credit/no-credit. Prerequisite: Permit only.

## **PNH 491 - Public Administration Internship II (3 credits)**

A second internship, to be taken concurrently with PNH 490 when field experience warrants it, or may be taken after PNH 490 by those taking an additional fieldwork experience. Offered every semester. Graded credit/no-credit. Prerequisite: Permit only.

## **PNH 495 - Community Analysis (Capstone) (3 credits)**

Basic analytical concepts, including group dynamic skills, housing and land use surveys, historic district analysis, and neighborhood identification. Offered every semester. Prerequisite: Senior standing.

## **PNH 499 - Independent Study and Research in Public Administration (1 to 3 credits)**

Independent research in the student's area of interest, supervised by public administration faculty and culminating in a written and oral report. Offered every semester. Graded credit/no-credit. Prerequisite: Permit only.

## **PNH 520 - Foundations of Public Service (3 credits)**

This course includes a history of ideas about public service; a definition and analysis of the governmental sector, the nonprofit sector, and their intersection; a study of classic and contemporary debates within the public service field; and an examination of how public-serving organizations adapt to changing environments. Offered fall and winter semesters.

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## **PNH 535 - Grant Writing (3 credits)**

Instruction in finding grant sources, writing grants, developing grant budgets and evaluating grant proposals. As part of this course, students will be expected to write and submit at least one actual grant proposal. Offered once a year.

## **PNH 550 - Public Administration Workshop (.5 to 3 credits)**

Advanced-level workshop directed toward public sector professionals focusing on specific public sector problems and policies. Format and scheduling are flexible and may include weekend sessions. Topics will vary and prerequisites may be established. Offered on sufficient demand. Graded credit/no-credit.

## **PNH 551 - Public Administration Workshop (1 to 3 credits)**

Advanced-level workshop directed toward public sector professionals focusing on specific public sector problems and policies. Format and scheduling are flexible and may include weekend sessions. Topics will vary and prerequisites may be established. Offered on sufficient demand. Graded credit/no-credit. Prerequisite: Admission to the M.P.A. program or permit.

## **PNH 554 - Philanthropic Topics, Trends, and Thought Leaders Workshop (.5 to 3 credits)**

These workshops provide students with timely, interesting, and diverse content that complements learning in their graduate courses and exposes them with the topics, trends and thought leadership currently engaging the Johnson Center for Philanthropy. Through the workshops, students have the opportunity to interact with both local and visiting practitioners and thought leaders. Offered fall and winter semesters. Prerequisite: Admission to a graduate program or as a nondegree-seeking graduate student.

## **PNH 611 - Research Methods (3 credits)**

An advanced survey of the most important and frequently used methods and techniques of research and analysis used by administrators and planners. Course also will familiarize students with the use of computers for such research and analysis. Emphasizes the application of research and analysis in public administration. Offered every semester. Prerequisite: PNH 520 or PNH 630 or PNH 660 (may be taken concurrently).

## **PNH 612 - Human Resources in Organizations (3 credits)**

A survey of policies and issues in human resource management in public, nonprofit, and healthcare contexts, including volunteer management. The focus is on values, behavior, ethics, and human interactions in organizations. Offered spring/summer and winter semesters.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Prerequisite: Admission to a master's program in the School of Public, Nonprofit, and Health Administration.

### **PNH 614 - Organization Theory (3 credits)**

Explores the various theories of organizations. Focus is on the process of structural development and the impact each structure has on individuals and groups. Offered fall and winter semesters. Prerequisite: PNH 520 or PNH 630 or PNH 660 (may be taken concurrently).

### **PNH 615 - Public Financial Administration (3 credits)**

Practices and problems of public fiscal management with special attention to budgetary concepts and analytical techniques: the budget as an instrument of planning and control; organizing to ensure fiscal accountability; the public economy; financial decision-making; planning, programming, and budgeting systems; and allocation of scarce government resources in government and nonprofit agencies and programs. Offered fall semester. Prerequisite: PNH 520 or PNH 630 (may be taken concurrently).

### **PNH 616 - Public Policy Analysis (3 credits)**

An exploration of theories advanced to explain policy formation; examination of how needs are identified, communicated to policy makers, evaluated and converted into formal policy, and implemented by administrative actions. Emphasis is on policy analysis in the public sector. Offered winter semester. Prerequisites: PNH 520 or PNH 630; and PNH 611.

### **PNH 619 - Public Management Seminar (3 credits)**

Examines the structure and dynamics of organizations; problems of financing, staffing, and program implementation; administrative reform and reorganization; qualitative and quantitative methods for managerial decision-making; goal-directed processes and effective planning. Uses a case study approach emphasizing management problems. Offered fall and winter semesters. Prerequisite: Completion of 30 credit hours in M.P.A. or M.H.A. program.

### **PNH 620 - Metropolitan Politics and Administration (3 credits)**

Examines theories and practice of metropolitan politics and administration, including studies of intergovernmental relations, suburbia and the multicentered metropolis, economic development and managing metropolitan services. Structures of politics and power, both formal and informal, are investigated. Offered spring/summer and fall semesters. Prerequisite: PNH 520 (may be taken concurrently).

### **PNH 621 - Administrative and Regulatory Law (3 credits)**

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An intensive study of administrative and regulatory law as it relates to the public sector. Requirements for, and limits on, the exercise of power by elected and appointed official and liability of public managers are covered. Offered fall semester. Prerequisite: PNH 520 or PNH 630 (may be taken concurrently).

### **PNH 630 - Health Administration and Service (3 credits)**

Overview of the current management, organization, and delivery of U.S. health care. Current management and organization theories are compared in relation to the health care system. Major system components are defined and studied. Included are discussions of staffing, dealing with internal and external constituencies, and identification of hospital types. Offered every other year.

### **PNH 631 - U.S. Health Policy and Politics (3 credits)**

Examines public policy-making in the health care sector since 1900. Emphasizes policy, the process of government regulation, and the character of health settings at the federal, state, and local levels with attention to the constitutional foundations, legislative policies, and bureaucratic implementation features of the system in a political context. Offered fall semester. Prerequisite: PNH 520 or PNH 630 (may be taken concurrently).

### **PNH 632 - Health Services Financial Management (3 credits)**

Provides detailed understanding of the health services financial framework for decision-making. Microcomputer applications that serve to facilitate operational and financial planning and analysis, third party reimbursement, regulation, cost containment, rate settings, operating budgets, capital budgets, project budgeting, cash budgeting, and financial feasibility. Offered winter semester. Prerequisite: PNH 611.

### **PNH 633 - Health Economics (3 credits)**

Examines the principles and application of economic analysis in the health industry. Provides insights offered by economic analysis of relevant data specific to health issues and problems such as failures of the market system, large gaps in access, cost containment, regulation, and extensive growth of private insurance and government programs. Cross-listed with ECO 643. Offered winter semester. Prerequisite: PNH 520 or PNH 630 (may be taken concurrently).

### **PNH 634 - Health Care Law and Ethics (3 credits)**

Examines current and historical legal and ethical issues impacting health administration, including malpractice and other liability issues, licensing and regulation, professional ethics, contracts and property, insurance, corporate, taxation, anti-trust, fraud and abuse, medical staff, confidentiality, health care access, peer review, ethics committees, legal and ethical aspects of

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patient care decision-making and consent. Offered winter semester. Prerequisite: PNH 520 or PNH 630 (may be taken concurrently).

### **PNH 635 - Hospital Organization and Management (3 credits)**

Discussions of various types of hospitals. Study of their organization and management, including clinical, support and administrative functions, analysis of special operational problems, and administrative ethics. Requirements of the Joint Commission of Accreditation of Hospitals and other accrediting agencies are emphasized. Offered on sufficient demand. Prerequisite: PNH 520 or PNH 630 (may be taken concurrently).

### **PNH 636 - Health Care Quality Improvement (3 credits)**

This course focuses on methods and tools used to manage quality in a variety of health care settings, including hospitals, clinics, physician practices, managed care, and long-term care. It addresses developments in health care quality assurance and improvement, data sources and analysis tools, staffing and management, accreditation, and public relations. Offered winter semester. Prerequisites: PNH 611, PNH 612, PNH 630, and PNH 631.

### **PNH 637 - Healthcare Practice Management (3 credits)**

In this course students will gain a comprehensive understanding of the complexities of healthcare practice management. Study of their organization and management, including clinical, support and administrative functions, analysis of special operational problems, and administrative ethics. Requirements of accrediting agencies are emphasized. Offered fall semester. Prerequisite: PNH 520 or PNH 630 (may be taken concurrently).

### **PNH 638 - Continuing Care Organization and Management (3 credits)**

Overview of organization and management of continuing care organizations, including community-based, home health, adult daycare, hospices, mental health, and residential care options like senior living, assisted living, and skilled nursing facilities. Examines management and funding of institutional and noninstitutional settings serving the chronically, terminally, or mentally ill, or disabled elderly. Offered winter semester. Prerequisite: PNH 520 or PNH 630 (may be taken concurrently).

### **PNH 639 - Community Benefits Assessment and Management (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Covers community assessment, program planning, and program management techniques with an emphasis on health. Community relations and coordination will be addressed. Prepares students for IRS, grant planning, and reporting. Course offered fall semester. Prerequisite: PNH 611 (for M.H.A. and M.P.N.L. students) or STA 610 (for M.P.H. students).

### **PNH 640 - Marketing Health and Human Services (3 credits)**

Explores and applies marketing and public relations concepts to a variety of health and human service functions. Included are the integration of marketing and public relations planning and programs in organizations. Focuses on social and ethical issues of promoting wellness and health care, as well as communication with the community and media. Offered on sufficient demand. Prerequisite: PNH 520 or PNH 630 or PNH 660 (may be taken concurrently).

### **PNH 641 - Economic and Community Development (3 credits)**

Describes and evaluates ways to coordinate the efforts of public agencies, private businesses, and nonprofit organizations to address planning, economic development, and employment issues more comprehensively. Included in this analysis are public and private programs basic to economic development, state and federal enabling legislation and regulations, and local ordinance and public/private partnership alternatives. Offered winter semester. Prerequisite: PNH 520 or PNH 630 (may be taken concurrently).

### **PNH 642 - Conflict Management (3 credits)**

Provides an overview of theories of social conflict. Develops an understanding of the conceptual issues involving conflict and conflict management on many levels in diverse settings. Introduces specific dispute resolution skills such as negotiation and mediation. Offered on sufficient demand. Prerequisite: Admission to the M.P.A. or M.H.A. program.

### **PNH 643 - Strategic Management and Planning (3 credits)**

Planning as a decision-making process, methods for defining goals in public and private planning programs, role of planning in policy formulation, planning for human environment relationships. Offered fall and winter semesters. Prerequisite: PNH 520 or PNH 630 or PNH 660 (may be taken concurrently).

### **PNH 644 - GIS in the Public Service (3 credits)**

Examines the management and application of geographic information systems (GIS) in the public and nonprofit sectors. Lectures and readings emphasize the organizational, managerial, and ethical issues of interagency/intergovernmental GIS projects. Hands-on lab instruction

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provides training in desktop GIS software. Offered fall semester. Prerequisite: Admission to the M.P.A. or M.H.A. program.

### **PNH 645 - Opportunities in Aging Societies (3 credits)**

Analyses of population aging, the longevity revolution, and their impacts on individuals, families, organizations, communities and society. Critical evaluation of theories and controversies of aging, together with practices to address aging realities. Uses strength-based approaches. Attention given to key social and health policies and programs for older adults and their families. Cross-listed with SW 665. Offered fall semester.

### **PNH 646 - Managerial Epidemiology for Health Administrators (3 credits)**

This course provides future health administrators with a firm grounding in the history and purpose of public health, population health, and the extensive variety of programming for improving population health. It also provides a grounding in managerial epidemiology. Offered fall semester.

### **PNH 650 - Health Administration, Services, and Policy (3 credits)**

This is an overview of current U.S. health care organizational leadership, types, and trends including comparison of current management, organization theories, and global health systems. Health care public policy making is analyzed and described emphasizing the historical, philosophical, and political aspects of public policy including policy development, analysis, and constituent advocacy. Offered fall semester. Prerequisite: Admission into the Master of Public Health.

### **PNH 660 - Philanthropy and the Nonprofit Sector: History and Ethics (3 credits)**

A comprehensive survey of philanthropic traditions and practices in the nonprofit sector, its history, philosophy, character, governance, and legal status. Emphasis on the role and tradition of philanthropy and voluntarism in America and on the special fundraising, resource development, and ethical practices of the sector. Prerequisite: Admission to the M.P.A., M.H.A., or M.P.N.L. programs.

### **PNH 661 - Nonprofit Management: Practices (3 credits)**

Explores the assumptions and practice of nonprofit organization management. Examines how these issues differ in different types of nonprofits. Topics include issues of public accountability,

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ethics, evaluating organizational effectiveness, personnel motivation, board and staff relationships, volunteers, and the meaning of service. Offered winter semester. Prerequisites: PNH 660 and (PNH 520 or PNH 630).

## **PNH 662 - Nonprofit Financial Management (3 credits)**

This course will examine nonprofit finance and accounting from the management perspective. Topics include financial policies and internal controls, financial statement presentation and analysis, audit and tax reporting, and budgeting. Offered winter semester. Prerequisite: PNH 520 or PNH 660.

## **PNH 663 - Nonprofit Organizations, Advocacy and Public Policy (3 credits)**

An introduction to the public policy making process as it applies to nonprofit organizations. Explores how nonprofit organizations both shape and are shaped by public policy. Focus is on the intersection of nonprofit and government actions and services. Offered fall semester. Prerequisites: PNH 660 and either PNH 520 or PNH 630.

## **PNH 664 - Program Evaluation (3 credits)**

Program evaluation is an important component of management and quality improvement. This course draws from the leading scholars in evaluation to establish a foundation of knowledge in program evaluation and evaluation capacity building. Offered fall semester. Prerequisites: PNH 611 and PNH 614.

## **PNH 665 - Nonprofit and Foundation Boards, Trustees and Governance (3 credits)**

Examines perspectives on, models for, and functions of board governance and the way governance and management are intertwined in the operation and leadership of foundations and nonprofit organizations. Explores specific functions of trustees within their legal, ethical, and fiduciary obligations. Offered every other year. Prerequisites: PNH 520 and PNH 660 or PNH 630 (may be taken concurrently).

## **PNH 666 - Foundations and Strategic Grantmaking (3 credits)**

This course explores the implementation of strategic grantmaking and the application of theories of change by charitable foundations, nonprofit organizations, and governments as they aim to achieve measurable community impacts. Through field journal readings, case studies, and visiting practitioner presentations, students will gain practical knowledge in the evaluation of

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grant applications, the role of foundation program officers, and the effective execution of grantmaking strategies. Offered winter semester. Prerequisites: PNH 660 and PNH 667.

### **PNH 667 - Fund Development (3 credits)**

This course will examine fund development in theory, process, and implementation within nonprofit organizations. The course is designed and taught primarily from the development manager's perspective; however, the course will also briefly cover development from the grantmaking perspective. Offered fall and winter semesters. Prerequisites: PNH 660 and PNH 661 (PNH 661 may be taken concurrently).

### **PNH 669 - Leadership Capstone (3 credits)**

Leadership has many meanings and many different theories. This class will explore the concept of leadership in a theoretical and practical sense. We will challenge typical assumptions of leadership and explore leadership theories and practice in nonprofit organizational settings. Offered fall and winter semesters. Prerequisites: PNH 660 and PNH 661. Must complete 30 credits in the M.P.N.L. before enrolling in this course.

### **PNH 670 - International NGO Management (3 credits)**

Theory and cases in international nongovernmental organizations (INGO) management. Analysis of various types and various roles played by INGOs. Relationship between INGOs and other actors in international development such as multilateral and bilateral donors, host governments, local NGOs, and local communities. Resource generation and management. Assessment and improvement of INGO performance. Offered winter and spring/summer semesters. Prerequisite: PNH 520 or with permission.

### **PNH 671 - Building Sustainable Communities (3 credits)**

Provides an overview of ecological, energy, climatic, and consumption issues impacting local communities. Through a multidisciplinary approach, students study the relationship among society, organizations, and the natural environment. Students examine how local governments and nonprofit organizations develop sustainable built landscapes, educate about sustainable best practices, and foster green economic development. Offered fall semester. Prerequisite: Admission to the sustainability certificate or M.P.A. programs.

### **PNH 674 - Health Advocacy and Built Environment in Public Administration (3 credits)**

This course explores the relationship between advocacy and the built environment and its influence on community health in the fields of public health and urban planning. This course will examine such issues as theories and concepts of behavior and design, health disparities, social

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capital, physical activity, transportation, and food systems. Offered winter semester. Prerequisite: Admission to the M.P.H. program or PNH 520 or PNH 630.

### **PNH 680 - Special Topics in Public and Nonprofit Administration (1 to 3 credits)**

A seminar for the study of important topics not ordinarily covered in other courses. Course may be taken more than once when the topic is different. Offered on sufficient demand. Prerequisite: Admission to the M.P.A. or M.H.A. program.

### **PNH 690 - Public Administration Internship I (3 credits)**

Open to preservice students and those without public service employment experiences. Students will be given the opportunity to test and apply classroom knowledge to an actual professional position in a public agency or nonprofit organization. Offered every semester. Graded credit/no-credit. Prerequisite: Admission to the M.P.A. or M.H.A. program and permit.

### **PNH 691 - Public Administration Internship II (3 credits)**

A second internship. May be taken concurrently with PNH 690 when field experience warrants it, or may be taken after PNH 690 by those taking an additional fieldwork experience. Offered every semester. Graded credit/no-credit. Prerequisites: PNH 690 and permit.

### **PNH 693 - Research Project (3 or 6 credits)**

Course requires preparation of an extensive research and writing assignment under faculty supervision. Offered on sufficient demand. Graded credit/no-credit. Prerequisites: Faculty approval of research proposal and completion of the Responsible Conduct of Research Training within the last three years.

### **PNH 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

### **PNH 699 - Directed Readings (3 credits)**

A research or reading project, program proposal, or other approved activity that builds in the student's area of specialization. Offered fall and winter semesters. Graded credit/no-credit. Prerequisite: Permission of advisor.

### **POL 101 - Elementary Polish I (4 credits)**

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An introduction to the language with emphasis on listening, speaking, reading, and writing. Complementary taped material available in the language laboratory. Not for credit for students with prior college Polish or more than two semesters of high school Polish. Offered fall semester.

## **POL 102 - Elementary Polish II (4 credits)**

Continuation of POL 101 with emphasis on listening, speaking, reading, and writing. Complementary taped material is available in the language lab. Offered winter semester. Prerequisite: POL 101 with C (not C-) or better, or permission of instructor.

## **POL 180 - Special Topics in Polish (1 to 4 credits)**

Readings, lectures, and/or discussions in special topics not normally covered by other courses in the program.

## **POL 201 - Intermediate Polish I (4 credits)**

Continuation of POL 102. Continued study of grammar and vocabulary. Special emphasis on oral and reading practice based on literary texts; review of grammar supplemented with taped materials in the language laboratory. Conducted almost exclusively in Polish, with extensive use of authentic materials: literature, newspapers, videos, tapes, and the Internet. Offered fall semester. Prerequisite: POL 102 with C (not C-) or better, or permission of instructor.

## **POL 202 - Intermediate Polish II (4 credits)**

Continuation of POL 201. The course enhances students' competency in the Polish language (listening, speaking, reading, and writing) and culture skills, with an emphasis on real-life communication. Conducted almost exclusively in Polish, with extensive use of authentic materials: literature, newspapers, videos, tapes, and the Internet. Fulfills Cultures - Global Perspectives. Prerequisite: POL 201 with C (not C-) or better, or permission of instructor.

## **POL 380 - Special Topics in Polish (1 to 6 credits)**

Course content varies. Refer to schedule of classes to determine course description and prerequisites. Students may repeat this course under different topics.

## **PSM 650 - Ethics and Professionalism in Applied Science (3 credits)**

Ethical and professional issues and problems facing practicing scientists. Emphasizes the role of scientists in public and private sectors, their responsibilities, and emerging ethical and

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professional issues. Offered every semester. Prerequisite: Admission to a professional science master's (PSM) program.

## **PSM 662 - Seminar in Professional Science Practice (2 credits)**

A seminar course designed to broaden the student's professional foundation in the practice of applied sciences following industry "best practices." Project management practice; intellectual property and proprietary issues; industrial policies and procedures; and governmental regulatory issues are examined. Focus on team building, networking, and communication and presentation skills. Offered fall and spring/summer semesters. Prerequisites: Admission to one of the four PSM M.S. programs: M.S. in cell and molecular biology-biotechnology emphasis; M.S. in biostatistics; M.S. in health informatics and bioinformatics; or M.S. in data science and analytics.

## **PSM 691 - Internship (1 to 9 credits)**

Full-time or part-time, on-the-job work performed at a sponsoring entity while under the supervision of an approved mentor in an area related to applied sciences. Offered every semester. Prerequisites: Satisfactory completion of PSM common course requirements and completion or enrollment in PSM 662.

## **PSM 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

## **PSY 101 - Introductory Psychology (3 credits)**

General survey of psychology, the scientific study of behavior and experience, including overt actions and mental activity. Covers how psychologists think and act as scientists and how the study of its subject matter may be integrated at the biological, psychological, and social levels of analysis. Fulfills one of the Foundations - Social and Behavioral Sciences. Offered every academic year.

## **PSY 300 - Research Methods in Psychology (3 credits)**

Examination of basic research methods in psychology. Emphasis on the logic of psychological research, the formulation and testing of hypotheses, research design, sampling procedures, data collection and analysis, and the ethics of conducting research. Offered every academic year. Prerequisites: PSY 101 and (STA 215 or STA 312).

## **PSY 301 - Child Development (3 credits)**

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Explores the development of the child from conception to adolescence in the home, school, and society. Interactions among physical, cognitive, personality, and social developments are considered. Practical implications for child development of theories and research on these topics will be emphasized. Field observation required. Offered every academic year. Prerequisite: PSY 101.

### **PSY 303 - Psychopathology (3 credits)**

The study of a wide range of psychological disorders that affect people, especially adults. The detailed analysis of the symptoms, effects, etiology, and treatments of selective psychological disorders. Offered every academic year. Prerequisite: PSY 101.

### **PSY 304 - The Psychology and Education of the Exceptional Child (3 credits)**

Study of exceptional children and their problems. Emphasis on understanding the nature and extent of problems of various types of exceptionalities and on possible ways of dealing with them. Offered every academic year. Prerequisites: PSY 101 and (PSY 301 or PSY 364).

### **PSY 305 - Infant and Early Childhood Development (3 credits)**

Examines the development of the child from conception through age five. Theories and research in the areas of biological, perceptual, physical, cognitive, social, and emotional development, as well as their interrelationships, will be presented and discussed. Field observation required. Offered every academic year. Prerequisite: PSY 101.

### **PSY 310 - Behavior Modification (3 credits)**

Study of the application of learning principles, techniques, and procedures to the understanding and treatment of human psychological problems in a wide range of settings. Offered every academic year. Prerequisite: PSY 101.

### **PSY 311 - Controversial Issues in Psychology (3 credits)**

Develops the skills of critical thinking (analyzing the arguments of other people and forming one's own reasoned judgments) about controversial issues. Skills are applied to selected psychological issues, such as "Is intelligence inherited?" and "Can suicide be rational?" Offered every academic year.

### **PSY 315 - Psychology of Sex Differences (3 credits)**

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A critical examination of the psychological research regarding purported mental, emotional, and behavioral differences between women and men, theories of the development of gender identity, and the etiology of differences. Issues discussed will include the construction of difference and the cultural and ideological uses of the rhetorics of difference. Cross-listed with WGS 315. Offered every academic year.

## **PSY 316 - The Psychology of Human Intimacy and Sexuality (3 credits)**

A comparative analysis of sexual practices, reproductive strategies, and intimate relationships using competing viewpoints (e.g., cultural psychology and evolutionary psychology). Topics may include comparing dating and cohabiting; married and gay and lesbian couples; factors in relationship stability and divorce; and the social control of sexuality and reproduction. Cross-listed with WGS 316. Offered every academic year. Prerequisite: PSY 101.

## **PSY 324 - Developmental Psychopathology (3 credits)**

Examination of a wide range of childhood and adolescent disorders using developmental theory and research to inform issues related to classification, assessment, and intervention. Explores the biological basis of behavior and the role of broader systems (e.g., family, school, community) in the development and alleviation of psychopathology. Offered every academic year. Prerequisites: PSY 101 and (PSY 301 or PSY 364).

## **PSY 325 - Educational Psychology (3 credits)**

Study of psychological principles applied to classroom instruction, including development, nature and conditions of learning, motivation, individual differences, home and school adjustment, evaluation, and test construction. Offered every academic year. Prerequisite: PSY 101.

## **PSY 326 - Intellectual/Developmental Disabilities (3 credits)**

An overview of historical perspectives, current practices, and lifespan issues for individuals with intellectual and developmental disabilities. The course covers diagnostic and assessment practices, etiology, and prevention and intervention strategies. Offered every academic year. Prerequisites: PSY 101 and (PSY 301 or PSY 364).

## **PSY 330 - Foundations of Behavioral Neuroscience (3 credits)**

This course provides an introduction to behavioral neuroscience, the scientific study of the interaction between biological processes and behavior. Topics covered include the basic structure of the nervous system, research methods in behavioral neuroscience, psychopharmacology,

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neural mechanisms involved in sensory and perceptual processes, and psychiatric disorders. Offered every academic year. Prerequisite: PSY 101.

### **PSY 331 - Adolescent Development (3 credits)**

Adolescence seen as a developmental stage; an examination of the complexities of the adolescent experience, the development of identity, intellect, and relationships with the adult world. An examination of historical and cultural variables as well as consideration of problem behaviors. Offered every academic year. Prerequisite: PSY 101.

### **PSY 349 - Psychology Applied to Media (3 credits)**

Focuses on two major content areas in the analysis of media: 1) study of the ways in which humans receive and interpret visual and auditory information (an understanding of perception will be emphasized in projects and analyses of media materials and 2) study of communication theory in media as it relates to persuasion, attitude, and opinion change. Offered every academic year.

### **PSY 350 - Psychology Research and Data Applications (3 credits)**

Examination and application of data analysis techniques used in the psychological sciences. Emphasis on interpretation of published research, best practices in analyzing data from correlational and experimental designs, assessing reliability and validity quantitatively, probability theory, statistical significance, effect sizes, and exposure to statistical software. Offered every semester. Prerequisites: PSY 101, STA 215, PSY 300 (PSY 300 may be taken concurrently).

### **PSY 355 - Psychology and Culture (3 credits)**

Exploration of the interaction between ecological and cultural variables and psychological processes. Topics include cultural influences on perception and cognition, personality, cognitive and social development, social relations, interpersonal and intergroup behavior, and psychopathology. Fulfills Cultures - Global Perspectives. Offered every academic year. Prerequisite: PSY 101.

### **PSY 357 - Psychology of Language (3 credits)**

Psychology of language is a discipline that focuses on psychology's insights into human language. Topics include biological bases of language; human language and other communication systems; lexical, sentence, and discourse processing; speech production and perception; acquisition of spoken and written language; bilingualism; and the relationship between language and thought. Offered every academic year. Prerequisite: PSY 101.

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## **PSY 360 - Social Psychology: Psychology's View (3 credits)**

Relation of the individual to the social environment with emphasis on personality development and role behavior. Analysis of interpersonal behavior with reference to problems of conformity and influence. Offered every academic year. Prerequisite: PSY 101.

## **PSY 361 - Perception (3 credits)**

Study of how humans organize and interpret stimulation arising from objects in the environment. Review of theory, methodology, and research findings will be emphasized. Offered every academic year. Prerequisite: PSY 101.

## **PSY 362 - Environmental Psychology (3 credits)**

Study of the relationships between the physical environment, natural and human-made, and the behavior of human beings. The course focuses on the perceptual, cognitive, and motivational aspects of the human-environmental interaction. Offered occasionally.

## **PSY 364 - Life Span Developmental Psychology (3 credits)**

A survey of theories and research on human development from conception through death. Physical, perceptual, cognitive, personality, social, and emotional changes are reviewed and their interrelationships are discussed. Does not satisfy the requirements for teacher certification. Offered every academic year. Prerequisite: PSY 101.

## **PSY 365 - Cognition (3 credits)**

Study of methodology and research findings concerning human and animal information processing. Includes a review of literature pertinent to subject and task variables as they relate to attention, memory, and decision behavior during thinking. Laboratory. Offered every academic year. Prerequisite: PSY 101.

## **PSY 366 - Perspectives on Aging (3 credits)**

This course examines the perception of the elderly from a multidisciplinary perspective. It is first approached from historical and philosophical perspectives, and then from a psychological perspective using contemporary empirical studies. Offered every academic year. Prerequisite: PSY 101 or PHI 101.

## **PSY 367 - Health Psychology (3 credits)**

Explores the relationships among psychology, health, and illness and behavioral medicine. Considers important contemporary health issues from biopsychological and psychosocial

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perspectives and the role of psychology in health promotion. Part of the Health Issue. Offered every academic year. Prerequisites: PSY 101 and junior standing.

### **PSY 370 - Cognitive Neuroscience (3 credits)**

Explores the neuroscience of cognitive processes, including mechanisms of attention, memory, language, knowledge, and executive control. This course considers contemporary theories and evidence from methods such as functional neuroimaging, neuropsychological impairment, cognitive electrophysiology, and analysis of behavioral performance. Offered every academic year. Prerequisites: Completion of PSY 101 and junior standing.

### **PSY 375 - Comparative Psychology (3 credits)**

Study of the relationship between human and animal behavior. Includes discussion of mind in nonhumans, the sociobiology debate, natural selection and human behavior, including language and sexual behavior, and implications for child development and schooling. Includes zoo or field observations. Lecture and field study. Offered every academic year. Prerequisite: PSY 101.

### **PSY 380 - Special Topics in Psychology (1 to 4 credits)**

Consideration of selected topics not ordinarily dealt with in other courses. Topics to be determined by faculty interest and student request. Consult class schedule for specific topics. Can be repeated, but no more than six credits in PSY 380 can be applied toward a psychology major. Offered occasionally. Prerequisites: Variable.

### **PSY 381 - Group Dynamics (3 credits)**

Contemporary concepts, hypotheses, and research in small-group theory. Students will study the ways groups affect the behavior, thinking, motivation, and adjustment of individuals as well as the effect of an individual's characteristics on groups. Principles will be applied to particular kinds of groups, including therapy groups and family groups. Offered every academic year. Prerequisite: PSY 101 or SOC 101.

### **PSY 386 - Study Abroad (1 to 9 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only. Offered occasionally.

### **PSY 399 - Independent Readings (1 to 3 credits)**

Independent readings in a selected topic encountered in a previous course or not covered in any existing course. Courses in the existing curriculum are not ordinarily offered as independent

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study. Students may not apply more than six credits (singly or combined) of PSY 399 and PSY 499 toward a major in psychology. Offered every academic year. Prerequisites: PSY 101 and permission of instructor.

## **PSY 400 - Advanced Research in Psychology (3 credits)**

Research in designated areas (e.g., perception, cognition, social, developmental, etc.). See current schedule of classes for areas offered. Original research project required. Formal presentations of research proposals and project reports, following APA style is required. Offered every academic year. Prerequisites: PSY 101, PSY 300, and course in relevant content area.

## **PSY 405 - History and Systems (3 credits)**

A systematic historical coverage of the theoretical foundations of psychology. The contributions of the major schools of psychology, as well as the influence of related areas will be emphasized. Offered every academic year. Prerequisites: PSY 101 and PSY 300.

## **PSY 410 - Tests and Measurements (3 credits)**

A survey of test construction principles and psychological-educational measurement. The principles of normative data, reliability, and validity are emphasized. Issues involving the appropriate and ethical use of tests are also explored. Some commonly used tests are reviewed and evaluated according to these principles. Offered every academic year. Prerequisites: PSY 101 and (STA 215 or STA 312).

## **PSY 420 - Theories of Personality (3 credits)**

Critical exploration of major contemporary theories of personality and related research. Relative merits of each approach will be discussed with special emphasis on questions of structure, dynamics, and development of individuality. Offered every academic year. Prerequisite: PSY 101.

## **PSY 431 - Introduction to Neuropsychology (3 credits)**

The physiology, organization, and functions of the human brain will be examined. Current problems and findings in sleep and dreaming, memory, consciousness, learning, and perception will be explored. Offered upon sufficient demand. Prerequisites: PSY 101; and one of PSY 300, BMS 301, CJ 300, PLS 300, NUR 435, or SW 430.

## **PSY 432 - Psychopharmacology (3 credits)**

Study of the effects of drugs on the brain and behavior. The course introduces students to the principle of neurotransmission in the brain, how the neurotransmission becomes disturbed in the

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psychological/behavioral disorder, psychopharmacologic treatments of psychological/behavioral disorders, and the actions of psychoactive drugs on the brain and behavior. Offered every academic year. Prerequisites: PSY 101; and one of PSY 300, BMS 301, CJ 300, PLS 300, NUR 435, or SW 430.

### **PSY 435 - Advanced Neuroscience and Behavior (3 credits)**

This course emphasizes the study of bodily structures, processes, and mechanisms related to various aspects of the organism's interactions with the environment. Topics covered include neurophysiological correlates of cognition, memory, motivation, emotion, attention, and sensory processes. Offered every academic year. Prerequisite: PSY 330.

### **PSY 445 - Industrial/Organizational Psychology (3 credits)**

The application of psychological facts and principles to business and industry. Topics include selection, placement, and evaluation of employees; work motivation; job satisfaction; leadership and management; organization and behavior; and organization development. Offered occasionally. Prerequisite: PSY 101.

### **PSY 452 - Counseling: Theories and Applications (3 credits)**

Survey of varying theoretical viewpoints: psychodynamic, behavioral, humanistic, and eclectic. Analysis of and experiential exposure to techniques and methods of application in a variety of settings, such as public school activities, personal and vocational counseling, social work, public service activities, personnel work, etc. Offered every academic year. Prerequisite: PSY 101.

### **PSY 490 - Practicum (1 to 6 credits)**

Work in a psychologically relevant capacity at one of many possible professional agencies for up to 20 hours a week. Prearranged tutorials and work-log of hours completed required. Six credit total course limit. Graded credit/no-credit. Offered every academic year. Prerequisites: PSY 101 and permission of instructor.

### **PSY 492 - Advanced General: The Capstone (3 credits)**

Survey of major viewpoints on research findings in contemporary scientific psychology. Emphasis on integration of those viewpoints and their relations to other disciplines, such as biology, medicine, social sciences, and philosophy. Offered every academic year. Prerequisites: PSY 300, senior standing, and a major in psychology or behavioral neuroscience or behavioral science.

### **PSY 499 - Independent Study and Research (1 to 4 credits)**

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Independent study and research in an area of mutual interest to the student and faculty member. Students may not apply more than six credit hours (singly or combined) of PSY 399 and PSY 499 toward a major in psychology. Offered every academic year. Prerequisites: PSY 101 and permission of instructor.

## **PSY 500 - Introduction to School Psychology (3 credits)**

This course will present an introduction to the theory, role, and function of school psychology as an academic and scientific discipline, as well as a professional field. Emphasis will be placed on understanding a behaviorally oriented, intervention-focused, and empirically driven view of school psychology. Offered every academic year. Prerequisite: Admission to the school psychology program or instructor's approval.

## **PSY 510 - Tests and Measurements (3 credits)**

A survey of test construction principles and psychological-educational measurement. The principles of normative data, reliability, and validity are emphasized. Issues involving the appropriate and ethical use of tests are also explored. Some commonly used tests are reviewed and evaluated according to these principles. Offered every academic year. Prerequisite: Admission to the school psychology graduate program.

## **PSY 522 - Applied Behavior Analysis I (ABA): Foundational Concepts and Principles (3 credits)**

Students will study the foundational concepts, principles, and practices of applied behavior analysis. Students will gain an understanding of factors that govern behavior, processes for measuring behavior, and methods for minimizing behavioral problems and improving learning and performance. Offered each academic year. Prerequisite: Admission to the school psychology program or instructor's approval.

## **PSY 523 - Applied Behavior Analysis II: Application to Behavior Change (3 credits)**

Students will study the philosophical underpinnings of applied behavior analysis and explore the applications of behavior analytic principles and practices to behavior change, including strengthening and weakening behaviors. Selection and application of strategies to different contexts, populations, and age groups will be discussed. Offered each academic year. Prerequisite: PSY 522.

## **PSY 524 - Developmental Psychopathology (3 credits)**

This course examines research on etiology, diagnosis, and intervention for children with psychopathology, with the major focus of the course emphasizing disorders that are observed in

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applied settings. Students will become familiar with school and community-based prevention and intervention strategies to address difficulties of children in their environments. Offered each academic year. Prerequisite: Admission to the school psychology program or instructor permission.

## **PSY 525 - Behavior Analysis Applied to Autism Spectrum Disorders and Developmental Disorders (3 credits)**

This course covers assessment and intervention strategies for working with individuals with autism and other neurodevelopmental disorders from a behavior analytic perspective to teach, strengthen, generalize, and maintain behaviors. Students will learn how to provide behaviorally based training and supervision. Offered spring/summer semester. Prerequisite: Admission to the school psychology program or instructor's approval.

## **PSY 527 - Ethics and Diversity in Professional Practice (3 credits)**

Introduction to the ethical and professional delivery of psychological and educational services to a diverse group of clients. This course will introduce the ethical guidelines of major psychological professional organizations and the application of those principles to a variety of situations. Offered every academic year. Prerequisite: Admission to the graduate program in school psychology, or to the graduate certificate program in applied behavior analysis, or instructor approval.

## **PSY 532 - Psychopharmacology (3 credits)**

Study of the effects of drugs on the brain and behavior. The course introduces students to the principle of neurotransmission in the brain, how the neurotransmission becomes disturbed in the psychological/behavioral disorder, psychopharmacologic treatments of psychological/behavioral disorders, and the actions of psychoactive drugs on the brain and behavior. Offered every academic year. Prerequisite: Admission to the school psychology program or instructor permission.

## **PSY 540 - Introduction to Autism Spectrum Disorder (3 credits)**

This course addresses characteristics of Autism Spectrum Disorder (ASD), including diagnosis and special education eligibility. A specific emphasis is placed on using intervention approaches that address the unique learning and social needs of children with ASD. Various evidence-based interventions that promote inclusive opportunities and improved outcomes are covered. Offered on sufficient demand. Prerequisite: Admission to the College of Education and Community Innovation or instructor permission.

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## **PSY 542 - Behavior Support for Students with Autism Spectrum Disorder (3 credits)**

This course examines the behavioral characteristics of students with Autism Spectrum Disorder and overviews interventions to reduce problem behavior. Topics include data collection and functional behavior assessment, as well as the development of behavior intervention plans based on knowledge of functions. Interventions include preventative, skill development-based, and reinforcement strategies. Offered on sufficient demand. Prerequisites: PSY 540, admission to the College of Education and Community Innovation, or instructor permission

## **PSY 550 - Research in Applied Settings (3 credits)**

This course focuses on behavioral research methodologies to evaluate interventions in applied settings. Students will be taught to use single-case study methodologies to assess various dimensions of behavior and to evaluate the effects of treatment interventions on those behaviors. Offered spring/summer semester. Prerequisite: Admission to the school psychology graduate program or instructor's approval.

## **PSY 580 - Special Topics in Psychology (1 to 9 credits)**

A study of special topics not regularly covered in the curriculum. Expectations of this course approximate those in other 500-level courses. May be repeated for credit when the content varies. Offered occasionally.

## **PSY 590 - Applied Behavior Analysis Practicum (1 to 3 credits)**

The Applied Behavior Analysis (ABA) practicum is designed to meet the supervision requirements for the Board Certified Behavior Analyst (BCBA) certification. The course addresses principles, strategies, and ethical considerations related to the practice of behavior analysis. Students will use behavioral assessment and intervention, collect and submit data, and evaluate progress. Offered every semester. Prerequisites: Instructor approval and enrollment in or completion of an approved course sequence in applied behavior analysis.

## **PSY 615 - Educational Assessment and Interventions for Autism (3 credits)**

This course will explore assessment strategies and implementation tools for supporting students with Autism Spectrum Disorder in educational settings. Focus is placed on individualized services, supports, and interventions that promote inclusion in general education settings and improve engagement and participation in the general education curriculum. A team-based approach is emphasized. Cross-listed with EDS 615. Offered spring/summer semester.

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Prerequisites: PSY 540 (may be taken concurrently); and must be enrolled in College of Education and Community Innovation or the school psychology program.

## **PSY 622 - Educational Assessment (3 credits)**

An introduction to a conceptual framework for assessing and evaluating a wide range of academic concerns within a problem-solving approach, a variety of assessment techniques, and methods for selecting assessment techniques with high treatment utility. Students will become proficient in administering and interpreting a range of assessment devices. Course offered each academic year. Prerequisite: Admission to the school psychology graduate program or instructor approval. Corequisite: PSY 642.

## **PSY 623 - Intellectual Assessment (3 credits)**

This course will provide a theoretical and practical foundation in intellectual assessment techniques including selecting assessments, interpreting assessments, and integrating results from various measures. Students will become proficient in administering and interpreting a range of intellectual assessments for children. Students will learn ethical standards as they relate to intellectual assessment. Offered each academic year. Prerequisites: PSY 510 and admission to the school psychology program. Corequisite: PSY 642.

## **PSY 624 - Behavioral Assessment and Intervention (3 credits)**

This course provides an introduction to the theoretical foundations and practical applications of behavioral assessment and intervention. The focus is on evidence-based assessment and intervention strategies that lead to socially significant, durable outcomes for students, educators, and families. The course uses functional behavior assessment as a framework for understanding behavior. Offered every academic year. Prerequisite: Admission to the school psychology program or instructor's approval.

## **PSY 642 - Assessment Practicum (1 credit)**

Students provide school psychological services in a school under the supervision of a practicing psychologist. Students will be actively involved, with increasing independence, in the administration, scoring, and interpretation of a variety of behavioral, educational, and intellectual assessment tools. Offered each academic year. Corequisite: PSY 622 or PSY 623.

## **PSY 644 - Clinical Practicum (1 credit)**

Students collaborate with licensed professionals in clinical settings (e.g., hospitals, clinics, group treatment programs, etc.). Students will be actively involved, under appropriate supervision, in the process of assessment, data collection, and intervention administration, in ways that are

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appropriate to the setting and needs of the children and families being served. Offered each academic year. Corequisite: PSY 524.

### **PSY 654 - School-based Intervention and Consultation (3 credits)**

An overview of the theories and processes of psychological and educational consultation at the individual and systems level. Students will learn and apply consultation skills within a problem-solving model of service delivery. Students will learn to attend to cultural factors, values, and community context during consultation. Offered each academic year. Prerequisite: Admission to the school psychology graduate program or instructor's approval.

### **PSY 655 - School-based Consultation and Intervention II (3 credits)**

An overview of systems and program-level school-based consultation and intervention strategies. Students will learn and apply school wide academic and behavioral interventions, crisis prevention and intervention strategies, and program evaluation methods for evaluating outcomes. Offered winter semester. Prerequisite: PSY 654.

### **PSY 658 - Advanced Concepts in Applied Behavior Analysis (3 credits)**

This course will explore the advanced applications of the theory, principles, concepts, and practices of applied behavior analysis (ABA), and their application to educational and clinical settings. Students will also learn to use supervision and management practices based in behavior principles. Offered winter and spring/summer semesters. Prerequisites: Enrollment in the ABA graduate certificate program and PSY 523.

### **PSY 668 - Health Profession Disability Psychology (3 credits)**

This course assists students in the health professions in understanding psychosocial issues relevant to physical disabilities. It emphasizes key psychological factors that influence coping with physical disability and ways in which an understanding of psychosocial issues can increase the efficacy of a standard therapeutic regimen and facilitate adaptation and coping. Offered spring/summer semester. Prerequisite: Permission of the respective program directors or the psychology department chair.

### **PSY 675 - School Psychology Practicum (3 credits)**

Students provide school psychological services in a school under the supervision of a licensed school psychologist. Students will be actively involved in assessment, consultation, prevention,

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and intervention. A weekly seminar is required. Offered each academic year. Prerequisite: Admission to the school psychology program.

### **PSY 680 - Special Topics in Psychology (1 to 9 credits)**

A study of special topics not regularly covered in the curriculum. Expectations of this course approximate those in other 600-level courses. May be repeated for credit when the content varies. Offered occasionally.

### **PSY 685 - School Psychology Internship (1 to 5 credits)**

The final supervised clinical experience. Under the supervision of a school psychologist, students will work with teachers, families, and students from K-12 schools. Students will engage in different aspects of the practice of school psychology including case management, assessment, prevention and intervention, and consultation. Offered each academic year. Prerequisites: Admission to the school psychology program and instructor's approval.

### **PSY 693 - Master's Project (3 credits)**

Students complete a master's level project that requires them to demonstrate and apply skills learned in the school psychology program. This project may involve conducting a single-subject design research study, analyzing existing data from a school program, and/or completing a program review and data report for a school building/district. Offered each academic year. Prerequisites: Admission to the school psychology program and completion of the Responsible Conduct of Research Training within last three years.

### **PSY 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

### **PSY 699 - Independent Study (1 to 3 credits)**

Students complete an in-depth study of a topic related to the field of school psychology. Offered occasionally. Prerequisites: Admission to the school psychology program and faculty approval.

### **PT 435 - Measurement in Biomechanics (3 credits)**

Introduction to bioinstrumentation systems used in biomechanics research and rehabilitation practice. Biomechanical and measurement theory will be examined. Students will develop entry-level skills in methods of data collection and processing using instruments to measure human movement and balance. Cross-listed with MOV 435, MOV 535, and PT 535. Offered fall semester. Prerequisite: Registration permit required.

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## **PT 510 - Lifespan Motor Development (2 credits)**

A lifespan view of motor development. Included will be basic principles of motor control and in-depth coverage of motor development. Key body systems development will be related to function throughout the lifespan. Offered spring/summer semester. Prerequisites: Successful completion of all previously required courses in the D.P.T. curricular sequence.

## **PT 511 - Foundations in Physical Therapy Examination (3 credits)**

Introduction to clinical measurement theory, basic examination techniques, interviewing, chart review, clinical documentation, and systems review in physical therapy. Addresses basic examination techniques for the musculoskeletal, neuromuscular, cardiopulmonary, and integumentary systems. Incorporates simulated clinical experiences. Offered fall semester. Prerequisite: Admission to the physical therapy program.

## **PT 512 - Introduction to Evidence Based Practice in Physical Therapy (1 credit)**

Provides an introduction to evidence-based practice in physical therapy. Critical thinking skills and the ability to concisely summarize thought in written form are emphasized. Assigned readings will provide the opportunity to examine varied types of research utilized in physical therapy. Offered fall semester. Prerequisite: Admission to the physical therapy program.

## **PT 513 - Clinical Science I (2 credits)**

Study of physiological responses to pathology of the endocrine, hepatic, immune, integumentary, gastrointestinal, renal, and reproductive systems, including mechanisms basic to inflammation, neoplasia, tissue repair and regeneration, and pain across the four major systems of PT practice. Systems screening, physical therapy practice patterns, and medical management, including pharmacotherapy is emphasized. Offered fall semester. Prerequisite: Admission to physical therapy program.

## **PT 515 - Professional Topics I (1 credit)**

Introduces the roles of physical therapists in a changing health care system and the following professional topics: APTA; guide to PT practice; ethics, conduct and informed consent; communication; diversity; involvement of the patient; systems perspectives; documentation; reimbursement; and literature. Offered fall semester. Prerequisite: Admission to physical therapy program.

## **PT 517 - Kinesiology and Biomechanics I (3 credits)**

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The study of functional musculoskeletal anatomy, including arthrokinematics, osteokinematics, muscular actions and control, and kinesiological concepts that govern motion concerns. Course content will focus on normal human motion; pathological human motion will be introduced. Students will use living subject models for surface anatomy palpation and functional analysis of movement patterns. Offered fall semester. Prerequisite: Admission to physical therapy program.

### **PT 521 - Musculoskeletal Examination (4 credits)**

Diagnostic procedures for patients with a variety of musculoskeletal conditions that affect the upper and lower extremities, and spine. Includes: patient screening for medical disease, physical examination for impairments and functional limitations, clinical decision-making, and referral strategies. Offered winter semester. Prerequisite: Successful completion of all previously required courses in the D.P.T. curricular sequence.

### **PT 522 - Musculoskeletal Interventions (4 credits)**

Students will learn the basic, evidence-based intervention and establishment of prognosis skills for musculoskeletal extremity and spinal pathologies. An eclectic approach to patient management is presented so that manual and therapeutic exercise techniques may be applied clinically. Basic issues of injury prevention and wellness will be addressed. Offered winter semester. Prerequisite: Successful completion of all previously required courses in the D.P.T. curricular sequence.

### **PT 523 - Clinical Science II (3 credits)**

Study of pathology associated with the musculoskeletal system due to disease conditions and trauma across the lifespan. Topics also include principles in diagnostic imaging, orthopedic surgical and medical management, and pharmacology, where appropriate. Offered winter semester. Prerequisite: Successful completion of all previously required courses in the D.P.T. curricular sequence.

### **PT 526 - Clinical Seminar I (2 credits)**

Students will be exposed to an array of clinical issues associated with decision-making for patients with primary musculoskeletal disorders. Issues such as reimbursement, access to the clinician, effective communication, confidentiality, cultural diversity, and effective utilization of community resources will be explored as the student becomes involved in total case management. Offered winter semester. Prerequisite: Successful completion of all previously required courses in the D.P.T. curricular sequence.

### **PT 528 - Kinesiology and Biomechanics II (3 credits)**

Rigid and deformable body mechanical principles will be used to understand normal human function and pathomechanics related to dysfunction. Application of principles to understand

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examination, evaluation, diagnosis, prognosis, and intervention for impairments, functional limitations, and disability will be emphasized. Methods of kinematic, kinetic, and electromyographic investigation will be introduced. Offered winter semester. Prerequisite: Successful completion of all previously required courses in the D.P.T. curricular sequence.

### **PT 535 - Measurement in Biomechanics (3 credits)**

Introduction to bioinstrumentation systems used in biomechanics research and rehabilitation practice. Biomechanical and measurement theory will be examined. Students will develop entry-level skills in methods of data collection and processing using instruments to measure human movement and balance. Cross-listed with MOV 435, MOV 535, and PT 435. Offered fall semester. Prerequisite: Registration permit required.

### **PT 580 - Special Topics in Physical Therapy (1 to 3 credits)**

A study of special topics not regularly covered in the curriculum. Expectations of this course approximate those in other 500-level courses. May be repeated for credit when the content varies. Prerequisites: Variable depending upon the semester in which the special topics course is utilized; admission to the D.P.T. program.

### **PT 610 - Research in Physical Therapy (2 credits)**

This course reviews methods, designs, and analyses commonly used in physical therapy research (from PT 512 and STA 610). Emphasis is placed on critical appraisal of research reports with new emphasis on the design and writing of research proposals. Students begin to explore a research topic with a faculty mentor. Prerequisites: PT 512 and good standing in D.P.T. program.

### **PT 631 - Cardiopulmonary Physical Therapy I (2 credits)**

The physiologic and pathophysiologic basis for physical therapy management of individuals with secondary cardiovascular and pulmonary dysfunction as seen in general physical therapy practice. Emphasis is placed on assessment and interpretation of physiologic responses during therapeutic activities and on associated clinical decision-making. Offered spring/summer semester. Prerequisite: Successful completion of all previously required courses in the D.P.T. curricular sequence.

### **PT 632 - Integumentary Practice Management (2 credits)**

Examination, evaluation, and multiple interventions for acute and chronic integumentary pathologies in various patient populations. Interventions will include wound cleansing, debridement, contemporary uses of dressings and products, and mechanical and thermal modalities. A multisystem approach for wound prevention and wound treatment will be presented. Offered spring/summer semester. Prerequisite: Successful completion of all previously required courses in the D.P.T. curricular sequence.

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## **PT 634 - Clinical Seminar II (1 credit)**

Clinical issues pertaining to physical therapy management of medically complex patients and clients are introduced through case-oriented presentations and advanced study. Students explore treatment strategies in response to changes in physiology, and consider the broader perspectives of the family, the health care system, and the community. Offered spring/summer semester. Prerequisite: Successful completion of all previously required courses in the D.P.T. curricular sequence.

## **PT 636 - Clinical Education I (4 credits)**

One five-week full-time clinical experience in physical therapy practice settings followed by weekly discussion. Emphasis is on managing patients/clients with musculoskeletal impairments and related functional limitations. Offered spring/summer semester. Graded credit/no-credit. Prerequisite: D.P.T. faculty recommendation.

## **PT 641 - Neuromuscular Examination (4 credits)**

Addresses examination procedures used by physical therapists in managing neuromuscular dysfunction resulting from injury to the nervous system. The evidence supporting examination procedures is addressed. Evaluation of examination findings and differential diagnosis are emphasized. Offered fall semester. Prerequisite: Successful completion of all previously required courses in the D.P.T. curricular sequence.

## **PT 642 - Interventions in Neuromuscular Physical Therapy (4 credits)**

This course provides foundation in theoretical basis and techniques of neurologic rehabilitation, based on principles of motor control and learning and evidence-based practice. Students learn to design a comprehensive plan of care and apply interventions targeted to the remediation of disabilities, functional limitations, and impairments in clients with neurologic diagnoses. Offered fall semester. Prerequisite: Successful completion of all previously required courses in the D.P.T. curricular sequence.

## **PT 643 - Clinical Science III (3 credits)**

Health care management of neurological clients. Orthopedic concerns of these populations will be included. Health care management will include physical therapy diagnosis and prognosis, medical management and pharmacological management of the previously listed groups. Offered fall semester. Prerequisite: Successful completion of all previously required courses in the D.P.T. curricular sequence.

## **PT 644 - Clinical Seminar III (2 credits)**

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Provides students insight into complex case management issues in neurologic physical therapy practice. Case-based discussion and active clinical experiences facilitate students to analyze from a system-based perspective factors that influence the development of a plan of care for neurologic patients. Emphasis on effective advocacy for clients and health promotion behaviors. Offered fall semester. Prerequisite: Successful completion of all previously required courses in the D.P.T. curricular sequence.

## **PT 647 - Cardiopulmonary Physical Therapy II (2 credits)**

Students integrate physiologic and pathophysiologic principles in physical therapy management of individuals with primary cardiovascular and pulmonary dysfunction seen in specific practice settings. Knowledge of medical and surgical interventions, diagnostic testing, and cardiopulmonary physical therapy tests and measures are applied to clinical decision-making. Offered fall semester. Prerequisite: Successful completion of all previously required courses in the D.P.T. curricular sequence.

## **PT 651 - Spinal Exam and Intervention (4 credits)**

Students will learn the basic, evidence-based examination, evaluation, intervention, and prognosis skills for musculoskeletal spinal pathologies. An eclectic approach to patient management is presented so that manual and nonmanual based therapeutic approaches may be applied clinically. Issues of injury prevention, including basic workplace and ergonomic issues will be addressed. Offered winter semester. Prerequisite: Successful completion of all previously required courses in the D.P.T. curricular sequence.

## **PT 654 - Applied Geriatric Practice (2 credits)**

An in-depth study of the geriatric population and geriatric physical therapy practice with regard to the four major systems addressed in PT practice. Encounters with an older adult designed to apply skills from other courses will be integrated. Collaboration with other professionals and advocacy will be stressed. Offered winter semester. Prerequisite: Successful completion of all previously required courses in the D.P.T. curricular sequence.

## **PT 655 - Professional Topics II (1 credit)**

Introduces students to the health care delivery system including managed care, government funded and private insurance, and basic reimbursement methods utilized in each system. Examination of the American Physical Therapy Association Guide for Professional Conduct with clinical application to bioethics and research. Offered winter semester. Prerequisite: Successful completion of all previously required courses in the D.P.T. curricular sequence.

## **PT 656 - Clinical Education II (5 credits)**

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One six-week, full-time clinical experience in physical therapy practice settings followed by weekly discussion, and synthesis of clinical experiences after return to campus. Students are academically prepared to provide physical therapy, with supervision, to patients/clients with neuromuscular, cardiovascular/pulmonary, integumentary, and musculoskeletal impairments and related functional limitations. Graded credit/no-credit. Prerequisites: Physical therapy faculty recommendation.

## **PT 657 - Teaching for Physical Therapists (2 credits)**

Educational theory, assessment/evaluation, behavioral objectives, and teaching methods. Planning for teaching situations common to physical therapist practice, including patients/clients, families, peers, students, and other health care professionals. Emphasis on tailoring learning to the unique needs of learners from diverse backgrounds. Prerequisite: Successful completion of all previously required courses in the D.P.T. curricular sequence.

## **PT 661 - Exam and Intervention for Rehabilitation (4 credits)**

This course deals with the long-term physical therapy examination and intervention for the rehabilitation patient. Areas discussed include adaptive equipment, recreation, wheelchairs, architectural barriers, orthotics, prosthetics, and spinal cord injuries. Offered spring/summer semester. Prerequisite: Successful completion of all previously required courses in the D.P.T. curricular sequence.

## **PT 662 - Pediatric Practice Management (3 credits)**

In-depth study of pediatric physical therapy (PT). PT management, including diagnosis, prognosis, intervention, and medical/pharmacological management will be explored. Offered spring/summer semester. Prerequisite: Successful completion of all previously required courses in the D.P.T. curricular sequence.

## **PT 665 - Professional Topics III (2 credits)**

Students will be exposed to laws related to the practice of physical therapy. Analysis will include concepts of licensure, disciplinary action, and professional liability. Students will be introduced to concepts of social responsibility, citizenship, and advocacy available in the legislative process. Offered spring/summer semester. Prerequisite: Successful completion of all previously required courses in the D.P.T. curricular sequence.

## **PT 675 - Clinical Education III (6 credits)**

Full-time (defined as 36- to 40 hours per week) nine-week clinical experience for third-year physical therapy students, with a variety of practice settings available. Students are academically

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prepared to manage patients/clients with musculoskeletal, neuromuscular, cardiopulmonary and integumentary disorders. Offered fall semester. Prerequisites: PT 656 and PT faculty recommendation.

## **PT 677 - Clinical Education IV (6 credits)**

Full-time (defined as 36- to 40 hours per week) nine-week clinical experience for third-year physical therapy students, with a variety of practice settings available. Each student will experience a different type setting or different patient problems than in PT 675. Students are academically prepared to manage patients/clients with musculoskeletal, neuromuscular, cardiopulmonary, and integumentary disorders. Offered fall semester. Prerequisites: PT 675 (may be taken concurrently) and physical therapy faculty recommendation.

## **PT 680 - Special Topics in Physical Therapy (1 to 3 credits)**

A study of special topics not regularly covered in the curriculum. Expectations of this course approximate those in other 600-level courses. May be repeated for credit when the content varies. Prerequisites: Variable depending upon the semester in which the special topics course is utilized; admission to the D.P.T. program.

## **PT 681 - Advanced Clinical Decision-Making (2 credits)**

Students will review and analyze the diagnostic and intervention strategies used in complex case studies and design other strategies based on evidence from an extensive review of the literature. Patient cases with problems involving multiple systems, and the roles of other health care providers, will be emphasized. Graded credit/no-credit. Offered winter semester. Prerequisite: Successful completion of all previously required courses in the D.P.T. curricular sequence.

## **PT 682 - Health, Wellness and Special Topics in Physical Therapy (3 credits)**

This course provides principles of physical therapy in health promotion and wellness, pelvic health, home health, cancer treatment, ergonomics, alternative and complementary health, nutrition, health literacy and other special topics. Students learn strategies to examine diseases, injuries, impairments, functional limitations, and disabilities due to various health conditions in various settings. Offered winter semester. Prerequisite: Successful completion of all previously required courses in the D.P.T. curricular sequence.

## **PT 684 - Advanced Topics: Sports Physical Therapy (3 credits)**

In-depth, evidence-based study of examination, evaluation and intervention related to sports physical therapy. Includes anatomical, physiological, and biomechanical approaches to

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understanding and management of sport-related injury and surgery for multiple sports and clients. Focus on prevention and wellness in susceptible populations. Graded credit/no-credit. Offered winter semester. Prerequisite: Successful completion of all previously required courses in the D.P.T. curricular sequence or licensed as a physical therapist.

### **PT 685 - Professional Topics IV (2 credits)**

The emphasis is on practice management and professional development. Addresses human resource management, facility planning, marketing, quality measures, and financial management as related to the role of the physical therapist. Offered winter semester. Prerequisite: Successful completion of all previously required courses in the D.P.T. curricular sequence.

### **PT 686 - Advanced Topics: Pediatric Physical Therapy (3 credits)**

This course critically examines pediatric physical therapist practice in a variety of clinical settings across the continuum of care. Included are in-depth study of evidence-based examination, evaluation, and intervention for patients with complex developmental or medical issues, ages birth to 21. Offered winter semester. Prerequisite: Successful completion of all previously required courses in the D.P.T. curriculum or licensed as a physical therapist.

### **PT 687 - Advanced Topics: Spinal Manual Therapy (3 credits)**

This comprehensive course utilizes evidence-based practice in the assessment, evaluation, and intervention of patients with spinal movement dysfunction. Topics will include prognosis and prevention, manual therapy techniques, and differential diagnosis of spinal dysfunction. Graded credit/no-credit. Offered winter semester. Prerequisite: Successful completion of all previously required courses in the D.P.T. curricular sequence or licensed as a physical therapist.

### **PT 688 - Advanced Topics: Neurologic Physical Therapy (3 credits)**

This course will critically examine evidence-based practice in neurologic rehabilitation. Current trends in practice will be analyzed from a theoretical, clinical, and neuroscience perspective. Students will apply foundational motor control theories for diagnosing and treating movement dysfunction, including advanced clinical practice skills for management of vestibular, balance and gait dysfunction. Graded credit/no-credit. Offered winter semester. Prerequisite: Successful completion of all previously required courses in the D.P.T. curricular sequence or licensed as a physical therapist.

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## **PT 689 - Advanced Topics: Cardiopulmonary Physical Therapy (2 credits)**

This course emphasizes physical therapist clinical decision-making for critically ill patients receiving advanced medical and surgical interventions for primary and secondary cardiovascular and pulmonary disease. This includes patients with advanced cardiopulmonary disease requiring mechanical ventilation, ventricular assist devices, extracorporeal life support, and heart/lung transplantation. Offered winter semester. Prerequisite: Successful completion of all previously required courses in the D.P.T. curricular sequence or licensed physical therapist.

## **PT 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

## **PT 698 - Clinical Education V (6 credits)**

Full-time (36- to 40 hours per week) nine-week clinical experience for third year physical therapy students. As available, students will experience a different type setting or different patient problems than in PT 675 and PT 677. Students are prepared to manage patients/clients with musculoskeletal, neuromuscular, cardiopulmonary, and integumentary disorders. Graded credit/no-credit. Offered spring/summer semester. Prerequisites: PT 677 and physical therapy faculty recommendation.

## **PT 699 - Independent Study in Physical Therapy (1 to 3 credits)**

Students will complete a reading project or other approved activity building upon declared student interest. Tangible final product must be completed according to criteria developed by the student and advisor. Offered every semester. Prerequisite: Permission of program.

## **PT 790 - Physical Therapy Research I (1 credit)**

This is the first of two courses in which physical therapy students fulfill research requirements. Students study the available evidence and apply foundational research concepts. Students propose a method for conducting a research project or complete a case report of systematic review. Guided by faculty mentors. Offered winter and spring/summer semesters. Prerequisite: Successful completion of previous D.P.T. curriculum requirements.

## **PT 793 - Physical Therapy Research II (2 credits)**

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Second of two courses in which physical therapy students fulfill research requirements. Students apply foundational concepts, collect data, analyze, and describe results in the context of a research project, case report, or systematic review. Guided by faculty mentors. Offered winter semester. Prerequisite: Successful completion of previous D.P.T. curricular requirements.

### **PT 797 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

### **REL 100 - Religions of the World (3 credits)**

An interdisciplinary study of multiple world religions in their cultural, historical, and political context. Students will investigate topics including belief structures, ritual systems, sacred literature, social dimensions, and historical development of various religious traditions. The course will include identification and comparison of key aspects of religion across traditions. Fulfills one of the Foundations - Social and Behavioral Sciences. Fulfills Cultures - Global Perspectives. Offered every semester.

### **REL 200 - Understanding Religions in Human Experience (3 credits)**

An interdisciplinary introduction to how religion has been understood and has shaped human experience, past and present. Students will also learn to identify and apply basic terminology, conceptual frameworks, and analytical methods in the field of religious studies. Fulfills Foundations - Historical Perspectives. Offered fall and winter semesters.

### **REL 300 - Religions in the World Today: Theories, Methods, and Issues (3 credits)**

This course explores the intersection of religion with human life, law, politics, and public culture, focusing on contemporary religions' roles in the secular world. Topics may include: human rights, fundamentalism, migration/immigration, social and political movements, gender/sexuality, nationalism, contemporary religious movements or phenomena, and environmentalism, among others. Fulfills Cultures - Global Perspectives. Part of the Human Rights Issue. Offered winter semester. Prerequisite: Junior standing.

### **REL 305 - Christianity: Scriptures and Tradition (3 credits)**

This course examines the sacred stories, rituals and historical development of the three major traditions of the Christian religion: Eastern Orthodox, Roman Catholicism, and Protestantism. It surveys the development of Christianity from its Jewish and Hellenistic roots through contemporary attempts to translate the Christian faith for the 21st century. Offered fall semester.

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## **REL 306 - Hinduism and South Asian Religions (3 credits)**

Hinduism is the world's third largest religion with approximately one billion adherents and has given birth to three other religions: Jainism, Buddhism, and Sikhism. This course explores the origins and development of Hinduism, examining key concepts like karma, yoga, and reincarnation in our discussion of Hindu worldviews, cultures, and practices. Fulfills Cultures - Global Perspectives. Part of the Identity Issue. Offered every semester. Prerequisite: Junior standing.

## **REL 310 - Jewish Scriptures and Traditions (3 credits)**

Focusing in the textual heritage of Judaism, the ancestor of Islam and Christianity as well as a vibrant religion today, this course explores Jewish traditions and rituals as they originated throughout history and as practiced today in the world's diverse Jewish communities. Offered alternate years.

## **REL 335 - Sacred Words, Global Understanding (3 credits)**

A comparative study of sacred texts as literary masterpieces that shape and influence their respective cultural expressions and literary traditions. This interdisciplinary course will examine the multiple intersections of sacred texts with the many faces of globalization. Readings may include selections from: Rig Veda, Upanishad, Bible, Qur'an, and Tao Te Ching. Fulfills Cultures - Global Perspectives. Part of the Globalization Issue. Offered fall semester. Prerequisite: Junior standing.

## **REL 340 - Religion and Popular Culture in the United States (3 credits)**

An interdisciplinary study of religion and popular culture in the United States. Students will employ religious studies approaches to critically examine cultural forms such as music, art, cinema, social media, sports, and virtual reality in order to analyze the diversity of U.S. popular culture. Fulfills Cultures - U.S. Diversity. Part of the Information, Innovation, or Technology Issue. Offered every semester. Prerequisite: Junior standing.

## **REL 380 - Special Topics in Religious Studies (1 to 9 credits)**

Various topics courses emphasizing the practice of religious studies in relation to a contemporary problem, issue, or theme. May be repeated for credit if content differs. Offered fall semester.

## **REL 399 - Independent Readings in Religious Studies (1 to 4 credits)**

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An interdisciplinary and scholarly or creative project initiated by the student who has special interest in religious studies not available in the current curriculum. Student, faculty, and advisors agree on the scope of the study, its components, and methods of evaluation. May be repeated for credit if content differs.

### **REL 482 - Integrative Statement (1 credit)**

In this course, students develop a digital portfolio in which they apply key concepts, methods and theories within religious studies to real-world situations, including their chosen careers. Offered fall and winter semester. Course is graded credit/no-credit. Prerequisites: REL 100 and REL 200, or by permission of the department.

### **REL 495 - Religious Studies Senior Seminar (3 credits)**

An integration of various disciplinary and/or contemporary approaches to the academic study of religions, including the role of religious studies in professional and cultural settings. Students will develop and present a problem-based senior thesis on a contemporary problem or issue. Offered fall and winter semesters. Prerequisites: Senior standing, REL 200, and REL 300.

### **REL 499 - Independent Research in Religious Studies (1 to 4 credits)**

Independent research and investigation in religious studies from an interdisciplinary perspective. May be repeated for credit if content differs. Offered fall and winter semesters.

### **RIE 330 - Echocardiography I (4 credits)**

This course will cover basic echocardiography terminology, anatomy, instrumentation, and physical principles necessary for the student to understand the principles of two-dimensional and M-mode scanning of the normal heart. Students will also investigate basic systolic and diastolic dysfunctions. Offered fall semester. Corequisites: RIU 320, RIU 321, and RIE 331.

### **RIE 331 - Echocardiography I Laboratory (2 credits)**

This course provides laboratory activities correlated to the anatomic and pathologic details presented in RIE 330. Students perform procedures on model patients following demonstrations and must achieve a high level of competency to proceed in the program to clinical education. Offered fall semester. Corequisite: RIE 330.

### **RIE 332 - Echocardiography II (3 credits)**

This course will cover advanced echocardiography anatomy, pathophysiology, instrumentation, physical principles, and advanced echocardiographic procedures. This course also addresses

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complex anomalies and pathological conditions of the abnormal heart. Offered winter semester. Prerequisites: RIE 330, RIE 331, RIE 320, RIE 321, and RIE 360. Corequisite: RIE 333.

### **RIE 333 - Echocardiography II Laboratory (1 credit)**

This course provides advanced echocardiographic procedures, including detection of complex anomalies and pathological cardiac conditions, in a laboratory setting. Students perform procedures following demonstrations and must achieve a high level of competency. Offered winter semester. Prerequisite: RIE 331. Corequisite: RIE 332.

### **RIE 340 - Cardiac and Vascular Hemodynamics (2 credits)**

Study of cardiac and vascular hemodynamics in relation to various hemodynamic measurement methods. Special attention is focused on performing hemodynamic calculations. Offered fall semester. Prerequisite: Admission to the cardiovascular sonography major.

### **RIE 341 - ECG in Radiologic and Imaging Sciences (2 credits)**

Study of basic electrocardiography including analysis of 12-lead basic cardiac rates and rhythms. Offered fall semester. Prerequisite: Admission to any radiologic and imaging science major.

### **RIE 360 - Introduction to Echocardiography Clinical (2 credits)**

This course provides an overview of the foundations of diagnostic medical sonography in echocardiography and vascular sonography and encompasses the practitioner's role in the health care delivery system, including principles, practices and policies of the educational program, health care organizations, principles of ultrasound, and health safety. Offered fall semester. Prerequisite: Admission to the cardiovascular sonography major.

### **RIE 361 - Echocardiography Clinical Education I (2 credits)**

Basic entry-level content and clinical practice designed for sequential development, application, analysis, integration, synthesis, and evaluation of concepts and theories in adult echocardiographic diagnostic medical sonography. Content is supported by a weekly discussion session at the university. Offered winter semester. Prerequisites: RIE 331 and RIE 360. Corequisite: RIE 333.

### **RIE 362 - Echocardiography Clinical Education II (3 credits)**

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Continuing content and clinical practice experiences designed for sequential development, application, analysis, integration, synthesis, and evaluation of concepts and theories in adult echocardiographic diagnostic medical sonography. Content is supported by a weekly discussion session at the university. Offered spring/summer semester. Prerequisites: RIE 330, RIE 331, and RIE 361.

### **RIE 363 - Pediatric Echo Clinical Education I (2 credits)**

Entry-level content and clinical practice experiences designed for sequential development application, analysis, integration, synthesis, and evaluation of concepts and theories in pediatric echocardiographic diagnostic medical sonography. Content is supported by a weekly discussion session at the university. Offered spring/summer semester. Prerequisites: RIU 320, RIU 321, RIE 330, RIE 331, and RIE 361.

### **RIE 366 - Vascular Sonography Clinical Education I (2 credits)**

Beginning level content and clinical practice experiences designed for sequential development, application, analysis, integration, synthesis, and evaluation of concepts and theories in vascular sonography. Content is supported by a weekly discussion session at the university. Offered spring/summer semester. Prerequisites: RIE 332 and RIE 333. Corequisite: RIE 362.

### **RIE 380 - Special Topics in Echo and Vascular Sonography (1 to 5 credits)**

Special topics in echocardiography and vascular sonography. Offered every semester. Prerequisite: Faculty approval to assure students have appropriate experiential backgrounds in didactic, laboratory, and/or clinical areas of study.

### **RIE 432 - Vascular Sonography I (2 credits)**

This course is a study of concepts in noninvasive vascular ultrasound imaging and physiological testing of the cerebrovascular and lower extremity arterial and venous systems. Anatomy, physiology, pathophysiology, scanning techniques, differential diagnoses, and correlative imaging necessary for the clinical practice of vascular sonography will be emphasized. Offered winter semester. Prerequisites: RIU 320 and RIU 321. Corequisite: RIE 433.

### **RIE 433 - Vascular Sonography I Laboratory (1 credit)**

This lab integrates demonstrations, practice, and scanning competencies in noninvasive vascular ultrasound imaging and physiological testing of the cerebrovascular, aortoiliac, and lower extremity arterial and venous systems. Offered winter semester. Prerequisites: RIU 320 and RIU 321. Corequisite: RIE 432.

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## **RIE 434 - Pediatric Echocardiography I (3 credits)**

This didactic course will cover principles of echocardiography including cardiac anatomy, pediatric echocardiography instrumentation, basic congenital cardiac pathology, and physical principles necessary for the student to begin two-dimensional and M-mode scanning of the pediatric heart. Offered fall semester. Prerequisites: RIU 320 and RIU 321. Corequisite: RIE 435.

## **RIE 435 - Pediatric Echocardiography I Laboratory (1 credit)**

Demonstrations, practice, and laboratory evaluation of pediatric echocardiography with a focus on live patient models who have normal pediatric anatomy, as well as measurements and images necessary for demonstration of abnormal cardiac pathology. Offered fall semester. Prerequisite: RIE 333. Corequisite: RIE 434.

## **RIE 436 - Vascular Sonography II (2 credits)**

Continuation of study from RIE 432 in noninvasive vascular ultrasound imaging and physiological testing to include upper extremity vascular systems, intracranial arteries, lower extremity venous insufficiency, and aortoiliac arteries. Anatomy, physiology, pathophysiology, scanning techniques, differential diagnoses, and correlative imaging necessary for the clinical practice of vascular sonography will be emphasized. Offered fall semester. Prerequisite: RIE 432. Corequisite: RIE 437.

## **RIE 437 - Vascular Sonography II Laboratory (2 credits)**

This lab integrates demonstrations, practice, and scanning competencies in noninvasive vascular ultrasound imaging and physiological testing of the upper extremity vascular systems, intracranial arteries, lower extremity venous insufficiency, and aortoiliac arteries. Offered fall semester. Prerequisite: RIE 433. Corequisite: RIE 436.

## **RIE 438 - Pediatric Echocardiography II (3 credits)**

This course will cover anatomical variations, instrumentation, and physical principles necessary for the student to perform advanced two-dimensional and M-mode scanning of the abnormal pediatric heart. Offered winter semester. Prerequisites: RIE 340 and RIE 434.

## **RIE 439 - Vascular Sonography III (2 credits)**

This course focuses on advanced concepts in vascular imaging to include invasive and noninvasive sonographic procedures with emphases in hepatoportal, mesenteric, and renal artery systems necessary for the clinical practice of vascular sonography. Analysis of scanning

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techniques and differential diagnoses postvascular interventional procedures and advanced technologies will be discussed. Offered winter semester. Prerequisite: RIE 436. Corequisite: RIE 440.

### **RIE 440 - Vascular Sonography III Laboratory (1 credit)**

This lab integrates demonstrations, practice, and scanning competencies in noninvasive vascular ultrasound imaging of the hepatoportal, mesenteric, and renal artery systems and advanced sonography technologies. Offered winter semester. Prerequisite: RIE 437. Corequisite: RIE 439.

### **RIE 457 - Cardiovascular Image Evaluation (2 credits)**

This course is designed to facilitate critical analysis of anatomic and pathologic imaging information related to echocardiography and noninvasive vascular sonography. This course will focus on multimodality cardiovascular diagnostic procedures in correlation with noninvasive cardiac and vascular sonography. Offered winter semester. Prerequisites: RIE 434 and RIE 436.

### **RIE 463 - Pediatric Echocardiography Clinical Education II (3 credits)**

This course will provide content and clinical practice experiences designed for sequential development, application, analysis, integration, synthesis, and evaluation of concepts and theories in pediatric echocardiographic diagnostic medical sonography. Content is supported by a weekly discussion session at the university. Offered fall semester. Prerequisite: RIE 363. Corequisite: RIE 435.

### **RIE 464 - Pediatric Echocardiography Clinical Education III (3 credits)**

Continuation of advanced level content and clinical practice experiences designed for sequential development, application, analysis, integration, synthesis, and evaluation of concepts and theories in pediatric echocardiographic diagnostic medical sonography. Content is supported by a weekly discussion session at the university. Offered winter semester. Prerequisites: RIE 434 and RIE 435.

### **RIE 466 - Vascular Sonography Clinical Education II (3 credits)**

Advanced level content and clinical practice experiences designed for sequential development, application, analysis, integration, synthesis, and evaluation of concepts and theories in vascular sonography. Content is supported by a weekly discussion session at the university. Offered fall semester. Prerequisite: RIE 366. Corequisite: RIE 433.

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## **RIE 467 - Vascular Sonography Clinical Education III (3 credits)**

Continuation of advanced level content and clinical practice experiences designed for sequential development, application, analysis, integration, synthesis, and evaluation of concepts and theories in vascular sonography. Content is supported by a weekly discussion session at the university. Offered winter semester. Prerequisite: Permission of instructor.

## **RIE 480 - Special Topics in Echocardio and Vascular Sonography (1 to 9 credits)**

Special topics in echocardiography and vascular sonography. Prerequisite: Faculty approval to assure students have appropriate experiential backgrounds in didactic, laboratory, and/or clinical areas of study.

## **RIE 495 - Advanced Clinical Problems in Echocardiography and Vascular Sonography (3 credits)**

SWS Capstone in diagnostic medical sonography exploring diverse clinical problems in the profession. Includes reflection and contemplation on ethical and legal issues. Requires final rewriting of professional portfolio showcasing past didactic, laboratory, clinical, professional learning, and community service. Offered winter semester. Prerequisite: Successful completion of all previously required courses in the major. Corequisite: RIE 464 or RIE 467.

## **RIT 302 - Radiation Protection Physics (2 credits)**

This introductory course will cover the principles governing production of radiation, interaction of radiation with matter, protection of the radiation worker and patient from exposure, and use of various types of radiation (ionizing, sound, radio) to create radiologic, sonographic, and magnetic resonance images. Offered fall semester. Prerequisite: Admission to the radiation therapy program.

## **RIT 310 - Radiation Therapy Patient Care (3 credits)**

Patient care procedures and interactive skills used in physical and psychological care of the patient during radiation therapy, with emphasis on assessment, identification of emergencies, and specific patient care skills for patients undergoing radiation therapy. Patient education, advocacy, and independent/team roles in patient care are also addressed. Offered fall semester. Prerequisite: Admission to radiation therapy program.

## **RIT 322 - Radiation Biology (2 credits)**

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This lecture course considers the radiobiologic areas of radiation interactions, radiosensitivity, radiation dose/response relationships, early and late radiation effects, radiation protection, and health physics. Offered winter semester. Prerequisite: RIS 322.

## **RIT 330 - Radiation Therapy Principles and Practices I (4 credits)**

Overview of cancer and the basic foundations of radiation therapy including: basic treatment techniques and patient setup, an introduction to patient simulation, an introduction to intensity modulated radiation therapy (IMRT) and special procedures, as well as identification and application of ethical and legal issues. Offered fall semester. Prerequisite: Admission to the radiation therapy program. Corequisite: RIT 331.

## **RIT 331 - Radiation Therapy Principles and Practices I Laboratory (1 credit)**

Introductory lab on treatment and simulation techniques with patient setups specific for brain, lung, pelvis, abdomen, lumbar spine, and safe patient transfer techniques. Offered fall semester. Prerequisite: Admission to the radiation therapy program. Corequisite: RIT 330.

## **RIT 332 - Radiation Therapy Principles and Practices II (3 credits)**

Lecture and discussion sessions presenting intermediate concepts of radiation therapy treatment principles and practices for photon and electron dosimetry, neoplasms of the skin, genitourinary system, gynecologic system, gastrointestinal system, circulatory, endocrine, and respiratory systems. Offered winter semester. Prerequisite: RIT 331. Corequisite: RIT 333.

## **RIT 333 - Radiation Therapy Principles and Practices II Laboratory (1 credit)**

This course provides intermediate laboratory sessions presenting concepts of radiation therapy treatment principles and practices for photon and electron dosimetry, skin, genitourinary, gynecologic, gastrointestinal, endocrine and respiratory neoplasms. Offered winter semester. Prerequisite: RIT 331. Corequisite: RIT 332.

## **RIT 361 - Radiation Therapy Clinical Education I (2 credits)**

A clinical education course on basic treatment procedures in the clinical setting, under direct supervision. Individualized evaluation of performance and analysis of results obtained are an inherent part of this course. Content is supported by a weekly discussion session at the university. Offered winter semester. Prerequisites: RIS 302, RIT 330, and RIT 331.

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## **RIT 362 - Radiation Therapy Clinical Education II (4 credits)**

A clinical education course in intermediate level treatment procedures in the clinical setting under direct supervision, further perfecting clinical expertise and judgment of student in clinical radiation therapy. Individualized evaluation of performance and analysis of results are part of this course. Content is supported by a weekly discussion session at the university. Offered spring/summer semester. Prerequisites: RIT 302, RIT 330, and RIT 331.

## **RIT 380 - Special Topics in Radiation Therapy (1 to 5 credits)**

Special topics in radiation therapy. Offered every semester. Prerequisites: Faculty approval to assure students have appropriate experiential backgrounds in didactic, laboratory, and/or clinical areas of study. Offered every semester.

## **RIT 401 - Radiologic Information Technology (3 credits)**

This course provides information related to fundamental concepts of medical and health informatics methods and techniques involved in the integration of computer systems in medical centers, specifically radiologic centers. Students will be introduced to health information systems, data representation and standards, privacy, security, and management of health information. Offered fall semester. Prerequisite: Admission radiation therapy program.

## **RIT 420 - Radiation Therapy Physics I (2 credits)**

Radiation therapy involves the use of ionizing radiation using various energies, particles, and techniques to treat malignancies and benign conditions, either curatively or palliatively. This course describes the principles of physics for the radiation therapist to understand the purpose of multiple radiation energies and the need for photons and electrons. Offered winter semester. Prerequisite: Admission to the radiation therapy major.

## **RIT 422 - Radiation Therapy Physics II (2 credits)**

Radiation therapy involves the use of ionizing radiation to treat malignancies and benign conditions, either curatively or palliatively. The purpose of this course is to familiarize the radiation therapist with the nature of ionizing radiation that allows it to be exploited for its desired characteristics while minimizing potentially undesirable effects. Offered fall semester. Prerequisite: Admission to the radiation therapy major.

## **RIT 424 - Image Guided Principles of Radiation Therapy (4 credits)**

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This course is designed to teach competent operation of current imaging equipment within the field of radiation oncology, including knowledge in factors that govern and influence the production and recording of radiographic images for patient simulation, treatment planning, and treatment verification within the field. Offered winter semester. Prerequisite: RIT 330.

### **RIT 430 - Radiation Therapy Principles and Practices III (3 credits)**

Lecture sessions presenting advanced concepts of radiation therapy treatment principles and practices for pathology, radiobiology, brachytherapy, quality assurance, neoplasms of lymphoreticular system, head and neck, CNS, and breast. Offered fall semester. Prerequisite: RIT 331. Corequisite: RIT 431.

### **RIT 431 - Radiation Therapy Principles and Practices III Lab (1 credit)**

Laboratory sessions presenting advanced concepts of radiation therapy treatment, patient nutrition, set ups, and procedures for breast, head and neck region, lymphoma, and central nervous system tumors. Offered fall semester. Prerequisite: RIT 331. Corequisite: RIT 430.

### **RIT 432 - Radiation Therapy Principles and Practices IV (3 credits)**

Clinical details of specific skill practices in radiation therapy with special attention to pediatric tumors, GI, bone and soft tissue sarcomas, emerging technologies, detection/diagnosis, clinical trials, and treatment of benign conditions. Common chemotherapy agents and current clinical trials. Offered winter semester. Prerequisite: RIT 331. Corequisite: RIT 433.

### **RIT 433 - Radiation Therapy Principles and Practices Lab IV (1 credit)**

This radiation therapy laboratory course will include patient setup instructions, immobilization techniques, traditional field designs, and patient care skills for simulations of pediatric tumors, GI tumors, bone tumors, adult sarcomas, and benign conditions. Offered winter semester. Prerequisite: RIT 331. Corequisite: RIT 432.

### **RIT 441 - Gross Human Sectional Anatomy (4 credits)**

This course is a study of human sectional anatomy as visualized by radiologic and imaging sciences modalities in planes relevant to the demonstration of head, thorax, abdomen, pelvic, spine, and extremity anatomy. Cadaver correlation to diagnostic medical sonography, echocardiography, diagnostic radiology, computed tomography, and magnetic resonance

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imaging is emphasized. Offered winter semester. Prerequisite: Admission to the radiation therapy program, diagnostic medical sonography program, or cardiovascular sonography program.

### **RIT 458 - Neoplasms (3 credits)**

Overview of the epidemiological, etiological, diagnostic, and treatment foundations of common malignant and benign lesions. Anatomical sites of exploration include: breast, prostate, ovary, colon, stomach, lymphoma, CNS, and skin. Offered fall semester. Prerequisite: Admission to the radiation therapy program, diagnostic medical sonography program, or cardiovascular sonography program.

### **RIT 460 - Radiation Therapy Clinical Education III (3 credits)**

Clinical education course in which the student gains additional radiation therapy experience in the clinical setting, under direct supervision, and further perfects clinical expertise and judgment. Individualized evaluation of performance and analysis of results obtained are included in this course. Content is supported by a weekly discussion session. Offered fall semester. Prerequisites: RIT 302, RIT 330, and RIT 331.

### **RIT 461 - Radiation Therapy Clinical Education IV (3 credits)**

Students continue to progress toward executing treatment procedures in the clinical setting, under direct supervision, further perfecting clinical expertise and judgment. Individualized evaluation of performance and analysis of results obtained are part of this course. Content is supported by a weekly discussion session. Offered winter semester. Prerequisites: RIT 330, RIT 331, RIT 332, RIT 333, RIT 361, RIT 362, RIT 420, RIT 422, RIT 430, RIT 431, and RIT 460.

### **RIT 470 - Radiation Therapy Treatment Planning (2 credits)**

Fundamentals of clinical radiation oncology treatment planning. Precise descriptive methods are presented for a wide range of typical patient conditions. Offered fall semester. Prerequisites: (RIT 330 and RIT 331) or (RIT 332, and RIT 333); and RIT 420. Corequisites: RIT 422 and RIT 471.

### **RIT 471 - Radiation Therapy Treatment Planning Lab (1 credit)**

Concepts in medical dosimetry as they are applied to clinical radiation oncology treatment planning. Presentations, demonstrations, and evaluations using laboratory treatment planning software are correlated to the lectures. Offered fall semester. Corequisite: RIT 470.

## **RIT 472 - Introduction to Medical Dosimetry (2 credits)**

Medical dosimetry concepts as they are applied to clinical radiation oncology treatment planning. Examples are given from clinical education sites that will be correlated with the corequisite laboratory. Offered winter semester. Prerequisites: RIT 470 and RIT 471. Corequisite: RIT 473.

## **RIT 473 - Introduction to Medical Dosimetry Lab (1 credit)**

Application of medical dosimetry concepts as they are applied to clinical radiation oncology treatment planning. Examples will be used from clinical education sites that will be correlated from the corequisite lecture course. Offered winter semester. Prerequisites: RIT 470 and RIT 471. Corequisite: RIT 472.

## **RIT 495 - Advanced Clinical Problems in Radiation Therapy (3 credits)**

SWS Capstone in radiation therapy exploring diverse clinical problems from frameworks of reflection and contemplation on ethical legal issues relating technical philosophic foundations of radiation therapy procedures and radiation physics, bioeffects, patient interaction, anatomy, and pathophysiology. Requires final rewriting of professional portfolio showcasing past didactic, laboratory, clinical, professional learning, and community service. Offered winter semester. Prerequisite: Successful completion of all previously required courses in the major. Corequisite: RIT 461.

## **RIU 301 - DMS Image Evaluation I (1 credit)**

This course is designed to facilitate critical analysis of anatomic and pathologic imaging information related to diagnostic medical sonographic procedures for the imaging of abdominal structures. Offered winter semester. Prerequisites: Admission to diagnostic medical sonography - general concentration, RIU 330, RIU 331, and RIU 360. Corequisite: RIU 361.

## **RIU 302 - DMS Image Evaluation II (1 credit)**

Anatomic and pathologic imaging details and correlations between the accepted diagnostic medical sonographic procedures and clinical data specific to the imaging of obstetrical and gynecological structures including related small parts (breast, thyroid, testicles, prostate). Practical skills and clinical knowledge specific to anatomic and pathologic information will be discussed. Offered fall semester. Prerequisites: RIU 301, RIU 332, RIU 333, and RIU 362.

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## **RIU 320 - Applied Ultrasound Physics Instruction I (2 credits)**

This course will provide theoretical foundations and clinical applications of ultrasound physics and instrumentation, necessary for laboratory and clinical scanning, including an introduction to Doppler principles, performance testing, artifacts, and bioeffects. Offered fall semester.

Prerequisites: Admission to the diagnostic medical sonography major or cardiovascular sonography major. Corequisite: RIU 321.

## **RIU 321 - Applied Ultrasound Physics Instruction I Lab (1 credit)**

This course will provide correlated laboratory experiences relevant to theoretical foundations and clinical applications of ultrasound physics and instrumentation, necessary for clinical scanning, including an introduction to Doppler principles, performance testing, artifacts, and bioeffects.

Offered fall semester. Prerequisite: Admission to the diagnostic medical sonography major or cardiovascular sonography major. Corequisite: RIU 320.

## **RIU 322 - Principles of Radiologic Imaging Sciences (3 credits)**

This course will cover the principles governing production of radiation, interaction of radiation with matter, protection of the radiation worker and patient from exposure, and use of various types of radiation (ionizing, sound, radio) to create radiologic, sonographic, and magnetic resonance images. Offered winter semester. Prerequisite: Admission to diagnostic medical sonography - general concentration.

## **RIU 324 - Applied Doppler Ultrasound Physics (2 credits)**

Theoretical foundations and clinical applications of applied Doppler diagnostic medical sonographic physics and instrumentation for abdominal, obstetric-gynecology, echocardiography, vascular, and breast imaging. Quality assurance testing and introduction to bioeffects are included. An emphasis on the American Registry of Diagnostic Medical Sonographers' examination is part of this course. Offered winter semester. Prerequisites: RIU 320 and RIU 321.

## **RIU 330 - Abdominal Sonography I (4 credits)**

This course is designed to introduce the student to abdominal diagnostic medical sonography.

This course will cover specific protocols for the investigation of the abdomen through the use of sonography. Specific anatomic and pathologic information necessary for the clinical practice of abdominal diagnostic medical sonography will be discussed. Offered fall semester. Prerequisite:

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Admission to diagnostic medical sonography major - general concentration. Corequisites: RIU 320, RIU 321, RIU 331, and RIU 360.

### **RIU 331 - Abdominal Sonography I Lab (2 credits)**

This course provides laboratory activities in abdominal sonography and includes demonstrations and return demonstrations for competency evaluations. There is a practical application that correlates to the anatomic and pathologic details presented in RIU 330 - Abdominal Sonography I. Offered fall semester. Prerequisite: Admission to diagnostic medical sonography major - general concentration. Corequisites: RIU 320, RIU 321, RIU 330, and RIU 360.

### **RIU 332 - Obstetrics-Gynecology Sonography I (3 credits)**

This course will introduce students to normal and abnormal sonographic clinical procedures of nonpregnant uterus and of the normal pregnant uterus. Clinical data relative to related anatomic, physiologic, and pathological conditions will be emphasized. Offered winter semester. Prerequisite: RIU 360 and admission to diagnostic medical sonography program general concentration (abdominal and obstetrics-gynecology). Corequisite: RIU 333.

### **RIU 333 - Obstetrics-Gynecology Sonography Lab (1 credit)**

This course will include anatomic and pathologic imaging details and correlations in the relationships of diagnostic medical sonographic procedures for the imaging of obstetric and gynecologic structures. Clinical data relative to related anatomic, physiologic, and pathologic conditions will be emphasized by interactive live sonographic evaluation. Offered winter semester. Prerequisite: RIU 360. Corequisite: RIU 332.

### **RIU 360 - Introduction to Clinical Ultrasound (2 credits)**

This course will provide an overview of the basics of diagnostic medical sonography and the practitioner's role in the health care delivery system to include principles, practices, and policies of the educational program, health care organizations, principles of ultrasound and health safety, and basic patient care. Offered fall semester. Prerequisite: Admission to the diagnostic medical sonography major - general concentration.

### **RIU 361 - Clinical Ultrasound Education I (2 credits)**

Beginning level content and clinical practice experiences designed for sequential development, application, analysis, integration, synthesis and evaluation of concepts and theories in abdominal and obstetric and gynecologic diagnostic medical sonography. Content is supported by a weekly discussion session at the university. Offered winter semester. Prerequisites: RIU 320, RIU 321, RIU 330, RIU 331, and RIU 360.

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## **RIU 362 - Clinical Ultrasound Education II (4 credits)**

Continuation of Clinical Education I level content and clinical practice experiences designed for sequential development, application, analysis, integration, synthesis, and evaluation of concepts and theories in abdominal and obstetrical and gynecologic diagnostic medical sonography.

Content is supported by a weekly discussion session at the university. Offered spring/summer semester. Prerequisites: RIU 330, RIU 331, and RIU 360.

## **RIU 380 - Special Topics in Diagnostic Medical Sonography (1 to 5 credits)**

Special topics in diagnostic medical sonography. Offered every semester. Prerequisite: Faculty approval to assure students have appropriate experiential backgrounds in didactic, laboratory, and/or clinical areas of study.

## **RIU 420 - Applied Ultrasound Physics Instruction II (2 credits)**

A course in diagnostic medical sonographic physics and instrumentation that explores diverse problems in ultrasound physics from a framework of previous physics courses, clinical experiences, other sonographic didactic coursework, and expectations students have for national ARDMS examinations in physics, as well as their future professional career plans. Offered fall semester. Prerequisite: RIU 320 or RIU 324.

## **RIU 430 - Abdominal Sonography II (2 credits)**

Continuation from RIU 330 which includes anatomic and pathologic imaging details and correlations in the relationships of diagnostic medical sonographic procedures for the imaging of abdominal structures, including the designation of small parts (such as thyroid, breast) and abdominal Doppler procedures. Offered fall semester. Prerequisites: RIU 324, RIU 330, and RIU 331. Corequisite: RIU 431.

## **RIU 431 - Abdominal Sonography II Lab (1 credit)**

This course is a continuation of RIU 331, which will include anatomic and pathologic imaging details and correlations in the relationships of diagnostic medical sonographic procedures for the imaging of abdominal structures including small parts classification. Clinical data relative to related anatomic, physiologic, and pathologic conditions will be emphasized. Offered fall semester. Prerequisites: RIU 324, RIU 330, and RIU 331. Corequisite: RIU 430.

## **RIU 434 - Breast Sonography Procedures (2 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

This course is designed to introduce the student to diagnostic medical sonography of the breast. In this course, the student will study specific protocols for the investigation of the breast and related structures. Specific anatomic and pathologic information necessary for the clinical practice of breast sonography will be discussed. Offered winter semester. Prerequisite: Permission of instructor.

## **RIU 435 - Obstetrics-Gynecology Sonography II (2 credits)**

This course will continue from RIU 332 and include advanced imaging procedures and clinical data that is related to pathologic conditions of the obstetric-gynecologic patient. At the conclusion of this course, the student should have a strong knowledge base of the ob-gyn patient as it applies to diagnostic medical sonography. Prerequisite: RIU 332.

## **RIU 436 - Vascular Technology Procedures I For General Ultrasound (2 credits)**

Noninvasive vascular testing of the abdominal and peripheral arterial system with relevant hemodynamics pertaining to a general sonography perspective. Clinical data pertinent anatomic, physiologic, and pathologic conditions will be emphasized. Prerequisites: RIU 320 and RIU 321. Corequisite: RIU 437.

## **RIU 437 - Vascular Technology Procedures I For General Ultrasound Lab (1 credit)**

Application of the noninvasive vascular testing of the abdominal and peripheral arterial system with relevant hemodynamics pertinent to a general sonography perspective in the laboratory. Clinical data relative to related anatomic, physiologic, and pathologic conditions will be emphasized. Prerequisites: RIU 320 and RIU 321. Corequisite: RIU 436.

## **RIU 438 - Vascular Technology Procedures II for General Ultrasound (2 credits)**

Noninvasive vascular testing of the abdominal and peripheral venous system with relevant hemodynamics pertaining to a general sonography perspective. Clinical data relative to related anatomic, physiologic, and pathologic conditions will be emphasized. Prerequisites: RIU 436 and RIU 437. Corequisite: RIU 439.

## **RIU 439 - Vascular Technology Procedures II for General Ultrasound Lab (1 credit)**

Laboratory component of noninvasive vascular testing of the abdominal and peripheral venous system with relevant hemodynamics pertaining to a general sonography perspective. Clinical

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data relative to related anatomic, physiologic, and pathologic conditions will be emphasized. Prerequisites: RIU 436 and RIU 437. Corequisite: RIU 438.

### **RIU 454 - Advanced Obstetric-Gynecologic Sonography (3 credits)**

The course will provide the student with lectures from current practicing physicians and various medical professionals who are involved in the assessment and evaluation of gynecologic and obstetric patients in the clinical setting. The role of sonographic imaging of obstetric and gynecologic patients will be explored. Offered winter semester. Prerequisite: Admission to diagnostic medical sonography - general concentration.

### **RIU 460 - Clinical Ultrasound Education III (3 credits)**

Continuation of content and clinical practice experiences designed for development, application, analysis, integration, synthesis, and evaluation of concepts and theories in abdominal and obstetrical gynecological diagnostic medical sonography. Content is supported by a weekly discussion session at the university. Offered fall semester. Prerequisites: RIU 330, RIU 331, and RIU 360.

### **RIU 461 - Clinical Ultrasound Education IV (3 credits)**

Continuation of content and clinical practice experiences preparing the student to perform successfully in the clinical setting through sequential development, application, analysis, integration, synthesis, and evaluation of concepts and theories in abdominal and obstetrical gynecological diagnostic medical sonography. Content is supported by a weekly discussion at the university. Offered winter semester. Prerequisites: RIU 361, RIU 362, and RIU 460.

### **RIU 495 - Advanced Clinical Problems in Ultrasound (3 credits)**

SWS Capstone in radiologic and imaging exploring diverse clinical problems from frameworks of reflection and contemplation on ethical legal issues relating technical philosophic foundations of sonographic procedures and ultrasound physics, bioeffects, patient interaction, anatomy, and pathophysiology. Requires final rewriting of professional portfolio showcasing past didactic, laboratory, clinical, professional learning, and community service. Offered winter semester. Prerequisite: Successful completion of all previously required courses in the major. Corequisite: RIU 461.

### **RMD 620 - Dosimetry Treatment Planning I (3 credits)**

Examines the pathophysiology and oncology management of gastrointestinal, breast, brain, head and neck, and metastatic cancer. The content will include relevant anatomy, dosimetry treatment

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planning techniques and dose limitations. Offered fall semester. Prerequisite: Acceptance into the medical dosimetry program.

### **RMD 621 - Dosimetry Treatment Planning I Lab (1 credit)**

This is the concurrent laboratory course for RMD 620 - Dosimetry Treatment Planning I. In this course, students will learn and apply treatment planning techniques for gastrointestinal, breast, brain, head and neck, and metastatic cancer. Offered fall semester. Prerequisite: Acceptance into the medical dosimetry program.

### **RMD 622 - Dosimetry Treatment Planning II (3 credits)**

Examines the pathophysiology and oncology management of genitourinary, thoracic, gynecological, skin, and miscellaneous cancer. The content will include relevant anatomy, dosimetry treatment planning techniques and dose limitations. Offered winter semester. Prerequisite: Successful completion of all previously required courses in the medical dosimetry program's curricular sequence.

### **RMD 623 - Dosimetry Treatment Planning II Lab (1 credit)**

This is the concurrent laboratory course for RMD 622 - Dosimetry Treatment Planning II. In this course, students will learn and apply treatment planning techniques for genitourinary, thoracic, gynecological, skin, and miscellaneous cancers. Offered winter semester. Prerequisite: Successful completion of all previously required courses in the medical dosimetry program's curricular sequence.

### **RMD 630 - Medical Dosimetry I (3 credits)**

This course will cover the principles governing production of radiation, radiation protection, interaction of radiation with matter, radiation dose distribution (photon and electron), and external beam dose calculations. Offered winter semester. Prerequisite: Successful completion of all previously required courses in the medical dosimetry program's curricular sequence.

### **RMD 632 - Medical Dosimetry II (3 credits)**

This course will cover the principles governing production of radiation, radiation protection, interaction of radiation with matter, radiation dose distribution (photon and electron), and external beam dose calculations. Offered winter semester. Prerequisite: Successful completion of all previously required courses in the medical dosimetry program's curricular sequence.

### **RMD 661 - Medical Dosimetry Clinical Education I (1 to 4 credits)**

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Clinical education experience in medical dosimetry in a university affiliated clinical education center is the focus of the course. The student will concentrate on beginning level application of core competencies in medical dosimetry practice. Offered fall semester. Prerequisite: Acceptance into the medical dosimetry program.

### **RMD 662 - Medical Dosimetry Clinical Education II (1 to 4 credits)**

Clinical education experience in medical dosimetry in a university affiliated clinical education center is the focus of the course. The student will concentrate on refining medical dosimetry clinical reasoning and treatment planning skills in collaboration with health care team members. Offered winter semester. Prerequisite: RMD 661.

### **RMD 663 - Medical Dosimetry Clinical Education III (1 to 4 credits)**

Clinical education experience in medical dosimetry in a university affiliated clinical education center is the focus of the course. The student will concentrate on advanced level skills and transitioning into medical dosimetry practice as a member of the profession. Offered spring/summer semester. Prerequisite: RMD 662.

### **RMD 670 - Professional Issues in Medical Dosimetry (3 credits)**

Investigation of healthcare ethics, professional conduct, and psychologic aspects in oncology. Students also explore electronic medical records and charting, computer networking, treatment error corrections, quality improvement, advanced emerging technologies and legal issues. Preparation for the Medical Dosimetry Certification exam is conducted. Prerequisite: Successful completion of all previously required courses in the medical dosimetry program's curricular sequence.

### **RMD 693 - Medical Dosimetry Research Project (1 to 3 credits)**

Students work individually with faculty mentors on research activities, scholarly writing, and presentation skills to complete all steps of their research project. Training modules in research topics guide the student during their project. This course must be repeated for a total of six credits. Offered each semester. Prerequisites: Acceptance into the medical dosimetry program.

### **RMD 695 - Medical Dosimetry Thesis (1 to 3 credits)**

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Students work individually with faculty mentors on a thesis and defense. Training modules in research topics guide the student during their thesis. Students are required to remain continuously enrolled in RMD 695 once the thesis is started, until the end of the semester of graduation, for minimum of six credits. Prerequisites: Admission to the medical dosimetry program and completion of the Responsible Conduct of Research Training within last three years.

## **RMD 696 - Continuation of Master's Project or Thesis Research (1 credit)**

Continuation of work related to the master's project or thesis phase of the graduate student's program. Registration is required after all respective project or thesis credits are completed and the project or thesis is not completed. Work will be performed under the supervision of the project advisor or thesis committee chair. Offered every semester. Prerequisites: Completion of all required project or thesis credits and completion of the Responsible Conduct of Research Training within last three years.

## **RSC 315 - Quality Assessment and Health Outcomes (3 credits)**

This course provides knowledge in health care organizational and systems leadership, sustaining change through the process of quality improvement, and ensuring that patients are cared for in a safe, ethical, and efficient manner. Students will learn how to apply this knowledge to patients receiving respiratory care. Offered winter semester. Prerequisite: Admission to the respiratory care (BSRC) degree advancement program.

## **RSC 316 - Health Care Informatics for the Respiratory Therapist (3 credits)**

This course provides students with the fundamental knowledge of health care informatics. Focus is on how to integrate informatics principles into respiratory care practice and its use in improving patient care. Offered spring/summer semester. Prerequisite: Admission to the respiratory care (BSRC) degree advancement program.

## **RSC 318 - Gerontology for the Respiratory Therapist (3 credits)**

This course provides students with knowledge of biopsychosocial factors associated with aging and age-related issues of the older adult. Students will examine the health care needs of older patients from both an interprofessional viewpoint and from the specific role of the respiratory therapist in a variety of health care settings. Offered winter semester. Prerequisite: Admission to the respiratory care (BSRC) degree advancement program.

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## **RSC 328 - Patient Assessment and Care Plans I (3 credits)**

This course provides students with enhanced knowledge in patient assessment and application of assessment skills to the development, implementation, and evaluation of evidence-based care plans for respiratory patients with common respiratory conditions. Offered winter semester. Prerequisite: Admission to the respiratory care (BSRC) degree advancement program.

## **RSC 401 - Evidence-Based Practice in Respiratory Care (3 credits)**

This course focuses on evidenced-based practice in respiratory care. Critical thinking skills, how to incorporate evidence and best practices into professional work, and analysis of the practice and application of research within the field of respiratory care are emphasized. Offered fall semester. Prerequisites: AHS 301 and admission to the respiratory care (BSRC) degree advancement program.

## **RSC 428 - Patient Assessment and Care Plans II (3 credits)**

Students integrate physiologic and pathophysiologic principles, along with the application of assessment skills, to develop, implement, and evaluate evidence-based care plans for the management of medically complex respiratory patients and patients requiring mechanical ventilation. Offered spring/summer semester. Prerequisite: RSC 328.

## **RSC 438 - Respiratory Disease Management (3 credits)**

This course provides a comprehensive study of respiratory diseases. Focus is on the role of the respiratory therapist in disease treatment and management. Health disparities, along with other current and emerging issues in disease management, will be explored. Offered spring/summer semester. Prerequisite: Admission to the respiratory care (BSRC) degree advancement program.

## **RSC 458 - Cardiopulmonary Diagnostics and Monitoring (3 credits)**

This course provides a study of invasive and non-invasive diagnostics and patient monitoring techniques for the cardiopulmonary systems from prenatal through adult. Focus is on the role of the respiratory therapist in performing these diagnostic and monitoring techniques. Offered fall semester. Prerequisite: Admission to the respiratory care (BSRC) degree advancement program.

## **RSC 485 - Professionalism in Respiratory Care (3 credits)**

This course focuses on what it means to be a professional respiratory therapist and the relationship between professional and personal growth. Students will examine their own

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professional identity by means of personal and critical reflection. Offered fall semester.  
Prerequisite: Admission to the respiratory care (BSRC) degree advancement program.

## **RSC 495 - Respiratory Care Capstone (3 credits)**

Students will explore current issues and trends impacting the respiratory care profession locally, nationally, and internationally. Synthesizing knowledge acquired from the major core courses and reflecting on their career goals, students will develop a project in an area of interest culminating in a professionally written paper and presentation. Offered fall semester.

Prerequisites: Completion of general education Foundations - Writing, senior standing, and achievement of the Registered Respiratory Therapist (RRT) credential through the National Board for Respiratory Care (NBRC).

## **RST 180 - Special Topics in Russian Studies (1 to 4 credits)**

Course content varies. Refer to schedule of classes to determine course description and prerequisites. Students may repeat this course under different topics.

## **RST 280 - Special Topics in Russian Studies (1 to 4 credits)**

Course content varies. Refer to schedule of classes to determine course description and prerequisites. Students may repeat this course under different topics.

## **RST 380 - Special Topics in Russian Studies (1 to 9 credits)**

Course content varies. Refer to schedule of classes to determine course description and prerequisites. Students may repeat this course under different topics.

## **RST 399 - Independent Reading (1 to 3 credits)**

Independent reading in Russian studies.

## **RST 480 - Special Topics in Russian Studies (1 to 4 credits)**

Course content varies. Refer to schedule of classes to determine course description and prerequisites. Students may repeat this course under different topics.

## **RST 499 - Independent Study and Research (1 to 4 credits)**

Independent study and research in Russian studies.

## **RTX 300 - Foundations of Recreational Therapy (3 credits)**

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Introduces students to the history, philosophy, theories and models of recreational therapy and factors influencing service delivery. Offered fall semester. Prerequisite: Admission into the recreational therapy program.

## **RTX 302 - Leisure, Health, and Wellness (3 credits)**

Addresses the concept of leisure and its use in achieving and maintaining good health and well-being of individuals, families, and societies. Leisure education and complementary health promotion strategies to achieve health and wellness are integrated throughout the course. Part of the Health Issue. Offered fall and winter semesters. Prerequisite: Junior standing.

## **RTX 304 - Diagnostic Groups in Recreational Therapy (3 credits)**

Explores the delivery of recreational therapy for persons with illnesses, disabilities, and other populations. Focus on symptomology, etiology, prognosis, and treatment using recreational therapy interventions; includes an overview of the impact of illness and disability on the individual and family. Service learning enables students to apply course content. Offered winter semester. Prerequisite: Admission into the recreational therapy program.

## **RTX 306 - Comprehensive Recreational Therapy Programming (3 credits)**

Emphasis on systematic program planning in various settings utilizing recreational therapy service delivery models. Important components in program planning include assessment program planning, implementation and program evaluation. Offered fall semester. Prerequisite: RTX 300.

## **RTX 308 - Leadership for Recreational Therapy (3 credits)**

An introduction to theories and principles of leadership, group dynamics, and facilitation of interventions for persons with special needs will be presented. Developing individual therapeutic relationships and building rapport with groups will be a focus. The emphasis will be on practical experiences in recreational therapy leadership roles in various settings. Offered fall semester. Prerequisite: RTX 304.

## **RTX 310 - Interventions in Recreational Therapy (3 credits)**

An in-depth study of the intervention techniques and modalities used in implementing recreational therapy programs. Topics include treatment approaches, counseling techniques, and the facilitation process. Offered winter semester. Prerequisite: RTX 302.

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## **RTX 313 - Recreational Therapy for Physical Disability (3 credits)**

Provides students with the knowledge and skills related to the delivery of recreational therapy services for persons with physical disabilities and other chronic conditions. Focuses on rehabilitation and community reintegration, inpatient and outpatient services. Offered winter semester. Prerequisite: RTX 304.

## **RTX 315 - Recreational Therapy for Mental Health (3 credits)**

An introduction to recreational therapy practice related to mental health. Emphasis on characteristics of the group, activities to facilitate change in different behavioral domains, therapeutic interventions for adults and children, treatment settings and services, and trends in programming. Offered fall semester. Prerequisite: RTX 304.

## **RTX 316 - Therapeutic Recreation with the Elderly (3 credits)**

Provides an overview of aging, the needs of older adults, and continuum of older adult services. The role of the recreational therapist and interventions commonly used with older adults will be explored. Service learning and practice experiences related to working with older adults are included. Offered winter semester. Prerequisite: RTX 304.

## **RTX 317 - Recreational Therapy for Pediatrics (3 credits)**

Examines recreational therapy practice with pediatric patients from birth through adolescence. Includes pediatric diagnosis, conditions and issues, and assessment, as well as recreational therapy interventions and treatment modalities. Offered winter semester. Prerequisite: RTX 304.

## **RTX 380 - Special Topics in Therapeutic Recreation (1 to 4 credits)**

Provides an opportunity for students to pursue advanced or specialist study in topics related to the field of therapeutic recreation. The selected topics are not ordinarily dealt with in other courses. Can be repeated. Offered on sufficient demand. Prerequisite: Permission of instructor.

## **RTX 389 - Recreational Therapy Placement Preparation (1 credit)**

Prepare students for fieldwork and internship placements. Topics will include self-exploration, preparation for successful placement selection, portfolio development, interviewing skills, development of professional behaviors, placement expectations, and completing health compliance requirements. Prerequisite: Admission into the recreational therapy program.

### **RTX 390 - Fieldwork in Recreational Therapy (3 credits)**

To be taken in an agency offering a recreational therapy program or in a community setting for persons with special needs. Involves practical experience of 300 hours in a supervised program under the direction of an off-campus cooperating agency. Prerequisite: RTX 310.

### **RTX 399 - Independent Readings and Special Activities (1 to 3 credits)**

Special studies in therapeutic recreation upon consultation with faculty advisor and approval of director of the therapeutic recreation program. Offered every semester.

### **RTX 404 - Trends and Issues in Recreational Therapy (3 credits)**

This course examines trends in recreational therapy. Issues are examined from historical, present, and future perspectives. Trends and issues will be examined critically and through reflective analysis at the undergraduate and graduate levels. Additional graduate coursework will emphasize professional trends regarding advanced-practice in recreational therapy. Cross-listed with RTX 504. Offered winter semester. Prerequisite: RTX 310.

### **RTX 405 - Management in Recreational Therapy (3 credits)**

Principles of management and organization will be applied to recreational therapy practice. Content includes plans of operations, quality improvement, risk management, budgeting and fiscal management, staff and volunteer management, facility management, payment systems, accreditation/regulatory agencies, and leadership of departments and programs. Cross-listed with RTX 505. Offered winter semester. Prerequisite: RTX 407.

### **RTX 407 - Assessment and Documentation in Recreational Therapy (3 credits)**

Examines assessment tools and the systematic assessment process used in the profession. Practical experience in the assessment, planning, implementation, and evaluation (APIE) process with attention to documentation for outcomes and accountability. Offered fall semester. Prerequisite: RTX 310.

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## **RTX 410 - Research and Evaluation in Recreational Therapy (3 credits)**

This course introduces the research process with an emphasis on evidence-based practice in recreational therapy. Program evaluation is discussed as a means of producing measurable outcomes related to recreational therapy interventions. Undergraduate projects are presented at Student Scholars Day, while graduate projects are presented at a professional forum. Cross-listed with RTX 510. Prerequisites: RTX 404 and STA 215.

## **RTX 490 - Internship in Recreational Therapy (6 or 12 credits)**

Fifteen-week (600 hour) full-time internship. Must be taken under the supervision of a certified therapeutic recreation specialist (CTRS). Offered every semester. Prerequisites: Senior standing, last semester of program, and satisfactory completion of the recreational therapy core.

## **RTX 499 - Independent Study and Research (1 to 3 credits)**

Special studies in therapeutic recreation upon consultation with faculty advisor and director of the therapeutic recreation program. Offered every semester.

## **RTX 502 - Classification of Functioning and Diagnosis in Recreational Therapy (3 credits)**

This class emphasizes application of the recreational therapy process and services to underserved populations and individuals with disabilities or chronic conditions. This includes identifying and understanding the symptoms, characteristics, etiology, and prognosis of disabilities and illnesses, as well as the impact on overall function and quality of life. Offered fall semester. Prerequisite: Admission to the Master of Science in recreational therapy.

## **RTX 504 - Trends and Issues in Recreational Therapy (3 credits)**

This course examines trends in recreational therapy. Issues are examined from historical, present, and future perspectives. Trends and issues will be examined critically and through reflective analysis at the undergraduate and graduate levels. Additional graduate coursework will emphasize professional trends regarding advanced-practice in recreational therapy. Cross-listed with RTX 404. Offered winter semester.

## **RTX 505 - Management in Recreational Therapy (3 credits)**

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Principles of management and organization will be applied to recreational therapy practice. Content includes plans of operations, quality improvement, risk management, budgeting and fiscal management, staff and volunteer management, facility management, payment systems, accreditation/regulatory agencies, and leadership of departments and programs. Cross-listed with RTX 405. Offered winter semester. Prerequisites: RTX 507.

## **RTX 507 - Recreational Therapy Assessment and Documentation (3 credits)**

This course provides an overview of assessment as the foundation of the recreational therapy process. The course focus is on techniques and skills for conducting assessments as well as an examination of existing assessment tools, the development of new assessment protocols, and documentation related to the treatment planning process. Offered fall semester. Prerequisite: Admission into the Master of Science in recreational therapy.

## **RTX 508 - Recreational Therapy Interventions and Techniques (3 credits)**

This course will examine the intentional use of interventions as part of a comprehensive recreational therapy program. Additionally, leadership techniques, activity analysis and modification, and available resources will be considered as related to the use of interventions to address identified treatment needs. Offered winter semester. Prerequisite: RTX 507.

## **RTX 510 - Research and Evaluation in Recreational Therapy (3 credits)**

This course introduces the research process with an emphasis on evidence-based practice in recreational therapy. Program evaluation is discussed as a means of producing measurable outcomes related to recreational therapy interventions. Undergraduate projects are presented at Student Scholars Day, while graduate projects are presented at a professional forum. Cross-listed with RTX 410. Prerequisite: RTX 504.

## **RTX 590 - Clinical Internship in Recreational Therapy (6 credits)**

This course offers students a 15-week, full-time (600 hour) clinical internship in recreational therapy. It must be completed under the supervision of a Certified Therapeutic Recreation Specialist (CTRS). The placement must meet specific criteria for credit and to be eligible to take the national CTRS certification exam. Class is credit/no-credit. Offered every semester. Prerequisite: RTX 510.

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## **RTX 606 - Program Development and Consulting in Recreational Therapy (3 credits)**

The focus of this course is on practice, techniques, and theories related to program development, program evaluation, and consulting in recreational therapy. Students will develop advanced skills in management and consulting related to recreational therapy services. Offered winter semester. Prerequisite: RTX 607.

## **RTX 607 - Advanced Practice in Recreational Therapy Assessment and Evaluation (3 credits)**

Identification of advanced-practice and emerging issues related to recreational therapy assessment will be evaluated. Critical analysis of existing assessment processes, development of new assessment tools, and implementation of new assessment processes will be studied. Principles of evidenced-based practice as related to assessment will be applied. Offered fall semester. Prerequisite: RTX 590 for Master of Science in recreational therapy (two-year program) or admission into the Master of Science in recreational therapy (one-year program).

## **RTX 613 - Advanced Recreational Therapy Practice in Physical Rehabilitation (3 credits)**

Identification and evaluation of advanced and emerging practice in recreational therapy within the physical rehabilitation setting are discussed. Advanced techniques, facilitation and evidence-based practice will be examined. Management and reimbursement issues within the setting will be assessed. Assessment tools, evaluation measures and documentation issues will be detailed. Offered winter and spring/summer semester. Prerequisite: RTX 607.

## **RTX 615 - Advanced Recreational Therapy Practice in Behavioral Health (3 credits)**

Identification of advanced-practice and emerging issues in recreational therapy within the behavioral health setting/population will be evaluated. Advanced intervention techniques, facilitation skills, and evidence-based practice will be examined. Management and reimbursement issues within the setting will be assessed. Assessment tools, evaluation measures, and documentation issues will be detailed. Offered winter and spring/summer semester. Prerequisite: RTX 607.

## **RTX 616 - Advanced Recreational Therapy Practice with Older Adults (3 credits)**

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Advanced-practice and emerging issues in recreational therapy working with older adults in a variety of settings will be the focus of this course, including advanced intervention techniques, facilitation skills, and evidence-based practice. Management, reimbursement, and general practice issues will be discussed. Offered winter and spring/summer semester. Prerequisite: RTX 607.

## **RTX 673 - Integrated Evidence-Based Research in Recreational Therapy 1 (3 credits)**

This course provides an introduction to the development of evidence-based practice for recreational therapy. Students will learn how to use this information as a practitioner and manager to make treatment decisions and develop improved practice interventions. Offered fall semester. Prerequisites: STA 610 and either admission into the Master of Science in recreational therapy (one-year program) or RTX 590 for students in the Master of Science in recreational therapy (two-year program).

## **RTX 675 - Integrated Evidence-based Research in Recreational Therapy 2 (3 credits)**

Using knowledge and skills developed in Integrated Evidence-based Research 1, students will develop an evidence base for a specific intervention or diagnosis, including a knowledge translation plan for implementation within a recreational therapy program. Offered winter semester. Prerequisite: RTX 673.

## **RTX 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

## **RTX 698 - Integrated Evidence-Based Research in Recreational Therapy 3 (3 credits)**

This course serves as the Capstone of the Master of Science in recreational therapy. Focusing on the development of a professional product, students will work closely with faculty to develop a professional manuscript or conference presentation related to their evidence-based research project. Offered spring/summer semester. Prerequisite: RTX 675.

## **RUS 101 - Beginning Russian I: Language and Culture (4 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

An introduction to Russian language and the culture in which it is embedded. Practice in speaking, listening, reading, writing, and culture at the beginning level. Supplemented by multimedia and the Language Resource Center. Offered fall semester.

## **RUS 102 - Beginning Russian II: Language and Culture (4 credits)**

Continuation of RUS 101. Further study in speaking, listening, reading, writing, and culture at the beginning level. Supplemented by multimedia and the Language Resource Center. Offered winter semester. Prerequisite: C (not C-) or better in RUS 101, or credit.

## **RUS 180 - Special Topics in Russian (1 to 4 credits)**

Course content varies. Expectations of students approximate those in other 100-level courses. May be repeated for credit when content differs. Offered on sufficient demand.

## **RUS 201 - Intermediate Russian I: Language and Culture (4 credits)**

Continuation of RUS 102. Continued study of speaking, listening, reading, writing, and culture at the intermediate level. Supplemented by multimedia and the Language Resource Center. Offered fall semester. Prerequisite: RUS 102 with a grade of C (not C-) or better, or credit.

## **RUS 202 - Intermediate Russian II: Language and Culture (4 credits)**

Continuation of RUS 201. Continued study of speaking, listening, reading, writing, and culture at the intermediate level. Supplemented by multimedia and the Language Resource Center. Fulfills Cultures - Global Perspectives. Offered winter semester. Prerequisite: RUS 201 with a grade of C (not C-) or better, or credit.

## **RUS 280 - Special Topics in Russian (3 to 4 credits)**

Course content varies. Expectations of students approximate those in other 200-level courses. May be repeated for credit when content differs. No more than four credits can be applied to the minor or major. Offered on sufficient demand.

## **RUS 380 - Special Topics in Russian (1 to 6 credits)**

Offered on sufficient demand.

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## **RUS 399 - Independent Reading (1 to 4 credits)**

Offered fall and winter semesters.

## **RUS 480 - Special Topics in Russian (1 to 4 credits)**

Course content varies. Expectations of students approximate those in other 400-level courses. May be repeated for credit when content varies. Offered on sufficient demand.

## **RUS 499 - Independent Study and Research (1 to 4 credits)**

Offered fall and winter semesters.

## **SAT 495 - Teaching Sciences and Arts in Elementary Classrooms (3 credits)**

Students will prepare and practice teaching interdisciplinary lessons for elementary students that meet national and state standards. Thematic content will integrate language arts, mathematics, science, and social studies. Offered winter semester. Prerequisites: Comprehensive sciences and arts for teaching major, and junior standing.

## **SCI 225 - Integrated Life Science for PK-3 Teachers (4 credits)**

Course promotes mastery of life and earth science concepts necessary to teach PK-3 science. Through inquiry and group discussions students develop reasoning and thinking skills critical to science while also developing mastery of science content. Fulfills Foundation - Life Sciences with a lab. Prerequisite: MTH 126 (may be taken concurrently).

## **SCI 226 - Integrated Physical Science for PK-3 Teachers (3 credits)**

Course promotes mastery of physical and earth science concepts necessary to teach PK-3 science. Through inquiry and discussions students develop reasoning and thinking skills. The course focuses on science teaching and learning that is connected to the other science disciplines. Fulfills Foundations - Physical Sciences with a lab. Prerequisite: MTH 126 (may be taken concurrently).

## **SCI 227 - Integrated Life and Earth Science for 3-6 Teachers (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Integration of Earth and Life Science concepts for preservice teachers. Includes Earth and space systems, major concepts in biology, scientific investigations, and engineering design. This course integrates content with crosscutting concepts and science and engineering practices. Content reflects National and Michigan Science Standards. Intended for PCKET majors only. Offered every semester. Prerequisites: SCI 225 and SCI 226.

### **SCI 319 - Science in Elementary Education (2 credits)**

Students will create and present a lesson plan, test hands-on activities, develop a deeper understanding of physical science concepts, and explore classroom safety issues related to teaching science at the K-8 level. Scientific misconceptions commonly held by teachers and students will be discussed. Prerequisites: BIO 120 and (either CHM 109 or CHM 201) and (either PHY 200 or PHY 201) and GEO 201.

### **SCI 336 - Ecology for K-8 Pre-Service Teachers (4 credits)**

Ecological concepts for preservice teachers. Includes ecosystems, energy flow, evolution, population dynamics, community ecology, and human impacts on the environment. This course is intended to integrate concepts from biology, physics, chemistry, and earth science. Content reflects National and Michigan Science Standards. Course is intended for integrated science majors only. Prerequisites: BIO 205, (either CHM 109 or CHM 201), GEO 202, GEO 203, and PHY 201 (GEO 201 recommended).

### **SCI 380 - Special Topics in Science (1 to 4 credits)**

Course content varies. Refer to schedule of classes to determine course description and prerequisites. Students may repeat this course under different topics.

### **SCI 440 - Physics and Chemistry in Secondary Education (3 credits)**

Introduces students to evidence based, physical science pedagogy, science education standards, and science safety practices. Students apply these ideas to lesson plan development and facilitation for physical science content. Offered fall semester. Prerequisites: Junior standing, CHM 116 and (either PHY 221 or PHY 231) or permission of the instructor.

### **SCI 450 - Earth and Life Science in Secondary Education (3 credits)**

Designed to introduce students to evidence based, earth and life science teaching pedagogy, science education standards, and science safety practices. Students apply these ideas to lesson plan development and facilitation for earth and life science content. Offered winter semester. Prerequisites: Junior standing and either (BIO 120 and BIO 121) or (GEO 111 and GEO 112).

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **SCI 495 - Teaching Science in the 21st Century (3 credits)**

A study of how biology, chemistry, earth science, and physics can be integrated into effective curriculum for teaching science in PK-6 classrooms. Constructivist and inquiry-based science techniques emphasized. Course is the Capstone for science concentration in the PCKET major. Prerequisites: Senior standing, CHM 201, and BIO 205.

## **SCI 580 - Special Topics in Science (1 to 3 credits)**

Lecture and/or laboratory courses or workshops in interdisciplinary studies relating to more than one science and/or mathematics discipline.

## **SCI 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

## **SI 600 - Cultures of Social Innovation (3 credits)**

This foundational course introduces students to diverse interdisciplinary perspectives and models for social innovation. Students learn to identify and evaluate structural inequalities and power relationships across a variety of sectors (forprofit, nonprofit, and governmental). They will develop a vocabulary for engaging with diverse communities and explore models of community engagement. Offered fall and winter semesters. Prerequisite: Admission to PMASI.

## **SI 610 - Research Methods for Social Inquiry (3 credits)**

Providing a survey of interdisciplinary and multiple method research approaches with a focus on the complexities of in-depth social inquiry including theoretical approaches to social problems. Course includes a discussion of the assumptions shaping interdisciplinary research questions and design, practical exercises in research techniques, and analysis of methodology in practice. Offered fall and winter semesters. Prerequisite: Graduate standing.

## **SI 620 - Case Studies in Social Innovation (3 credits)**

This course provides a macro- and microview of social innovation through case studies focused on change agents and strategies for innovation. Students will examine social innovation processes, movements, and complex adaptive systems of change across and between nonprofit, for-profit, and governmental sectors including a variety of case studies. Offered winter semester. Prerequisite: SI 610.

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## **SI 630 - Engaging Diversity through Social Innovation (3 credits)**

Designed to reinforce students' abilities to identify and critically evaluate structural inequalities, implicit values, and power relations across for-profit, nonprofit, and governmental sectors that shape the communities with which they engage. Includes discussion of theoretical frameworks for understanding equality/inequality as well as mechanisms for assessing inclusion and equity. Offered fall semester. Prerequisite: SI 600 or SI 610 or SI 620.

## **SI 650 - Place and Environmental Justice (3 credits)**

This course explores the creation of sustainable human communities, through the critical frameworks of place and environmental justice. Grounded in careful exploration of lived experience and the development of interdisciplinary place-based frameworks, students will develop critical tools for and perspectives on integrated ecologies of social innovation. Offered winter semester. Prerequisite: SI 600 or SI 610 or SI 620.

## **SI 661 - Social Innovation Internship (1 to 6 credits)**

Full-time or part-time, on-the-job social innovation work performed at a sponsoring entity while under the supervision of an approved mentor in a nonprofit, for-profit or governmental organization. Offered every semester. Prerequisites: Graduate standing, admission to PMASI program, and six credits completed in PMASI, or permission of the instructor

## **SI 690 - Social Innovation Research Design (3 credits)**

In this course students will work collaboratively with peers to develop and design a research project addressing a complex local/regional social problem. The project design will integrate social innovation research theory and practice, and iterative and adaptive project modeling. Students will share their project design in a culminating presentation. Offered winter semester. Prerequisites: SI 610 and SI 661 (SI 661 may be taken concurrently).

## **SI 693 - Master's Project in Social Innovation (1 to 3 credits)**

Supervised preparation of final research project for the professional Master of Arts in social innovation degree. Project research will be conducted under the supervision of faculty project supervisor. Offered every semester. Prerequisite: SI 690.

## **SI 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

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## **SLP 308 - Articulation and Phonological Disorders (3 credits)**

Disorders of articulation and phonology are explored within a multicultural framework of normal patterns of acquisition and use. Supplemental Writing Skills course. Offered fall and winter semesters. Prerequisite: Fulfillment of general education Foundations - Writing.

## **SLP 402 - Voice and Fluency (3 credits)**

This course will focus on the theories, characteristics, etiologies, and clinical management of voice and fluency. Physical, cognitive, and affective attributes of fluency/voice disorders will be presented. Offered fall and winter semesters.

## **SLP 403 - Diagnostics in Communication Disorders (3 credits)**

The procedures for the evaluation (differential diagnosis) of communication disorders in children and adults with emphasis on the case history and diagnostic interviews. The use of diagnostic instruments, informal and standardized, will be addressed. Multicultural and ethical considerations will be highlighted. Offered winter and spring/summer semesters.

## **SLP 405 - Clinical Methods (3 credits)**

Principles and techniques of case management, including designing individualized programs for persons with a variety of impairments. Emphasis on writing objectives, prioritizing goals, developing therapy strategies, analyzing behavior management strategies, assessing learning outcomes, and writing clinical reports. A clinical observation experience is integrated with classroom instruction. Offered winter and spring/summer semesters.

## **SLP 407 - Pediatric Language and Articulation Disorders (2 credits)**

This course provides study of language and articulation disorders in children and adolescents, including differential diagnosis, intervention, and working with individuals from culturally and linguistically diverse backgrounds. Offered fall semester. Prerequisites: CSD 220 and CSD 304.

## **SLP 420 - Adult Language and Cognitive Communication Disorders (2 credits)**

This course will provide study of the disorders of language and cognitive communication in adults, including aphasia, dementia, traumatic brain injury, and right hemisphere syndrome. Offered winter semester. Prerequisites: CSD 220 and CSD 401.

## **SLP 421 - Motor Speech and Fluency Disorders (2 credits)**

This course will examine the assessment and treatment of motor speech and fluency disorders across the lifespan. Offered fall semester. Prerequisites: CSD 302 and CSD 401.

## **SLP 422 - Dysphagia and Voice Disorders (2 credits)**

This course will focus on the theories, characteristics, etiologies, and clinical management of voice and swallowing. Anatomy and physiology of the normal and disordered systems related to the function of voice and swallowing will be addressed. Offered fall semester. Prerequisites: CSD 302 and CSD 401.

## **SLP 480 - Special Topics in Speech Language Pathology (1 to 9 credits)**

Course content varies. Refer to schedule of classes to determine course description and prerequisites. Students may repeat this course under different topics.

## **SLP 510 - Applied Research in Speech-Language Pathology (1 credit)**

Study of research specific to speech-language pathology with emphasis on the evaluation and critical analyses of applied single subject design, case study, and other areas of clinical research. Independent thought and critical thinking skills will be addressed. Offered fall and winter semesters. Prerequisite: Admission to the speech-language pathology program.

## **SLP 560 - School Age and Adolescent Language Disorders (3 credits)**

This course examines the nature, assessment, and treatment of language disorders in children aged kindergarten through high school. Receptive and expressive language differences and disorders, including reading and writing disorders, will be studied in depth. Prerequisite: Admission to the speech-language pathology program.

## **SLP 561 - Advanced Study of Phonological Disorders (3 credits)**

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Advanced study of the nature, assessment, and treatment of speech disorders in children. Topics include normal aspects of articulation and phonological development, the causes for speech sound disorders, and phonological assessment practices and treatment strategies that are developmentally appropriate for children. Offered fall and winter semesters. Prerequisite: Admission to the speech-language pathology program.

### **SLP 562 - Aphasia and Related Disorders (3 credits)**

Specific study of the nature, assessment, and treatment of acquired language disorders in adults, including aphasia, alexia, agraphia, and other related disorders. Offered fall and winter semesters. Prerequisite: Admission to the speech-language pathology program.

### **SLP 570 - Infant, Toddler, Preschool Language Disorders (3 credits)**

This course focuses on the nature, assessment, and treatment of language disorders in infants and children from birth through five years of age. Students will learn evaluation techniques and treatment strategies for improving the receptive and expressive language abilities for infants, toddlers, and preschool-aged children. Offered winter and spring/summer semesters. Prerequisite: Successful completion of all previously required courses in the speech-language pathology curricular sequence.

### **SLP 571 - Voice Disorders and Laryngectomy (3 credits)**

This course is a theoretical and applied study of the diagnosis and treatment of voice disorders including laryngectomy. This course includes the functional and organic disorders of voice, diagnostic procedures including clinical evaluation and standardized assessments, interviewing and counseling principles, and voice therapy techniques for children and adults. Offered winter and spring/summer semesters. Prerequisite: Successful completion of all previously required courses in the speech-language pathology curricular sequence.

### **SLP 572 - Dysphagia (3 credits)**

Advanced study of the prevention, etiology, diagnosis, and treatment of swallowing disorders in adults and children. Offered winter and spring/summer semesters. Prerequisite: Successful completion of all previously required courses in the speech-language pathology curricular sequence.

### **SLP 573 - Fluency Disorders (2 credits)**

Study of the etiology, diagnosis, treatment, and prevention of fluency disorders in adults and children. Offered spring/summer semester. Prerequisite: Successful completion of all previously required courses in the speech-language pathology curricular sequence.

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## **SLP 580 - Special Topics in Speech Language Pathology (1 to 9 credits)**

Course content varies. Refer to schedule of classes to determine course description and prerequisites. Students may repeat this course under different topics.

## **SLP 581 - Cognitive Communication Disorders (3 credits)**

Study of the etiology and neuropathology of different communication disorders following dementia and other cognitive disorders and corresponding diagnostic and management options. Offered fall and spring/summer semesters. Prerequisite: Successful completion of all previously required courses in the speech-language pathology curricular sequence.

## **SLP 582 - Motor Speech and Craniofacial Disorders (3 credits)**

Study of the etiology and neuropathology of different dysarthric syndromes and corresponding diagnostic and management options. Students will also learn about the development, characteristics, evaluation, and treatment of children with cleft lip and/or palate and other craniofacial syndromes that affect speech, language, hearing, and swallowing. Offered fall and spring/summer semesters. Prerequisite: Successful completion of all previously required courses in the speech-language pathology curricular sequence.

## **SLP 583 - Autism Spectrum Disorder in Speech-Language Pathology (2 credits)**

This course involves the study of the communication abilities, differences and disorders associated with autism spectrum disorder. Students will learn evidence-based methods of assessment and treatment of communication disorders for individuals with autism spectrum disorder. Offered fall and spring/summer semesters. Prerequisite: Successful completion of all previously required courses in the speech-language pathology curricular sequence.

## **SLP 584 - Augmentative and Alternative Communication (2 credits)**

In this course, students will learn about types and use of augmentative and alternative communication (AAC). Evaluation for AAC device selection and the evaluation of communication using AAC will be explored. Students will learn principles of AAC intervention for individuals across the lifespan. Society's perceptions of AAC will be addressed. Offered winter and spring/summer semesters. Prerequisite: Admission to the speech-language pathology program.

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## **SLP 670 - Professional Seminar in Speech-Language Pathology (1 credit)**

This course addresses selected topics, issues, and other content designed to prepare students for clinical practice in speech-language pathology. Content is treated on an expert level with emphasis upon problem solving and integration of information across didactic and practical knowledge toward clinical skill development. Offered every semester. Prerequisite: Admission to the speech-language pathology program. Students enroll in this course each semester of their academic program for which they are on campus. Continuing students must show successful completion of all previously required courses in the speech-language pathology curricular sequence.

## **SLP 681 - Clinical Practicum in Speech-Language Pathology I (3 credits)**

This is the first supervised speech-language pathology practicum. The three-course practical experience is designed to provide opportunities for students to develop and hone their clinical skills as they progress from less complex cases under close supervision to more complex cases and greater autonomy. Offered fall and winter semesters. Prerequisite: Admission to the speech-language pathology program.

## **SLP 682 - Clinical Practicum in Speech-Language Pathology II (4 credits)**

This is the second supervised speech-language pathology practicum. The three-course practical experience is designed to provide opportunities for students to develop and hone their clinical skills as they progress from less complex cases under close supervision to more complex cases and greater autonomy. Offered winter and spring/summer semesters. Prerequisite: SLP 681.

## **SLP 683 - Clinical Practicum in Speech-Language Pathology III (4 credits)**

This is the third supervised speech-language pathology practicum. The three-course practical experience is designed to provide opportunities for students to develop and hone their clinical skills as they progress from less complex cases under close supervision to more complex cases and greater autonomy. Offered fall and spring/summer semesters. Prerequisite: SLP 682.

## **SLP 684 - Clinical Internship in Speech-Language Pathology (12 credits)**

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This is the final supervised speech-language pathology practicum. Professionals will supervise and teach students in speech-language clinical practice. Students will continue to gain experience and refine their clinical skills in various aspects of the practice of speech-language pathology.

### **SLP 695 - Master's Thesis in Speech-Language Pathology (1 to 6 credits)**

Designed to allow graduate students to pursue research in the areas of speech, language, and hearing under appropriate faculty supervision, culminating in the defense of a written thesis. Students choose the thesis option in lieu of the written comprehensive examination. Students should talk with their adviser prior to enrolling. Offered every semester. Prerequisites: Successful completion of all previously required courses in the speech-language pathology curricular sequence and completion of the Responsible Conduct of Research Training within the last three years.

### **SLP 696 - Continuation of Master's Project or Thesis Research (1 credit)**

Continuation of work related to the master's project or thesis phase of the graduate student's program. Registration is required after all respective project or thesis credits are completed and the project or thesis is not completed. Work will be performed under the supervision of the project advisor or thesis committee chair. Offered every semester. Prerequisites: Completion of all required project or thesis credits and completion of the Responsible Conduct of Research Training within the last three years.

### **SLP 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

### **SLP 699 - Independent Study in Speech-Language Pathology (1 to 3 credits)**

This course provides opportunities for in-depth study in an area of special interest as directed by a faculty member. Offered every semester. Prerequisite: Admission to the speech-language pathology program. Requires department chair and faculty supervisor approval.

### **SOC 101 - Introduction to Sociology (3 credits)**

Introduction to the fundamental questions, concepts, theories, and general principles of sociological thought. Inquiries into culture, socialization, norms, power relations, social institutions, and group interaction. Illustrates how human action transforms society, and how

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social and cultural forces constrain human action. Fulfills one of the Foundations - Social and Behavioral Sciences. Offered every semester.

### **SOC 105 - Social Problems (3 credits)**

Examines a range of social conditions, arrangements, and behaviors typically defined as problems in modern society. Applies sociological analysis to understand how problems arise from the organization of society, and the processes by which conditions become identified as social problems, and how ideology and power shape responses to social problems. Fulfills one of the Foundations - Social and Behavioral Sciences. Fulfills Cultures - U.S. Diversity. Offered every semester.

### **SOC 180 - Special Topics in Sociology (3 credits)**

Course content varies. Refer to schedule of classes to determine course description and prerequisites. Students may repeat this course under different topics.

### **SOC 204 - Introduction to Social Theory (3 credits)**

Builds the intellectual sophistication necessary to understand and work with theoretical concepts. Teaches imaginative assessment and creative construction of theoretical dialogues from classical theory, race and ethnicity, sex, gender and sexuality, recent developments in theory, and other areas, with application to real-life social events. Emphasis on reading primary texts. Offered fall and winter semesters.

### **SOC 250 - Perspectives on Madness (3 credits)**

Focus is on the social construction of madness. Compares the different ways madness has been defined and treated throughout history and in different cultures. Relationship between those labeled mad, those who label, and the sociocultural context will be examined. Offered fall semester.

### **SOC 251 - Criminology (3 credits)**

An analysis of crime, criminal behavior, and punishment through a variety of historical and contemporary theoretical perspectives. Offered on sufficient demand.

### **SOC 252 - Sociology of Drug Use and Abuse (3 credits)**

Covers the etiologies and use and abuse of alcohol, tobacco, and other drugs (ATOD) in the U.S. Also studies past and present patterns of ATOD, their causes, social and legal aspects, treatment, and the political economy of drug trafficking. Offered every semester.

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## **SOC 285 - Families in Society (3 credits)**

An examination of the basic concepts of culture and their application, first to the American family and then to the family in other cultures. Fulfills Cultures - U.S. Diversity. Offered every semester.

## **SOC 286 - Sociology of Health Care (3 credits)**

In this course, we draw on sociological and interdisciplinary frameworks to examine comparative health care systems, social origins of disease and health inequalities, biomedicine as a cultural system, social construction of disease, medicalization and social control, and alternative healing practices, perspectives, and politics. Offered fall and winter semesters.

## **SOC 287 - Sociology of Religion (3 credits)**

Critically analyzes religion as an institutional structure and belief system and explores the relationship of religion to social change and organization. Emphasis on religion in the contemporary United States, both the uniquely American aspects of religion and in comparison to the broader diversity of religious expression globally. Fulfills one of the Foundations - Social and Behavioral Sciences. Fulfills Cultures - U.S. Diversity. Offered fall semester.

## **SOC 288 - Sociology of Food (3 credits)**

Considers the way in which values and ideas are socially constructed, with specific focus on the relationship between food and society. A comparative, cross-cultural analysis that examines food production, distribution, preparation, and consumption. Includes nutrition, social eating disorders, religious prescriptions and proscriptions, food and poverty, fast food, and world hunger. Offered on sufficient demand.

## **SOC 289 - Sociology of Art (3 credits)**

Explores the ways that public debates over art, aesthetics, and taste mask fundamental conflicts of culture, class, race, ethnicity, and gender. Examines controversies over the public funding of historical and contemporary cultural projects as well as the fluid boundaries between the taste for high and popular culture. Offered fall semester.

## **SOC 304 - Quantitative Methods in Sociology (3 credits)**

Examination of the basic methods of quantitative empirical research in sociology. Focus on collection, analysis, and interpretation of data. Offered fall and winter semesters. Prerequisites: STA 215 and (either SOC 101 or SOC 105) and three additional credits in sociology.

## **SOC 305 - Qualitative Methods in Sociology (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Examination of the basic methods of qualitative empirical research in sociology. Focus on collection, analysis, and interpretation of data. Offered fall and winter semesters. Prerequisites: STA 215 and (either SOC 101 or SOC 105) and three additional credits in sociology.

## **SOC 306 - The Sociology of Human Rights (3 credits)**

This course uses a sociological framework to examine how human rights are socially determined, theorized, conceptualized, designed, interpreted, adjudicated, implemented, enforced, violated, and contested. It does so by looking at specific human rights regimes, categories, and violations in both national and global terms. Part of the Human Rights Issue. Offered alternating fall and winter semesters each year. Prerequisite: Junior standing.

## **SOC 313 - Race and Ethnicity (3 credits)**

Analysis of cultural, historical, and social construction of race and ethnicity in the U.S. and cross-culturally. Assesses theories of prejudice, discrimination, and racism. Grounds the examination of the interplay of group privilege and disadvantage within the context of contemporary issues related to race and ethnicity. Fulfills Cultures - U.S. Diversity. Part of the Human Rights Issue. Offered every semester. Prerequisite: Junior standing.

## **SOC 315 - Social Class Inequality (3 credits)**

Focus on the historical, socioeconomic, and political construction of class inequality in the United States from a critical perspective. Includes attention to cultural and global context. Offered fall and winter semesters. Prerequisite: Junior standing.

## **SOC 317 - Sociology of Gender (3 credits)**

Explores gender as a socially constructed system of stratification. Topics may include how ideas about gender shape childhood, families, education, work, violence, science, and social inequality. Examines how gender intersects with other socially constructed systems of stratification, including race, sexuality, class, age, and ability. Fulfills Cultures - U.S. Diversity. Part of the Identity Issue. Cross-listed with WGS 317. Offered fall semester. Prerequisite: Junior standing.

## **SOC 318 - Sociology of Sexuality (3 credits)**

Explores sexuality as a socially constructed system of stratification. Topics may include the production of sexual identities and desires, and how ideas about sexuality shape the media, violence, social movements, and work. Examines how sexuality intersects with other socially constructed systems of stratification, including race, gender, class, age, and ability. Fulfills Cultures - U.S. Diversity. Part of the Identity Issue. Cross-listed with WGS 318. Offered winter semester. Prerequisite: Junior standing.

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## **SOC 319 - Classic Social Theory (3 credits)**

A critical survey of social theorists who shaped early sociology and remain relevant today. Covers theory from the early modern period to World War II. Offered fall semester. Prerequisites: SOC 204 and six additional hours in sociology.

## **SOC 321 - Contemporary Sociological Theory (3 credits)**

A critical survey of social theorists who extended and sometimes challenged the sociological perspective. Emphasizes the development and application of theory in relationship to contemporary issues. Covers theorists from post-World War II to the present. Offered winter semester. Prerequisites: SOC 204 and six additional credits in sociology.

## **SOC 322 - Sociology of Community (3 credits)**

Examines sociology's community studies tradition and concerns with the modern fate of close-knit, cohesive communities. Readings focus on the field's intellectual origins, contrasts between small towns and cities, major theories, research methods, and contemporary communities. Fulfills Cultures - U.S. Diversity. Part of the Identity Issue. Offered winter semester. Prerequisites: SOC 101 and junior standing.

## **SOC 333 - Sociology of the Civil Rights Movement (3 credits)**

This course applies multiple sociological models of social movements to the American civil rights movement from 1940-1970s. Offered fall semester.

## **SOC 345 - Cultural Sociology (3 credits)**

Examines the symbolic processes in the production and circulation of meanings within society and the sociocultural context in the construction and interpretation of social behavior, social identity, and location. Offered odd-numbered years. Prerequisite: SOC 101 or ANT 204 or permission from the instructor.

## **SOC 350 - Family and Gender in the Developing World (3 credits)**

A comparative examination of the impact of development on families and gender roles in third world countries. Will include consideration of general issues (e.g., factors affecting family reproduction decisions, women in the formal and informal labor force, etc.) and in-depth study of gender and family in one or more countries. Fulfills Cultures - Global Perspectives. Part of the

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Identity Issue. Cross-listed with WGS 350. Offered fall and winter semesters. Prerequisites: Fulfillment of general education Foundations - Writing and junior standing.

### **SOC 351 - Urban Sociology (3 credits)**

Explores urban theory (Chicago School, political economy, and cultural approaches), the evolution of cities, suburbanization, race relations, street life, sustainability (economic, social, and environmental), redevelopment, urban politics, and international comparisons. Readings focus on theory, specific cities, and environmental concerns. Part of the Sustainability Issue. Offered fall semester. Prerequisites: SOC 101 and junior standing.

### **SOC 355 - Sociology of Work and Employment (3 credits)**

Provides an understanding of the current labor market through an examination of the changing dynamics of work, occupational structure, and labor relations in the U.S. and globally. Analyzes the impact of globalization on workers, and the efforts of workers' movements to respond to new economic challenges. Part of the Globalization Issue. Prerequisite: Junior standing.

### **SOC 360 - Social Psychology: Sociology's View (3 credits)**

Studies how individual's perceptions, belief systems, moralities, identities, and behaviors are influenced by their place in society relevant to institutions and structural context. Also studies how individuals, as actors, influence our social world. Offered every semester. SOC 360 is not equivalent to PSY 360, students may receive credit for both courses. Prerequisite: Any three credits in sociology or psychology.

### **SOC 366 - American Society and Media (3 credits)**

Interdisciplinary approach to the ways in which mediated mass culture produces meaning in contemporary American society as examined through a variety of critical lenses such as political economy and sociocultural analyses of the organization of the mass media, media content, and audience reception studies of film, television, and/or music cultures. Part of the Information, Innovation, or Technology Issue. Cross-listed with INT 366. Offered every year. Prerequisite: Junior standing.

### **SOC 377 - Globalization: Structures and Movements (3 credits)**

Examines and critiques the historical origins, economic and technological foundations, institutional arrangements, ideological underpinnings, collective movements, and controversial outcomes of "transnationalism" and "globalization." Sociological analysis emphasizes macrolevel institutions that shape globalization, social conflicts arising from its effects, and the

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consequences of global change on individuals, groups, and organizations. Part of the Globalization Issue. Offered winter semester. Prerequisite: Junior standing.

### **SOC 379 - Sociology of Love (3 credits)**

An investigation of love from a sociological perspective, including the following: the social construction of love, love and intimacy in relation to the social construction of gender and sexualities, and cross-cultural comparisons. Offered fall semester. Prerequisite: Junior standing.

### **SOC 380 - Special Topics in Sociology (1 to 3 credits)**

A seminar for the study of important topics not ordinarily covered in other courses. This course may be taken more than once when the topic is different. Offered on sufficient demand.

### **SOC 381 - Class, Race, Gender, and Sexuality (3 credits)**

Focus is on the social, historical, and cultural meanings of class, race, and gender. Gives students a better understanding of the interrelationship of class, race, and gender within the context of family life, schooling, and work. Fulfills Cultures - U.S. Diversity. Offered fall and winter semesters. Prerequisite: SOC 101 or SOC 105.

### **SOC 386 - Death and Dying (3 credits)**

Considers the way in which ideas and values are socially constructed and contextually grounded. Specific focus on the historical, socioeconomic, psychological, and political construction of death and dying in the United States. A comparative aspect is also provided. Offered winter semester. Prerequisite: Junior standing.

### **SOC 387 - Sociology of Childhood (3 credits)**

Explores sociological issues, theory and research on the social and cultural worlds of children. Focuses on the institution of childhood and the study of children as social actors. Main attention devoted to the social lives of children and their families. Offered fall and winter semesters. Prerequisite: SOC 101.

### **SOC 388 - Middle Age and Aging (3 credits)**

Examines the social context of mid-life aging in contemporary society in areas such as work, family, health, and politics. Applies social theories and primarily historical analysis of the sociopolitical issues and myths regarding aging in a rapidly aging society and social world. Offered fall semester.

### **SOC 389 - Child Maltreatment (3 credits)**

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An examination of the individual, familial, community, and sociocultural causes of child maltreatment in this country. Focus is on the analysis and integration of theory, research, and practice. Offered fall and winter semesters.

### **SOC 392 - Social Deviance and Social Control (3 credits)**

An analysis of deviant behavior: its causes, manifestations, prevention, and programs of control. Special attention is given to the role of social norms in generating as well as controlling deviance. Emphasis is put on ways in which social structures generate and label deviants. Offered fall semester.

### **SOC 399 - Independent Readings (1 to 3 credits)**

Independent supervised readings in selected topics. A student may take only one reading course for one to three credits per term. No more than six hours of SOC 399 and SOC 499 combined may count toward a major or three hours of SOC 399 and SOC 499 combined toward the minor. Offered every semester. Prerequisites: SOC 101 and consent of the instructor before registration.

### **SOC 490 - Practicum: Career-Service (1 to 9 credits)**

Agency experience in the community relating practical training and independent study in a specialized area. Limited to nine credits maximum. Offered every semester. Prerequisites: 15 hours of course preparation and permission of instructor. Graded credit/no-credit.

### **SOC 495 - Senior Seminar in Sociology (Capstone) (3 credits)**

Critiques contemporary debates in sociology. Through active reading, discussion, and production of a milestone statement, students will reflect on the meaning and application of the sociological imagination, which may include a research project or critical thinking project. Offered fall and winter semesters. Prerequisites: Senior standing and (either SOC 304 or SOC 305) and (either SOC 319 or SOC 321) and prior approval.

### **SOC 499 - Independent Study and Research (1 to 3 credits)**

Research conducted individually with faculty supervision. Attention given to written and oral presentation of research findings. A student may take only one independent study course for one to four credits per term. No more than six hours of SOC 399 and SOC 499 combined may count toward a major or three hours of SOC 399 and SOC 499 combined toward the minor. Offered every semester. Graded credit/no-credit. Prerequisites: Nine hours in major and prior approval.

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## **SPA 101 - Beginning Spanish I: Language and Culture (4 credits)**

An introduction to the Spanish language and to the cultures of the Spanish-speaking world. Practice in speaking, listening, reading, and writing for students at the novice level. Supplemented by multimedia and the Language Resource Center. Intended for students with no previous study of Spanish. Offered fall and winter semesters.

## **SPA 102 - Beginning Spanish II: Language and Culture (4 credits)**

Continuation of SPA 101. Continued development of speaking, listening, reading, and writing for students at the novice level. Cultures of the Spanish-speaking world integrated throughout. Supplemented by multimedia and the Language Resource Center. Students may not receive credit for both SPA 102 and SPA 150. Offered fall and winter semesters. Prerequisite: C (not C-) or better, or credit, in SPA 101, or appropriate placement test score.

## **SPA 150 - Accelerated Beginning Spanish: Language and Culture (4 credits)**

One semester accelerated review of beginning Spanish for students with prior study. Covers the same material as SPA 101-102. Development of speaking, listening, reading, writing, and cultural competencies. Supplemented by multimedia and the Language Resource Center. Students cannot receive credit for both SPA 102 and SPA 150. Prerequisite: Prior study of Spanish.

## **SPA 180 - Special Topics in Spanish (1 to 4 credits)**

Course content varies. Expectations of students approximate those in other 100-level courses. May be repeated for credit when content differs. Offered on sufficient demand.

## **SPA 201 - Intermediate Spanish I: Language and Culture (4 credits)**

Continued development of speaking, listening, reading, and writing for students at the intermediate level. Cultures of the Spanish-speaking world integrated throughout. Supplemented by multimedia and the Language Resource Center. Offered fall and winter semesters. Prerequisite: C (not C-) or better, or credit, in SPA 102 or SPA 150, or appropriate placement test score.

## **SPA 202 - Intermediate Spanish II: Language and Culture (4 credits)**

Continued development of speaking, listening, reading, and writing for students at the intermediate level. Review of grammar and expansion of vocabulary. Focus on cultures of the Spanish-speaking world through authentic texts. Supplemented by multimedia and the Language Resource Center. Fulfills Cultures - Global Perspectives. Offered fall and winter semesters. Prerequisite: C (not C-) or better, or Credit, in SPA 201, or appropriate placement test score.

## **SPA 203 - Spanish for Heritage Speakers (4 credits)**

An intermediate Spanish course for students who grew up listening to and/or speaking Spanish. Focus on developing all four language skills, with special emphasis on the needs of heritage learners. Offered fall semester. Prerequisite: Permission of instructor.

## **SPA 204 - Supplemental Spanish Grammar (4 credits)**

An intermediate-level review of Spanish grammar designed for students who have weak language skills. This course provides a rigorous grammar review of the entire verb system (tense, mood, voice, and aspect), clause structure, and the pronominal system. Offered winter semester. Prerequisite: SPA 202.

## **SPA 280 - Special Topics in Spanish (1 to 4 credits)**

Course content varies. Expectations of students approximate those in other 200-level courses. May be repeated for credit when content differs. Offered on sufficient demand.

## **SPA 285 - Intermediate Spanish in Mexico (4 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only. Credit may vary.

## **SPA 286 - Mexican Culture (2 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only. Credit may vary.

## **SPA 300 - Reading and Telling Stories (3 credits)**

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This course introduces some of the most important short story writers from Spain and Latin America of the late 19th and 20th centuries. It is designed to aid students to develop reading strategies, as well as to become more skilled storytellers. Offered fall and winter semesters. Prerequisite: C (not C-) or better in SPA 202, or credit, or appropriate placement test score.

### **SPA 303 - Professional Writing (3 credits)**

Builds practical writing skills in written Spanish to enable students to produce documents pertinent to their future professional careers. Designed for the Spanish minor, with an emphasis on linguistic and cultural registers of written Spanish and on specialized vocabulary. Contains a service-learning component. Offered fall semester. Prerequisite: SPA 322 with a grade of C (not C-) or better.

### **SPA 304 - Spanish for Health Professionals (3 credits)**

A third-year Spanish course designed to prepare students in the health professions to successfully communicate with Spanish-speaking clientele. Offered winter semester. Prerequisite: SPA 202 with a grade of C (not C-) or better.

### **SPA 305 - Spanish for Law Enforcement (3 credits)**

This course is designed to teach the specialized vocabulary and terminology necessary for law enforcement professionals to communicate in Spanish. A review of relevant grammatical structures will also be presented. In addition, cross-cultural differences, cultural sensitivity, and language variation as they relate to issues of law enforcement will be central themes of this course. Offered fall semester. Prerequisite: SPA 202 with a grade of C (not C-) or better.

### **SPA 306 - Spanish for Business (3 credits)**

The purpose of this class is to introduce students to the Spanish business terminology and to teach the fundamentals of practical commercial correspondence (oral and written) in advertising, insurance, transportation, banking, and foreign trade. Special attention will be paid to cross-cultural differences and similarities in specific countries. Offered winter semester. Prerequisite: SPA 202 with a grade of C (not C-) or better.

### **SPA 307 - Death and Dying in Hispanic Literature (3 credits)**

Examines the literary representations of and responses to death and dying within the historical and cultural context of Spain and Latin America through the reading and discussion of representative poetic, dramatic, and narrative works. Offered winter semester. Prerequisite: SPA 321 with a C (not C-).

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## **SPA 308 - Spanish Phonetics (3 credits)**

Introduction to the sound system of Spanish. Phonetic transcription of texts in Spanish. Offered fall and winter semesters. Prerequisite: SPA 202 with a grade of C (not a C-) or better.

## **SPA 309 - Advanced Spanish Grammar (3 credits)**

A study of the syntax and morphology of Spanish designed to give students a deeper understanding of the language and to increase their accuracy and range in the use of it. Offered fall and winter semesters. Prerequisite: SPA 322 with a grade of C (not C-) or better.

## **SPA 310 - Spanish Civilization and Culture (3 credits)**

Introduction to the complexity of peoples and cultures of Spain against the backdrop of cultural, political and economic forces. This course will draw on a variety of cultural texts (e.g., art, architecture, and music) to showcase the diversity that has shaped contemporary Spain. Offered fall and winter semesters. Prerequisite: SPA 322 with a grade of C (not C-) or better.

## **SPA 311 - Latin American Civilization and Culture I (3 credits)**

An introduction to the political, social, economic, and cultural history of Latin America up to the 1800s. Offered fall semester. Prerequisite: SPA 322 with a grade of C (not C-) or better.

## **SPA 312 - Latin American Civilization and Culture II (3 credits)**

Designed to provide students with the knowledge of major historical, literary, and cultural moments in Latin America from Independence to the present day. Offered winter semester. Prerequisite: SPA 322 with a grade of C (not C-) or better.

## **SPA 313 - U.S. Latino/a Civilization and Culture (3 credits)**

An introduction to the political, social, economic, and cultural history of Latinos/as in the United States that leads to an appreciation and awareness of the cultural roots and current lifestyles of these groups. Fulfills Cultures - U.S. Diversity. Offered fall and winter semesters. Prerequisite: SPA 322 with a grade of C (not C-) or better.

## **SPA 314 - Teaching Methods (3 credits)**

This course provides future Spanish teachers with an introduction to the basic concepts of Spanish pedagogy with particular emphasis on the communicative approach. Students will learn

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to write lesson plans, design and teach communicative activities, and create appropriate evaluation materials such as exams and quizzes. Offered fall and winter semesters. Prerequisites: Completion of SPA 322 with a grade of C (not C-) and (either SPA 310 or SPA 311 or SPA 312 or SPA 313).

### **SPA 315 - One-Act Hispanic Drama (3 credits)**

This introduction to the study of Spanish-American and peninsular drama through one-act plays focuses on textual analysis as well as practicing Spanish oral and written skills via informal performances, creative writing, and analytical projects. The course is based primarily in discussion and active-learning activities. Offered fall semester of odd-numbered years. Prerequisite: SPA 202.

### **SPA 320 - Composition and Conversation for Spanish Heritage Speakers (3 credits)**

This course focuses on developing the academic language skills of heritage learners of Spanish, defined as those who have acquired Spanish through cultural connections with family, community, or country of origin. SPA 320 is designed for heritage speakers who have intermediate-high or advanced proficiency. Offered fall and winter semesters. Prerequisite: SPA 203 or permission of the instructor.

### **SPA 321 - Composition and Conversation I (3 credits)**

First of a two-part sequence designed to improve proficiency in oral skills and academic writing in Spanish as well as listening and reading skills. Course will present a systematic review of grammar and promote the acquisition of new vocabulary in the context of Hispanic culture. Offered fall and winter semesters. Prerequisite: SPA 202 with a grade of C (not C-) or better, or credit, or appropriate placement test score.

### **SPA 322 - Composition and Conversation II (3 credits)**

Second of a two-part sequence designed to improve proficiency in oral skills and academic writing in Spanish as well as listening and reading skills. Course will present a systematic review of grammar and promote the acquisition of new vocabulary in the context of Hispanic culture. Offered fall and winter semesters. Prerequisite: SPA 321 with a grade of C (not C-) or better.

### **SPA 327 - The History of the Spanish Language (3 credits)**

An introduction to the phonological, morphological, and syntactic evolutions and changes that took place as Spanish developed from spoken Latin. Offered winter semester of odd-numbered years. Prerequisites: SPA 308 and SPA 309 with a grade of C (not C-) or better.

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## **SPA 329 - Sociolinguistics of Spanish (3 credits)**

An introduction to the relationship between Spanish language and society, including the evolution of Spanish in Spain and Latin America, dialectal variation, Spanish in contact with other languages, and Spanish as a component of individual and group identity. Offered fall semester. Prerequisite: SPA 322 with a grade of C (not C-) or better, or permission of instructor.

## **SPA 330 - Introduction to Literary Analysis (3 credits)**

Introduction to the literary analysis of the narrative, poetry, and drama of Spain and Spanish America. Offered fall and winter semesters. Prerequisites: SPA 322 plus three credits at the 300-level with a grade of C (not C-) or better.

## **SPA 331 - Survey of Spanish Literature (3 credits)**

A historically grounded survey of the principle literary works and movements of Spain. Offered fall and winter semesters. Prerequisites: SPA 322 plus three credits at the 300-level with a grade of C (not C-) or better. May be taken concurrently with SPA 300.

## **SPA 332 - Survey of Spanish American Literature (3 credits)**

A historically grounded survey of the principle literary works and movements of Spanish America. Offered fall and winter semesters. Prerequisites: SPA 322 plus three credits at the 300-level with a grade of C (not C-) or better. May be taken concurrently with SPA 330.

## **SPA 335 - Introduction to Spanish Linguistics (3 credits)**

A general introduction to modern linguistic concepts, applied especially to the Spanish language. Includes the sound system (phonetics and phonology), word formation (morphology), the structure of utterances (syntax), meaning and usage (semantics and pragmatics), and language variation. Offered fall and winter semesters. Prerequisite: SPA 309 with a grade of C (not C-) or better or permission of instructor.

## **SPA 350 - Spanish Laboratory Theatre (3 credits)**

Consists of rehearsal and public performance of a full-length play or a group of one-act plays. Plays selected from contemporary peninsular and Spanish-American authors. Offered winter semester of even-numbered years. Prerequisite: SPA 202 with a grade of C (not C-) or better.

## **SPA 360 - Perspectives on Hispanic Culture and Society (3 credits)**

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A multidisciplinary study of Spanish-American and peninsular culture and society, as represented in architecture, food, music, sports, the visual arts, and other cultural expressions. Special emphasis is placed on the historical and sociopolitical contexts of the examined material. Offered fall and winter semesters. Prerequisite: SPA 321 with a C or better.

### **SPA 361 - Spanish/Latin American Culture Through Film (3 credits)**

A study of language and culture that emphasizes the relationships among society, politics, and history through the lens of Latin American and/or Peninsular filmmakers and their film production. Prerequisite: One of the following courses (SPA 310, SPA 311, SPA 312, or SPA 313) with a grade of C or better.

### **SPA 378 - Contemporary Latin American Literature (3 credits)**

A survey of Spanish literature of the past three decades in English translations, taking in a variety of nations, regions, and cultures, including Afro-Latin and indigenous voices. Genres to be studied include the novel, the short story poetry, drama, testimonial narrative, speeches, folklore, and film. Cross-listed with ENG 378 and LAS 378. Offered winter semester of even-numbered years. Prerequisites: Fulfillment of general education Foundations - Writing and one literature course (SPA 330 for Spanish majors).

### **SPA 380 - Special Topics in Spanish (1 to 6 credits)**

Offered on sufficient demand.

### **SPA 385 - Advanced Spanish in Mexico (4 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only.

### **SPA 386 - Mexican Culture (2 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only.

### **SPA 387 - EUSA Madrid-Language (3 credits)**

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Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only.

### **SPA 388 - EUSA Madrid-Internship (3 to 6 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only.

### **SPA 395 - Advanced Speaking Strategies and Skills (3 credits)**

Development and assessment of speaking skills in Spanish at the advanced level as defined by the American Council on the Teaching of Foreign Languages (ACTFL). Course offered fall and winter semesters. Prerequisite: SPA 314.

### **SPA 399 - Independent Reading (1 to 4 credits)**

Offered fall and winter semesters.

### **SPA 410 - Spanish American Narrative (3 credits)**

Study of some of the major prose writers of the 20th century. Offered fall semester. Prerequisites: SPA 330 and SPA 332 with a grade of C (not C-) or better, or permission of instructor.

### **SPA 420 - Topics in Early Spanish Literature (3 credits)**

Study of Spanish literature before 1700, centered around a thematic or genetic framework relevant to the cultural climate of early Spain. Topics may include The Evolution of Early Spanish Literature, Love and Honor in Golden Age Drama, Imaginative Fiction before Cervantes, or The Language of Desire in Early Prose and Poetry. Offered winter semester of odd-numbered years. Prerequisites: SPA 330 and SPA 331 with a grade of C (not C-) or better.

### **SPA 430 - U.S. Latino/a Literature (3 credits)**

An in-depth study of Latino/a literature produced in the United States. Texts will be closely examined from a cultural and historical perspective as well as within the history of narrative forms in order to facilitate an appreciation and awareness of the cultural roots and current lifestyle of Latinos/as in the United States. Offered winter of even-numbered years. Prerequisites: SPA 330 and SPA 332 with a grade of C (not C-) or better.

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## **SPA 440 - Cervantes (3 credits)**

Survey of Cervantes' masterwork, Don Quixote de la Mancha. Offered winter semester of even-numbered years. Prerequisites: SPA 330 and SPA 331 with a grade of C (not C-) or better.

## **SPA 450 - Modern Spanish Novel (3 credits)**

Study of the novel in 19th and 20th century Spain. Special emphasis on the realists and the generation of 1898. Offered fall semester of odd-numbered years. Prerequisites: SPA 330 and SPA 331 with a grade of C (not C-) or better.

## **SPA 460 - Women Authors (3 credits)**

An in-depth study of Spanish and Spanish American women authors whose literature, across the centuries, has dealt with a particular historical, cultural, social, and philosophical experience. Cross-listed with WGS 460. Offered fall semester of even-numbered years. Prerequisites: Completion of SPA 330 and SPA 331 or SPA 332 with grades of C (not C-) or better.

## **SPA 480 - Special Topics in Spanish (1 to 6 credits)**

Course content varies. Expectations of students approximate those in other 400-level courses. May be repeated for credit when content varies. Variable credit. Offered on sufficient demand.

## **SPA 495 - Cross-National Literary Movements (Capstone) (3 credits)**

Interdisciplinary exploration of a major literary period or genre such as romanticism, rationalism, or symbolism from a cross-national perspective. Offered fall and winter semesters. Prerequisites: Completion of three credits at 400-level (literature) with a C (not C-) or better and senior standing with a major in Spanish. Required of all Spanish majors.

## **SPA 499 - Independent Study and Research (1 to 4 credits)**

Offered fall and winter semesters.

## **SPM 202 - Social Cultural Dimensions of Sport (3 credits)**

Introduction to sport from a social and cultural perspective. In accordance with national certification standards, contemporary issues such as gender, race/ethnicity, disability, international cultures, the Olympics, sport education, professionalization of sport, societal stratification, youth sport, social problems in sport, and societal beliefs and values in sport will be examined. Offered every semester.

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## **SPM 225 - Introduction to Sport Management (3 credits)**

This course provides an overview of the diverse leadership opportunities in the sports industry. The student will be provided information about the structure and function of sport organizations, trends in the industry, professional preparation, and career opportunities. Offered each semester. Prerequisite: Fulfillment of general education Foundations - Writing.

## **SPM 355 - Contemporary Concepts of Coaching (3 credits)**

A study of contemporary coaching issues related to the implementation of scientific coaching principles. Topics include the development of an effective coaching philosophy, growth and development, sports medicine, psychology, instructional techniques, and sport management issues. Offered fall semester.

## **SPM 356 - Current Topics in Sport Management (3 credits)**

Students will examine contemporary issues in sport management as they relate to ethics in sport, social responsibility, stakeholder identification, decision-making, communication, sport governance, and other diverse aspects of the profession. Offered fall and winter semesters. Prerequisites: SPM 202 and SPM 225 with a grade of C or better.

## **SPM 360 - Practicum in Sport Coaching (3 credits)**

Supervised, part-time work experience in a school, university, community, or business setting involving observation and assistance to a sport coaching professional. This experience is directed and evaluated by a faculty member and on-site professional. Course offered each semester. Prerequisite: SPM 355.

## **SPM 376 - Sport Facility and Event Management (3 credits)**

This course examines the principles of facility operations and event management in the industry of sport management. This class provides students with an in-depth investigation of the unique challenges and opportunities that are routinely faced by a business manager in the context of events at sport and entertainment venues. Offered fall semester.

## **SPM 380 - Special Topics in Sport Management (1 to 3 credits)**

Readings, lectures, and/or discussions in specific topics not normally covered by other courses in the program.

## **SPM 390 - Practicum in Sport Management (3 credits)**

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Supervised observation of and assistance to sport manager in a professional setting. Students will reflect on practical knowledge in classroom meetings. Student performance is directed and evaluated by a faculty member in consultation with an on-site professional. Offered every semester. Prerequisites: MOV 102 or equivalent, SPM 356, and permission of the instructor.

### **SPM 399 - Independent Study in Sport Management (1 to 3 credits)**

Hours, credit, topics, and time to be arranged with individual faculty members with approval of the department.

### **SPM 490 - Internship in Sport Management (6 to 12 credits)**

Culminating experience designed to provide management training in a sport related organization. Internship is a structured experience that will support career goals and supplement material taught in courses. Offered fall and winter semesters. Prerequisite: SPM 390. Corequisite: SPM 495.

### **SPM 495 - Administration in Sport Management (3 credits)**

Develop a thorough and fundamental knowledge of administrative principles in sport management including organizational behavior, leadership philosophy and ethics, human resource management, workplace culture, interpersonal and team communication, governance and policy development, technology, professional presentations, and time management. Students are required to generate a final project. Capstone course. Offered every semester. Prerequisites: Senior standing and SPM 390. Corequisite: SPM 490.

### **SPM 499 - Independent Study in Sport Management (1 to 3 credits)**

Hours, credit, topics, and time to be arranged with individual faculty members with approval of the department.

### **SST 308 - Teaching Elementary Social Studies: Grades PK-3 (3 credits)**

Designed for students seeking PK-3 elementary grade band certification. Introduces students to methods, strategies, and issues that are related to teaching social studies at the early elementary level. Students design standards-based units of instruction that provide elementary students with foundational content knowledge and skills in the social studies disciplines. Offered fall and winter semesters. Prerequisites: HST 209 and admission to pedagogical content knowledge for elementary teaching (PCKET) major.

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## **SST 309 - Teaching Elementary Social Studies: Grades 3-6 (3 credits)**

Designed for students seeking 3-6 elementary grade band certification. Introduces students to methods, strategies, and issues that are related to teaching social studies at the upper-elementary level. Students design standards-based units of instruction that strengthen and develop elementary students' content knowledge and skills in the social studies disciplines. Offered fall and winter semesters. Prerequisite: HST 209 and admission to pedagogical content knowledge for elementary teaching (PCKET) major.

## **SST 310 - Teaching Social Studies: Secondary (3 credits)**

Introduces students to strategies, methods, and issues that are related to teaching social studies content at the secondary level. Students will study current standards and design units and lessons to achieve appropriate objectives. Must be taken before student assisting. Offered every semester. Prerequisite: Junior standing or consent of the instructor.

## **SST 311 - Data Literacy for Social Studies Teachers (3 credits)**

Students will investigate K-12 students' understanding of data and data visualizations such as maps, graphs, and timelines; learn methods for analyzing, interpreting, and using data visualizations in social studies; and explore tools for creating data visualizations. Students will also develop project-based lessons aimed at building data literacy in social studies. Part of the Information, Innovation, or Technology Issue. Offered fall and winter semester. Prerequisite: MTH 110 or equivalent and junior standing.

## **SST 495 - Education in Plural Societies (Capstone) (3 credits)**

Examines the models used to interpret and explain the role of social studies education in the United States and the world. Explores questions related to social studies as a transmitter of social/cultural values and how these values transform across disciplines and time, both in and out of the classroom. Offered every semester. Prerequisites: SST 309 or SST 310.

## **STA 126 - Statistics for Elementary Teachers (2 credits)**

Learn practices and pedagogy in support of statistical knowledge for elementary teachers. Topics include posing actionable research questions, measuring/collecting data, understanding variability, interpreting results in context, and analyzing data through visualizations, numerical summaries, and statistical inference. Topics will be reinforced through meaningful experiences

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in applied contexts. MTH 126 and STA 126 fulfills Foundations - Mathematical Sciences. Offered fall and winter semesters. Prerequisite: MTH 110 or equivalent.

### **STA 185 - Statistics Study Abroad (1 to 6 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only. Credit may vary.

### **STA 215 - Introductory Applied Statistics (3 credits)**

A technique-oriented approach to data analysis using statistical techniques. Graphical and numerical summaries of data, multivariable thinking, confidence interval estimation, regression and correlation, testing hypotheses including chi-square tests and one-way analysis of variance. A statistical software package will provide computational assistance. Fulfills Foundations - Mathematical Sciences. Offered every semester. Prerequisite: MTH 110 or equivalent.

### **STA 216 - Intermediate Applied Statistics (3 credits)**

Project-oriented introduction to major statistical techniques using a statistical package such as SAS or SPSS. Hypothesis testing, t-test, multivariate regression, analysis of variance, analysis of covariance, chi-square tests, and nonparametric statistics. Offered every semester. Prerequisite: STA 215 or STA 312.

### **STA 220 - Statistical Modeling for Engineers (2 credits)**

This is a first course in statistics using modeling as the unifying framework upon which to build understanding of applied statistical analysis. Focus is on applications of statistical modeling with real and simulated data. Topics include descriptive statistics, probability, data management, statistical modeling, and inference. Open only for engineering students. Offered fall and winter semesters. Prerequisite: MTH 201. Corequisite: EGR 220.

### **STA 285 - Statistics Study Abroad (1 to 6 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only. Credit may vary.

### **STA 301 - Questionnaire Design and Execution (3 credits)**

An activity and project-oriented overview of factors involved in the development of self-administered questionnaires. Topics include ethics and regulations related to research involving human subjects, item construction, response options/scaling, scale scoring, layout considerations,

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survey administration, reliability and validity, and subscale determination. Offered winter semester. Prerequisite: STA 215 or STA 312.

### **STA 310 - Introduction to Biostatistics (3 credits)**

An introduction to the statistical methods commonly encountered in medical, biological, and health science problems using a statistical package such as SAS or SPSS. Longitudinal data analysis, repeated measures ANOVA, Friedman test, categorical data analysis, odds ratios, sensitivity and specificity, McNemar's test, logistic regression, survival analysis, and reliability. Offered winter semester on sufficient demand. Prerequisite: STA 216.

### **STA 311 - Introduction to Survey Sampling (3 credits)**

A project-oriented overview of topics related to survey sampling. Topics include sampling and nonsampling errors, questionnaire design, nonprobability and probability sampling, commonly used sampling methods (e.g., simple random, stratified, systematic, cluster), estimating population sizes, and random response models. SAS or a sampling package software will be used. Offered winter semester. Prerequisite: STA 216.

### **STA 312 - Probability and Statistics (3 credits)**

Introduction to the basic concepts of probability and statistics using calculus; discrete and continuous probability distributions, sampling, estimation, confidence intervals, tests of hypotheses, regression and correlation, applications, and problem solving. Offered fall and winter semesters. Prerequisite: MTH 201.

### **STA 314 - Statistical Quality Methods (3 credits)**

Statistical techniques applicable to problems of product quality. Methods and philosophy of statistical process control such as reduction of random variability, control charts, and process capability studies. Modern methods for quality control and improvement, including online and offline procedures. Various management philosophies of quality improvement. Applications and projects. Offered on sufficient demand. Prerequisite: STA 215.

### **STA 315 - Design of Experiments (3 credits)**

Application-oriented overview of designed experiments. Students will learn about planning and conducting experiments and about analyzing the resulting data using a major statistical package. Simple comparative experiments concerning means and variances, experiments with single or multiple factors, factorial designs, and response surface methodology. Offered fall semester. Prerequisite: STA 216 or STA 314.

### **STA 317 - Nonparametric Statistical Analysis (3 credits)**

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Applied statistical analysis when the distributions of the populations are unknown. Students will learn how to test for location, test for distributions, compare populations, and calculate measures of association. A statistical software package will be used. Offered winter semester on sufficient demand. Prerequisite: STA 216.

### **STA 318 - Statistical Computing (3 credits)**

A detailed study of the advanced features of major statistical packages used in statistical computing, such as SAS and SPSS. Emphasis on the data entry, data manipulation, data storage, data simulation, and graphical display features of these packages. Offered on sufficient demand. Prerequisite: STA 215.

### **STA 321 - Applied Regression Analysis (3 credits)**

Multivariate regression analysis with emphasis on application using a statistical software package. Topics include method of least squares, residual analysis, collinearity, data transformation, polynomial regression, general linear model, selecting a best regression model, and logistic regression. Offered fall semester on sufficient demand. Prerequisite: STA 216.

### **STA 323 - Predictive Analytics (3 credits)**

An introduction to applications and the conceptual framework for predictive analytics and modeling, using a statistical programming language such as R. Topics include preparing data for predictive modeling, exploratory data analysis and visualizations, multiple linear regression, logistic regression for classification, and methods for model selection and evaluation. Offered winter semester. Prerequisite: STA 215 or STA 312.

### **STA 340 - Statistics in the Media (3 credits)**

An examination of statistics reported in the media. Students will read news stories and published research to critically evaluate the conclusions made, recognizing when assertions are and are not supported by evidence. Common fallacies and misconceptions will be covered. Part of the Information, Innovation, or Technology Issue. Offered fall and winter semesters. Prerequisites: STA 215 and junior standing.

### **STA 341 - Demographic Methods (3 credits)**

An application-oriented overview of procedures and techniques for the collection, evaluation, and analysis of demographic data. Topics include sources of, and problems with, vital statistics data, data registries and surveys, measures of population growth, composition, fertility, mortality, and migration. Part of the Globalization Issue. Offered winter semester. Prerequisites: STA 215 or STA 312; junior standing.

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## **STA 345 - Statistics in Sports (3 credits)**

An application-oriented overview of the statistical methodology that can be utilized to describe and evaluate the performance of individuals or teams participating in sports. Emphasis will be on data collection, descriptive statistics, and statistical inference and modeling utilized in sports. Part of the Information, Innovation, or Technology Issue. Offered fall and winter semesters. Prerequisites: Junior standing and either STA 215 or STA 312.

## **STA 380 - Special Topics in Statistics (1 to 3 credits)**

Readings, lectures, discussions, or lab (or any combination) in specific statistics topics. Permission of the instructor required. Offered on sufficient demand. Prerequisites: Dependent upon the topic selected.

## **STA 385 - Statistics Study Abroad (1 to 6 credits)**

Of varying focus, the course makes use of the history, culture, and society of a host country in order to highlight disciplinary perspectives in context. To be taught in that country (or countries) as part of an approved study abroad program. By permit only. Credit may vary.

## **STA 412 - Mathematical Statistics I (4 credits)**

A theoretical study of the following topics: sample space, conditional probability, independence, Bayes' Theorem, Bernoulli Trials, and discrete and continuous random variables and their distributions, Chebyshev's inequality, joint distribution, expectation, variance, and moment generating functions. Offered fall semester. Prerequisites: (STA 215 or STA 312) and MTH 202.

## **STA 415 - Mathematical Statistics II (Capstone) (4 credits)**

A theoretical study of the following topics: the Law of Large Numbers, the Central Limit Theorem, the nature of statistical inference, tests of hypotheses, sampling theory, point and interval estimation, linear models, analysis of categorical data, and distribution-free methods. Offered winter semester. Prerequisites: STA 412 and MTH 204.

## **STA 418 - Statistical Computing and Graphics with R (3 credits)**

An introduction to statistical programming and graphics using the object-oriented statistical language R. Skills in writing R code to perform statistical analyses, graphics, and simulations are developed. Emphasis will be on solving real problems with hands-on work including randomization statistics, time series, data mining, and big data analysis. Cross-listed with STA 518. Offered fall semester. Prerequisites: (STA 215 or STA 220 or STA 312) and (STA 216 or CIS 162).

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## **STA 419 - Statistics Project (3 credits)**

Students will learn a systematic approach to statistical consulting, how to communicate with nonmathematical audiences, and develop the ability to apply appropriate statistical techniques to research questions. Actual experience with current university and industry research projects and SAS/SPSS is given. Offered fall and winter semesters. Prerequisites: STA 216 and two of the following courses: STA 301, STA 310, STA 311, STA 314, STA 315, STA 317, STA 318, and STA 321.

## **STA 421 - Bayesian Data Analysis (3 credits)**

An introduction to Bayesian data analysis utilizing the Gibbs Sampler and Metropolis-Hastings algorithm (Markov Chain Monte Carlo method). Estimating posterior distribution parameters, evaluating model effectiveness, hypothesis testing, and bivariate regression modeling. Appropriate computer programs will be used for analysis of real data sets. Offered winter semester on sufficient demand. Prerequisites: STA 312 and MTH 202.

## **STA 425 - Actuarial Probability and Statistics (3 credits)**

An intensive exploration and practice of techniques and concepts similar to those expected to be found in problems related to actuarial science. Offered winter semester. Prerequisite: STA 412.

## **STA 426 - Multivariate Data Analysis (3 credits)**

Multivariate analysis with emphasis on application using a statistical package such as SAS or SPSS. Topics include principle components analysis, factor analysis, discriminant analysis, logistic regression, cluster analysis, multivariate analysis of variance, and canonical correlation analysis. Cross-listed with STA 526. Offered fall semester on sufficient demand. Prerequisite: STA 216.

## **STA 430 - History of Statistics (1 credit)**

An overview of the people, events, and ideas that shaped the development of modern statistics. Advancements in the 20th century are emphasized, as well as the mathematical geniuses who made them happen. Contributions of legendary figures such as Fisher, Pearson, Deming, Bayes, Cox, and Neyman are discussed. Offered winter semesters in the odd-numbered years. Prerequisites: Two statistics courses and junior standing.

## **STA 490 - Statistics Internship (1 to 3 credits)**

Internship in a statistical situation with individual faculty supervision to allow students to apply academic knowledge to actual and professional experiences. Offered fall and winter semesters. Prerequisites: Junior standing and permission of the instructor. Graded credit/no-credit.

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## **STA 499 - Independent Study and Research (1 to 3 credits)**

Independent research in an area of interest to the students, supervised by a member of the statistics faculty. Hours, credits, topics, and time to be arranged by the student in conference with professor. Approval of the department required. Offered fall and winter semesters.

## **STA 518 - Statistical Computing and Graphics with R (3 credits)**

An introduction to statistical programming and graphics using the object-oriented statistical language R. Skills in writing R code to perform statistical analyses; graphics and simulations are developed. Emphasis will be on solving real problems with hands-on work including randomization statistics, time series, data mining, and big data analysis. Cross-listed with STA 418. Offered fall semester. Prerequisite: Admission to a graduate program in biostatistics, computer information systems, data science, or health informatics and bioinformatics.

## **STA 526 - Multivariate Data Analysis (3 credits)**

Multivariate analysis with emphasis on application using a statistical package such as SAS or SPSS. Topics include principle components analysis, factor analysis, discriminant analysis, logistic regression, cluster analysis, multivariate analysis of variance, and canonical correlation analysis. Cross-listed with STA 426. Offered fall semester on sufficient demand.

## **STA 580 - Special Topics in Statistics (1 to 4 credits)**

Readings, lectures, discussions, or labs (or any combination of these) in special topics in statistics or biostatistics. Prerequisite: Depends on the topic.

## **STA 610 - Applied Statistics for Health Professions (3 credits)**

Project-oriented overview of major statistical techniques commonly used in problems encountered in health professions. Students will learn to use a major statistical computing package. Hypothesis testing, t-tests, regression, analysis of variance, analysis of covariance, categorical data analysis, and nonparametric statistics. Offered every semester.

## **STA 615 - Design of Experiments for Engineers (3 credits)**

Application-oriented overview of designed experiments commonly encountered in engineering. Students will learn about planning and conducting experiments and about analyzing the resulting data using a major statistical package. Simple comparative experiments concerning means and variances, experiments with single or multiple factors, factorial designs, Taguchi designs, and

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response surface methodology. Offered fall semester on sufficient demand. Prerequisite: Graduate standing.

### **STA 616 - Statistical Programming (3 credits)**

Provides intensive instruction in the use of SAS to prepare data for statistical analysis. Topics include importing/exporting data in various formats; character and numeric manipulation; merging, setting and combining datasets; effective programming skills using arrays, loops and macros; creating graphs; and producing reports. Offered winter semester. Prerequisite: STA 610 or STA 631.

### **STA 620 - Applied Multivariate Methods for Health Care (3 credits)**

An applications-oriented overview of statistical methods commonly used in multivariate analyses of health care data. Students will develop skill in understanding published reports of multivariate analyses. Techniques include canonical correlation analysis, multivariate analysis of variance, covariance and repeated measures, principle components analysis, factor analysis, discriminant analysis, and cluster analysis. Offered fall semester. Prerequisite: STA 610 or STA 622.

### **STA 621 - Design of Experiments and Regression (4 credits)**

Design and analysis of single and multiple-factor experiments. Includes block designs, repeated measures, factorial and fractional factorial experiments, and response surface experimentation. Techniques include simple and multiple linear regression, repeated measures, generalized linear models, correlation, and model building diagnosis. Applications in biological and biomedical problems. A computer package will be used. Offered fall semester. Prerequisite: STA 616.

### **STA 622 - Statistical Methods for Biologists (3 credits)**

Design of experiments and application of statistical techniques commonly used by biologists. Emphasis on techniques for count data, correlation and regression, analysis of variance, multivariate analysis, and nonparametric methods using biological data. A computing package will be utilized throughout the course. Offered fall semester.

### **STA 623 - Categorical Data Analysis (3 credits)**

Study of the methodology and application of statistical techniques for categorical data. Methods include binomial and multinomial models, Poisson and logistic regression, and contingency tables. Additional topics which may be covered include repeated measures and random effect models. Model interpretation and the application of statistical software will be emphasized. Offered winter semester. Prerequisite: STA 616 (may be taken concurrently).

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## **STA 625 - Clinical Trials (2 credits)**

This course is designed for individuals with a quantitative background who are interested in the scientific, policy, design, and management aspects of clinical trials. Topics include types of treatment allocation and randomization, patient recruitment and adherence, power and sample size, interacting with monitoring committees, administering multicenter trials, and study closeout. Offered winter semester. Prerequisites: STA 610 and one of the following (PSM 650, BIO 610, BMS 601, or NUR 690).

## **STA 628 - Survival Analysis (3 credits)**

An applied introduction to analyzing time to event data with emphasis on data analysis and corresponding interpretations. Topics include survivor and hazard functions, censoring, Kaplan-Meier estimation, log-rank and related tests, Cox proportional hazards model, time-dependent covariates, and parametric models. SAS will be used. Offered winter semester of odd-numbered years. Prerequisite: STA 616 (prerequisite or corequisite).

## **STA 630 - Topics in Advanced Statistical Applications (3 credits)**

Reflecting on the knowledge and skills acquired throughout the applied statistics and biostatistics programs and internships, this course examines the responsibilities of a professional applied statistician or biostatistician. This course will examine current topics in applied statistics and biostatistics with an emphasis on industry applications and current trends. Offered winter semester. Prerequisite: STA 621.

## **STA 631 - Statistical Modeling and Regression (3 credits)**

Traditional and modern computationally-intensive statistical modeling techniques. Basics of probability theory, including conditional probability, Bayes' Theorem, and univariate probability models. Regression modeling and prediction including simple linear, multiple, logistic, Poisson, and nonlinear and nonparametric regression. Methods for model selection and shrinkage. Emphasis is on application and interpretation using statistical software. Offered fall semester. Prerequisite: Admission into the data science professional science master's program.

## **STA 680 - Special Topics in Statistics (1 to 4 credits)**

Readings, lecture, discussions, or labs (or any combination of these) in special topics in statistics or biostatistics. Prerequisites: Depends on the topic.

## **STA 697 - Professional Learning (1 to 3 credits)**

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Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

### **STA 699 - Independent Study (1 to 4 credits)**

Independent research in an area of statistics or biostatistics that is of interest to the student and the supervising faculty member. Readings and discussions may be appropriate. Hours, credits, meeting times, and the topic(s) in statistics or biostatistics are determined by the student and faculty mentor. Offered fall and winter semesters. Prerequisite: Departmental approval is required.

### **SW 150 - Introduction to Social Work and Social Welfare (3 credits)**

Social work practice, ethics, and values, in the context of social welfare policy in the United States are discussed. Topics in social welfare are examined including social policy, service delivery, research, theory, and practice. Basic social work values and concepts are interpreted. Offered every semester. Note: SW 150 is a prerequisite for all social work courses.

### **SW 300 - Social Work and Difference, Diversity, and Privilege (3 credits)**

This course explores multiple dimensions of diversity. It examines issues of identity, culture, privilege, stigma, prejudice and discrimination. Students are expected to use course material to explore their personal values, biases, family backgrounds, culture, and formative experiences in order to deepen their self-awareness and develop interpersonal skills in bridging differences. Offered fall and winter semesters.

### **SW 316 - Interviewing in Social Work (3 credits)**

This course provides students with the principles and techniques associated with the successful interview. Consideration is given to understanding the interviewee, oneself as the interviewer, and the implications of sociocultural backgrounds for the interview and its participants. Offered winter semester. Prerequisites: SW 317, SW 319, SW 340, and SW 348. Corequisites: SW 318 and SW 341.

### **SW 317 - Generalist Practice I (3 credits)**

This course provides students with knowledge, values, and skills for multilevel generalist practice. It prepares students for direct and indirect service delivery involving intervention model; micro, mezzo, and macro skills; planning; risk management and crisis intervention; termination, evaluation, and follow-up. Offered fall semester. Corequisites: SW 319, SW 340, and SW 348.

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## **SW 318 - Generalist Practice II (3 credits)**

This course focuses on mezzo and macro social work practice and assists students in developing engagement, assessment and intervention skills with individuals, families, and small groups. Taught from a strengths-based perspective, this course integrates content on diversity, multiculturalism, and values and ethics. Offered winter semester. Prerequisites: SW 317, SW 319, SW 340, and SW 348. Corequisites: SW 316 and SW 341.

## **SW 319 - Social Welfare Policy and Services (3 credits)**

This course reviews local, state, and federal level social welfare policies and services, including historical, social, cultural, economic, organizational, environmental, and global influences. Concepts of human rights and social justice, along with a basic analysis of policies and services, teaches the skills necessary to translate policy into social work practice. Offered fall semester. Corequisites: SW 317, SW 340, and SW 348.

## **SW 320 - Child Welfare Policy and Practice (3 credits)**

Synthesizes, deepens, and integrates generalist social work practice content with a focus on professional foundation knowledge, values, and skills as these apply to services for children and their families in the child welfare system. Reviews policies and programs that affect children and families and considers related multicultural issues. Offered fall semester. Prerequisites: SW 150 and SW 317; SW 318 and SW 341 (may be taken concurrently); or with permission.

## **SW 322 - Responding to Chronic Illness (3 credits)**

Investigates the chronic illness through a biological, social and psychological lens. Chronic illness affects individuals, groups and communities resulting in a need for a variety of ways to assess how health professionals can best respond to the challenges of living a good quality of life. Part of the Health Issue. Offered fall and winter semesters. Prerequisite: Junior standing.

## **SW 333 - Community Work with the Lesbian, Gay, Bisexual and Transgender Community (3 credits)**

This course aims to prepare students for community work with lesbian, gay, bisexual, and transgender (LGBT) people by providing a deeper understanding of LGBT history identities, families, health and mental health challenges, and issues of political advocacy. The course will examine a variety of issues that affect LGBT people. Part of the Identity Issue. Offered fall and winter semesters. Prerequisite: Junior standing.

## **SW 340 - Human Behavior and the Social Environment I (3 credits)**

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Introduces theories and perspectives of human behavior and the social environment necessary to social work practice with individuals, families, groups, organizations, and communities, based on the person-environment construct and biopsychosocial-spiritual assessment models. Special attention will be given to the effects of diversity and difference, along with macro and mezzo practice settings. Offered fall semester. Corequisites: SW 317, SW 319, and SW 348.

## **SW 341 - Human Behavior and the Social Environment II (3 credits)**

This course provides knowledge about human development in social environment necessary to social work practice with individuals, families, groups, organizations, and communities, based on the person-environment construct and biopsychosocial-spiritual assessment models. Special attention will be given to the effects of diversity and difference, along with micro and mezzo practice settings. Offered winter semester. Prerequisites: SW 317, SW 319, SW 340, and SW 348. Corequisites: SW 316 and SW 318.

## **SW 344 - Responding to Loss, Death, and Grief (3 credits)**

Explores death and loss in U.S. society from diverse theoretical, cultural, and social perspectives. Grief as a human response to death and other significant loss is examined emphasizing the diversity of grief reactions among individuals, groups, and communities and exploring helpful and meaningful interventions. Part of the Health Issue. Offered fall and spring/summer semesters. Prerequisite: Junior standing.

## **SW 348 - Professional Development in Social Work (3 credits)**

The course provides students with knowledge, values, and skills associated with professionalism and identifying with the social work profession. Emphasis is focused on self-awareness, personal reflection, attention to professional roles/boundaries, advocacy, and ethics in social work. Offered fall semester. Corequisites: SW 317, SW 319, and SW 340.

## **SW 351 - Cross-Cultural Service Learning (3 credits)**

The focus of this course is on the unique culture(s) within the United States and taught using a service-learning approach. Students explore the themes of social welfare development, social services, politics, policies, and the history of the assigned culture. The course includes a two or three-week experiential learning component in a specific location in the United States. The advanced practice social worker will recognize the interconnectedness between social work, social justice, and civic/global responsibility. Offered spring/summer semester. Prerequisite: Accepted into the B.S.W. program.

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## **SW 354 - Global: Cross-Cultural Community Based Learning (3 to 4 credits)**

The course focuses upon diverse global cultures using an experiential service-learning approach. Students explore themes of social welfare development, social services, politics, policies, and the history of the cultures of focus. Students will recognize the interconnectedness between social work, social justice, and civic/global responsibility. Offered spring/summer semester. Prerequisite: Permission of instructor.

## **SW 355 - Addressing Ageism and Health (3 credits)**

Analyzes the impact of historical, economic, and societal responses to population aging in the United States on pervasive ageism against older adults, based on the human rights framework. Special attention given to professional ageism in health and human services systems and its impact on minority older adults' health and well-being. Fulfills Cultures - U.S. Diversity. Part of the Health Issue. Prerequisite: Junior standing.

## **SW 380 - Special Topics in Social Work (1 to 4 credits)**

The study of issues and concerns important to the social work community not ordinarily covered in other courses. Offered in response to the special interests of faculty and student majors. Topics to be announced. Offered every other fall semester. Prerequisite: Permission of instructor.

## **SW 430 - Social Work Research (4 credits)**

The foundational course in social work research presents ethical considerations and basic principles and techniques of social science research in relation to generalist practice in social work settings. The organizing principle for the course is the research cycle, including problem identification design, research methods, analysis, and implications for practice. Offered fall semester. Prerequisite: STA 215.

## **SW 439 - The Family and Social Work Practice (3 credits)**

An elective course that deepens, broadens, and integrates professional foundation knowledge, values, and skills as these apply to generalist practice with diverse families. Examines issues related to assessment, intervention, evaluation, including variables related to programs and services for families in America. Offered winter semester. Prerequisite: SW 317.

## **SW 490 - Social Work Field Education I (3 credits)**

This course requires 225 hours of involvement in social work activities per semester in a School of Social Work approved field education site. Students have opportunities to apply theories, techniques, and concepts through observation and participation in supervised assignments and

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show evidence of skill acquisition through supervisor assessment and evaluation. Offered fall semester. Prerequisite: SW 317. Corequisite: SW 492.

## **SW 491 - Social Work Field Education II (3 credits)**

This course requires 225 hours of involvement in social work activities per semester in a School of Social Work approved field education site. Students have opportunities to apply theories, techniques, and concepts through observation and participation in supervised assignments and show evidence of skill acquisition through supervisor assessment and evaluation. Offered winter semester. Prerequisite: SW 490. Corequisites: SW 493 and SW 495.

## **SW 492 - Social Work Field Seminar I (1 credit)**

This course assists students in understanding and achieving competence in the social work skills taught and practiced in their field practicum setting. The course requires students to report and analyze field activities with faculty and peers, including the assessment and evaluation of client populations. Offered fall semester. Corequisite: SW 490.

## **SW 493 - Social Work Field Seminar II (1 credit)**

This course assists students in understanding and achieving competence in the social work skills taught and practiced in their field practicum setting. The course requires students to report and analyze field activities with faculty and peers, including the assessment and evaluation of client populations. Offered winter semester. Corequisites: SW 491 and SW 495.

## **SW 495 - Social Work Capstone (3 credits)**

This course is designed to provide students with the opportunity to demonstrate and reflect on their mastery of the core competencies and their cumulative learning throughout the B.S.W. program, while considering their identities as professional social workers. Offered winter semester. Prerequisite: SW 490. Corequisites: SW 491 and SW 493.

## **SW 499 - Independent Study in Social Work (1 to 4 credits)**

Student and/or faculty initiated special projects that explore some aspect of social work theory or practice. A maximum of four credits in independent study may be taken during undergraduate social work education. Prerequisites: Senior standing and advanced permission of instructor.

## **SW 600 - Cultural Competency for Social Work (3 credits)**

This course examines cross-cultural practices and values, with emphasis on the commonalities and differences among individuals, groups, organizations, and communities. Emphasis is given

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to critical analyses of people based on age, ethnicity, race, gender, religion, spirituality, sexual orientation, socioeconomic status, veteran, and/or disability status. Offered every semester.

## **SW 601 - Foundations of Social Work Practice (3 credits)**

Examines social welfare as an institution, and social work as a profession in American society. Included are basic knowledge, values, and skills required for advanced generalist practice. Emphasis is on values and ethics, populations-at-risk, social and economic justice, and engagement with individuals, families, groups, organizations, and communities. Offered fall and winter semesters.

## **SW 603 - Integrated Methods (3 credits)**

This foundation course for advanced generalist social work practice includes training in engagement, assessment and intervention with individuals, families, groups, organizations, and communities. Using a strengths-based perspective with respect to diversity, this course focuses on micro, mezzo, and macro theories relevant to practice. Offered fall and winter semesters. Prerequisite: SW 601.

## **SW 610 - Social Welfare Policy and Services I (3 credits)**

This course examines social services delivery systems in the United States, including the profession of social work and an analysis of the historical development in economic, political, and social contexts. Offered fall and winter semesters.

## **SW 612 - Social Policy: Families and Children (3 credits)**

This course examines the history and influence of the major contemporary public policies and programs on the welfare of children and families. Emerging trends and issues and their implications for future social policy, programs, and services are examined. Interventions via advanced practice skills are discussed. Offered spring/summer semester. Prerequisite: SW 610.

## **SW 613 - Human Rights and Social Work (3 credits)**

The course is structured to provide students with a basis for literacy about modern human rights, including core principles, key documents, institutions, and practices. A framework for the analysis of social work/human rights interactions is utilized and systematically applied, including but not limited to the effect of social, political and economic policies, and programs on human rights; health and social consequences of human rights violations; and the inextricable linkage between promoting and protecting mental and physical health, community well-being and family functioning, and promoting and protecting human rights. Prerequisite: SW 610.

## **SW 614 - Social Policy and Mental Health (3 credits)**

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Examines the development of mental health policies and services in the United States and in Michigan. Public policies and organizations are analyzed and evaluated in relation to trends, impacts, and outcomes on the problem of mental illness in society. Offered spring/summer semester. Prerequisite: SW 610.

## **SW 620 - Human Behavior and the Social Environment (3 credits)**

The course synthesizes and applies theories of human behavior and the social environment into social work practice with individuals, families, groups, organizations, and communities, based on the person-environment construct and biopsychosocial-spiritual assessment models. Special attention will be on the effects of diversity and difference, and lifespan development. Offered fall and winter semesters.

## **SW 622 - Clinical Diagnosis and Treatment Planning (3 credits)**

Provides a comprehensive body of knowledge, organized and integrated in both theoretical and practical terms. Includes an awareness of the dimensions of mental health and mental disorders in adulthood. Provides a bio-psychosocial spiritual strength-based perspective on engagement with, assessment of, and intervention in normal and abnormal behavior. Offered winter and spring/summer semesters. Prerequisites: SW 600 and SW 620.

## **SW 629 - Communities and Organizations: Engagement, Assessment, Intervention, and Evaluation (3 credits)**

This course provides an orientation to macro social work as a core method for advanced generalist practice. Students learn foundational theories and practice skills for engaging, planning, implementing, and evaluating change in communities and organizations. This course emphasizes principles of inclusion, social and economic justice, human rights, and empowerment. Offered every semester. Prerequisite: SW 603.

## **SW 630 - Social Work: Global Service-Learning (3 credits)**

The focus of this course is on international social work policy and practice. Students interact with various communities using a service-learning approach. The students explore the themes of social services politics, policies, and the history of the assigned culture. The course includes a two or three-week experiential learning component in an international location. The advanced practice social worker will recognize the interconnectedness between social work, social justice, and civic/global responsibility. Offered spring/summer semester. Prerequisites: SW 610 and permission of instructor.

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## **SW 631 - Social Work: U.S. Community-Based Service Learning (3 credits)**

The focus of this course is on the unique culture(s) within the United States and taught using a service-learning approach. Students explore the themes of social welfare development, social services, politics, policies, and the history of the assigned culture. The course includes a two or three-week experiential learning component in a specific location in the United States. The advanced practice social worker will recognize the interconnectedness between social work, social justice, and civic/global responsibility. Offered spring/summer semester. Prerequisites: SW 610 and permission of instructor.

## **SW 640 - Seminar in Advanced Generalist Practice (Capstone) (3 credits)**

A broadening of student knowledge of the professional foundation for practice across populations-at-risk. Students will identify and develop individual topics. May only be taken once. Offered winter semester. Corequisites: SW 654 and SW 655.

## **SW 650 - Field Education I (3 credits)**

The first in a series of applied field education courses involving 300-clock-hours in a university approved and supervised social work field setting. Emphasis is on the application of core competencies within M.S.W. generalist perspective. Taken concurrently with one credit field seminar SW 651. Prerequisites: SW 600, SW 601, SW 603, and SW 620. Corequisite: SW 651.

## **SW 651 - Field Education Seminar I (1 credit)**

Field seminar focused on integrating coursework with foundation field experiences. One credit course (for a total of 15 class hours) that meets biweekly with students concurrently enrolled in SW 650. Corequisite: SW 650.

## **SW 652 - Field Education II (3 credits)**

A continuation of SW 650. A 300-clock-hour applied field practicum that has been contracted for by students. Emphasis on the advanced application of assessment, intervention, and evaluation skills within advanced generalist framework. Offered fall semester. Prerequisites: SW 650 and SW 651. Corequisite: SW 653.

## **SW 653 - Field Education Seminar II (1 credit)**

Field seminar focused on integrating coursework with second semester advanced field experiences. One credit course (for a total of 15 class hours) that meets biweekly with students concurrently enrolled in SW 652. Prerequisites: SW 650 and SW 651. Corequisite: SW 652.

### **SW 654 - Field Education III (3 credits)**

A continuation of SW 652. A 300-clock-hour applied field practicum that has been contracted by students. Emphasis on the advanced application of assessment, intervention, and evaluation skills within the advanced generalist framework. Prerequisites: SW 652 and SW 653. Corequisites: SW 655 and SW 640.

### **SW 655 - Field Education Seminar III (1 credit)**

Field seminar focused on integrating coursework with third semester advanced field experiences. One credit course (for a total of 15 class hours) that meets biweekly with students concurrently enrolled in SW 654. Offered winter semester. Prerequisite: SW 652. Corequisites: SW 654 and SW 640.

### **SW 660 - Grant Writing and Resource Development (3 credits)**

Instruction in how to find grant resources, develop grant proposals and associated budgets, and evaluate outside proposals. Students will learn to diversify agency financial resources through planned giving, corporate requests, endowment campaigns, and special events. Offered winter semester.

### **SW 661 - Social Work in the School/ Educational Setting (3 credits)**

This course will include emphasis on governmental statutes and regulations that govern school systems and directly impact teachers, administrators, and other members of the professional team, community agencies, and groups. Offered spring/summer semester. Prerequisites: SW 600, SW 603, SW 610, SW 620, and permission of instructor.

### **SW 662 - Substance Abuse and Social Work Practice (3 credits)**

Examines the impact of the social work profession on substance abuse problems. Considers etiology, epidemiology, prevention, methods of treatment and policy issues, as well as the relationship between race, gender, age, social class, and substance abuse. Offered winter semester. Prerequisites: SW 600 and SW 620.

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## **SW 663 - Child and Adolescent Development/Practice (3 credits)**

This course provides students with the understanding of child and adolescent development through various developmental lenses. Students will develop an understanding of assessment, diagnosis, and practice as it relates to issues facing children and adolescents. Offered fall and spring/summer semesters. Prerequisites: SW 603, SW 610, and SW 622.

## **SW 664 - Social Work Practice in Schools (3 credits)**

Required for social work practitioners in Michigan public schools. This course provides an overview of social work practice in a host setting as it relates to general and special education. Offered winter and spring/summer semesters. Prerequisites: SW 600, SW 603, SW 610, and SW 620.

## **SW 665 - Opportunities in Aging Societies (3 credits)**

Analyses of population aging, the longevity revolution, and their impacts on individuals, families, organizations, communities, and society. Critical evaluation of theories and controversies of aging, and practices to address aging realities, uses strength-based approaches. Attention given to key social and health policies and programs for older adults and their families. Cross-listed with PNH 645. Offered fall semester.

## **SW 668 - Child and Adolescent Trauma (3 credits)**

This course explores intervention with traumatized children and adolescents. Assessment foci include the role of development, culture, and evidence-based, trauma-specific practice with children, adolescents, and their families. Other topics include: trauma-focused CBT, identification of risk and protective factors that foster resiliency, caregiver interventions, and strengths-based practice. Offered winter and spring/summer semesters. Prerequisite: SW 670.

## **SW 669 - Responses to Loss and Death (3 credits)**

This course examines death, grief, and loss in America, including theories, cultural rituals, social traditions, and taboos before and after death. Psychological and spiritual foundations of death, grief, and loss are explored from multiple perspectives and cultures including the experience of grief and bereavement for individuals, groups, and communities. Offered winter semester. Prerequisite: Postbaccalaureate status or permission of instructor.

## **SW 670 - Social Work Practice with Individuals (3 credits)**

Focuses on selected knowledge and skills from a person-in-environment perspective and approaches working with individual clients, the cognitive/behavioral and psychosocial models

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and their application to social work practice. Emphases on approaches that enhance social function, strengthen problem-solving capacities, and support the coping capacities on individual adults. Offered fall and winter semesters. Prerequisites: SW 603 and SW 622.

### **SW 671 - Social Work Practice in Health Care (3 credits)**

Social work skills pertinent to health care settings, including assessment of the impact of illness, treatments, and interprofessional health care work are examined. Students appraise the effects of illness on patients and families. Models of the intervention process and health care theories are compared and applied to practice. Offered winter semester. Prerequisite: SW 603.

### **SW 672 - Social Work Practice with Groups (3 credits)**

This experiential course helps students increase their awareness of group dynamics and processes, and integrate underlying theories and concepts of both task and personal change group structures. Includes content on treatment groups with diverse populations, group planning in a variety of situations, task groups, educational groups, and crisis groups. Offered fall semester. Prerequisite: SW 603.

### **SW 673 - Social Work Practice with Children and Adolescents (3 credits)**

The course prepares students for direct practice with children and adolescents who are experiencing developmental stress, disruptions and challenges, life crises, trauma, separations, and mental health risks. Content encompasses multiple perspectives in the advanced application of theories, models, and skills utilized in various treatment models. Offered fall semester. Prerequisites: SW 603 and SW 622.

### **SW 674 - Social Work Practice: Families and Children (3 credits)**

Examines an integrated model of family practice focusing on family development and dysfunction at various stages in the family life cycle. Using a family system and ecological systems perspective, students are taught specific assessment and intervention knowledge and skills. Concepts from several current models of family practice are studied and drawn upon. Offered fall and winter semesters. Prerequisite: SW 603.

### **SW 675 - Child Welfare and Family Services (3 credits)**

This course prepares students for advanced practice in child welfare and family services in the public or private sector. Addresses social work's historic mission to serve poor and vulnerable families with a variety of direct practice methods from an advanced generalist perspective. Offered winter semester. Prerequisite: SW 603.

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## **SW 676 - Community and Social Planning (3 credits)**

A review of professional practice in social planning and community organization. Exploration of a range of theories, concepts, and applications. Includes focus on power, influence, interorganizational relationships and action strategies, as well as development and use of structure and leadership. Offered fall semester. Prerequisite: SW 603.

## **SW 677 - Principles of Supervision (3 credits)**

Examines the various tasks and techniques related to supervision in social service agencies. Supervision is introduced as an educational process, an administrative function, and a development tool. Dimensions of the supervisor/worker relationship will be discussed, with particular attention to the impact of gender and race on the process. Offered winter and spring/summer semesters. Prerequisite: SW 603.

## **SW 678 - Human Services Administration (3 credits)**

Provides a conceptual, theoretical, and methodological foundation in the organization and administration of human services. Inter- and intraorganizational variables and characteristics that undergird and impinge upon the effective delivery of human services are examined. Issues and forces affecting the social welfare enterprise will be analyzed along with those factors. Offered fall semester. Prerequisite: SW 603.

## **SW 679 - Program Monitoring and Evaluation (3 credits)**

Provides a comprehensive examination of all phases of program development, from the point when an idea is first generated through the process of determining the nature of the program, the steps taken to ensure the effort is proceeding as planned, and the assessment of outcomes and impact. Offered winter semester. Prerequisite: SW 603.

## **SW 680 - Special Topics in Social Work (1 to 4 credits)**

Students study issues and concerns important to the social work profession not ordinarily covered in other courses. Offered in response to the special interests of faculty and students. Topic(s) to be announced in advance of registration. Offered fall semester. Prerequisites: SW 600, SW 601, SW 603, SW 610, and SW 620.

## **SW 690 - Social Research I (3 credits)**

This course is the first of two in social work research. The foundational concepts and methodology used for scientific practice, including the investigation and evaluation of social work practice problems, an understanding of techniques and issues in measurements, options in research designs, data collection and analysis, and the development of new knowledge in

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agencies and programs with particular reference to the advanced generalist perspective. Offered winter and spring/summer semesters.

### **SW 691 - Social Research II (3 credits)**

Examines qualitative research methods in a small-scale project, including interviewing and observational data collection methods, with attention to research ethics and the protection of human subjects. Qualitative data analysis techniques, the generation of conclusions, and writing in-depth implications for social work will be addressed. Cross-listed with CJ 600. Offered spring/summer and fall semesters. Prerequisite: SW 690.

### **SW 695 - Master's Thesis (1 to 6 credits)**

Faculty-supervised research and writing on a subject approved by the student's advisor and committee. Prerequisites: SW 690, SW 691, consent of thesis committee, and completion of the Responsible Conduct of Research Training within the last three years.

### **SW 696 - Continuation of Master's Project or Thesis Research (1 credit)**

Continuation of work related to the master's project or thesis phase of the graduate student's program. Registration is required after all respective project or thesis credits are completed and the project or thesis is not completed. Work will be performed under the supervision of the project advisor or thesis committee chair. Offered every semester. Prerequisite: Completion of all required project or thesis credits.

### **SW 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

### **SW 699 - Independent Study (1 to 3 credits)**

Independent study of an issue related to social welfare or social work theory or practice. Offered every semester. Prerequisites: Approval of advisor and faculty member directing the study.

### **THE 101 - Introduction to Theatre (3 credits)**

Basic course in theatre. Emphasis upon contemporary stage practice and theory, not theatre history. Students will experience a wide variety of live, filmed, and taped performances, analyze their reactions to them, and present two reports on them. Fulfills Foundations - Arts. Offered every semester.

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## **THE 151 - Acting Process (3 credits)**

An introduction to the process of acting through improvisation, freeing the natural performer by means of physical, intellectual, emotional, and intuitive exercises and games. Extensive experiential work and subsequent evaluation. Offered fall and winter semesters.

## **THE 152 - Voice for the Actor (3 credits)**

This course develops basic techniques of strengthening vocal, verbal, and movement resources for performance. It focuses on developing skills with voice phonation, relaxation, and projection; strengthening movement skills for scene and monolog presentations; and improving interpretation skills. Students will participate in lecture/discussions, class exercises, lab experiences, and studio performances. Offered winter semester of odd-numbered years.

## **THE 161 - Theatre Production (3 credits)**

An introduction to the collaborative nature of the theatrical process, production practices, and theatrical operations. The course examines the duties and responsibilities of the various collaborative artists, such as actors, directors, designers, producers, and managers. Students will participate in the production activities of the college. Course is required for theatre majors. Fulfills Foundations - Arts. Offered fall semester.

## **THE 162 - Play Analysis (3 credits)**

Develops abilities to read and interpret play texts. Students examine conventions of dramatic art as they learn to approach a text, both verbally and nonverbally. Frequent short writing assignments and several video recordings supplement class lectures and discussions. Required attendance at two university play performances. Offered winter semester of odd-numbered years.

## **THE 198 - Rehearsal and Performance (1 to 3 credits)**

Participation as a performer (acting, dance) in the college's production program. Offered every semester. Prerequisite: Permission of instructor. May be repeated for credit.

## **THE 250 - Theatre Management (3 credits)**

An introduction to theatre management, including production management, stage management and front of house management. Class lectures and discussions are augmented by work on projects and actual performance. The course covers the structure and business of the theatre and duties and responsibilities of production, stage, and house managers. Offered winter semester.

## **THE 252 - Acting Characterization (3 credits)**

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Methods of developing a character for the stage. Free exercises, improvisations, analysis, and scene (or project) presentations. Emphasis on the total integration of all the actor's resources. Offered fall and winter semesters. Prerequisite: THE 151.

## **THE 261 - Stagecraft I (3 credits)**

A study of the basic techniques for constructing and painting stage scenery and simple stage properties. Additional emphasis on the principle of stage lighting. Offered on sufficient demand.

## **THE 262 - Costume Construction (3 credits)**

A laboratory course in beginning sewing techniques, including instruction in basic pattern drafting and draping for costumes (depending on the students' level of sewing experience). Final project includes the construction of a complete garment. Offered on sufficient demand.

## **THE 263 - Makeup (2 credits)**

A laboratory course dealing with the principles of makeup application and design. Demonstration and practice in makeup techniques and in the use of makeup equipment and materials, including crepe hair, prosthetics, and masks. Course taught from the performer's point of view. Offered on sufficient demand.

## **THE 298 - Applied Theatre Practice (1 to 3 credits)**

Participation in a technical or design capacity (scenery, lighting, costumes, stage management, etc.) in the college's production program. Offered every semester. Prerequisite: Permission of instructor. May be repeated for credit.

## **THE 300 - Storytelling (3 credits)**

Exploration of stories and their possible uses through the oral tradition. Students will locate, create, and share stories; explore stories as a reflection of culture; and engage in practical activities that will provide a plethora of ideas for understanding and using storytelling in multiple aspects of one's life. Offered fall of even-numbered years. Prerequisite: Junior standing.

## **THE 325 - Theatre for Social Change (3 credits)**

Examines performance theory, theatre practice, and educational drama methods used to investigate systems of power, notions of community, identity, and political action. Students will learn about theatrical productions, artistic processes and technology-based communication techniques that help actor-activists initiate social change. Students will create group performances for a chosen community. Part of the Information, Innovation, or Technology Issue. Offered fall semester. Prerequisite: Junior standing.

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## **THE 356 - Acting for the Camera (3 credits)**

Introduction to special techniques of performing for the camera, including script preparation, studio rehearsals, and actual camera performance. Essays, journals, and on-camera projects such as resume/interviews, advertisements, news reports, and dramatic scenes are required. Offered winter semester. Prerequisites: Two courses in acting.

## **THE 362 - Production Dramaturgy (3 credits)**

Study and practice in production dramaturgy. Specific theatre topics and production focus will vary. The course integrates play analysis and theatre research with production practices in order to prepare research and production materials to assist with upcoming theatre production work. May be repeated for credit. Offered fall semester. Prerequisite: Sophomore standing.

## **THE 365 - Directing I (3 credits)**

Study and practical application of the fundamental concepts of play directing: play selection, script analysis and interpretation, artistic choices, articulation of ideas, communication with actors, and critique. Rehearsal and presentation of realistic scenes. Offered winter semester of even-numbered years. Prerequisites: THE 151, THE 161, and (either THE 250 or THE 261) or by permission of instructor.

## **THE 366 - Drama in Education (3 credits)**

An orientation to the function of dramatics in education. Workshop exercises combined with background studies and theory. Skills for conducting creative dramatic activities with elementary and secondary students, exploring theatre games, and improvisations with ensemble. Offered winter semester.

## **THE 367 - Scenography (3 credits)**

An introduction to the basic theoretical and artistic concepts and procedures for designing a live performance. Physical scenery, lighting, projections, costumes, and makeup are considered as integrated parts of a unified design. Individual projects exploring varied design contexts. Students will participate in the production activities of the college. Offered winter semester of odd-numbered years. Prerequisites: THE 161 and THE 261 or permission of instructor.

## **THE 368 - Lighting Design (3 credits)**

An exploration of the theory and techniques of lighting live performances. The basics of theatre electrics, including instrumentation, color, control systems, and paperwork techniques. Principles of lighting design, exploration of the qualities of light, and their manipulation in theatrical situations. Offered fall semester of odd-numbered years. Prerequisite: THE 161.

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## **THE 369 - Costume Design (3 credits)**

Study of the principles of costume design, including figure drawing and rendering techniques. An introduction to the history of costume. Final project will include the design of costumes for an assigned play. Offered fall semester of odd-numbered years. Prerequisites: THE 161 and THE 262 or permission of instructor.

## **THE 371 - Theatre History I (3 credits)**

The study of the development of theatre from its origins up to the 17th century. The course emphasizes dramatic theory, playwriting styles, theatrical production styles, physical theatres, and the impact of theatre on society. Specifically, the course examines Asian theatre and the development of Western theatre. Offered winter semester. Prerequisite: Fulfillment of general education Foundations - Writing.

## **THE 372 - Theatre History II (3 credits)**

The study of the development of theatre from the Restoration period to the present with emphasis on dramatic theory, playwriting styles, theatrical production styles, physical theatres, and the impact of theatre on society. Offered winter semester. Prerequisite: Fulfillment of general education Foundations - Writing.

## **THE 380 - Special Topics in Theatre (1 to 3 credits)**

A study of special topics not regularly covered in the curriculum. Expectations of the student in this course approximate those in other 300-level courses. Offered on sufficient demand. Prerequisite: Sophomore standing. May be repeated for credit when content varies.

## **THE 399 - Independent Reading (1 to 3 credits)**

Directed readings or research work in theatre literature or theatrical practice. Offered every semester. Prerequisites: Junior standing and permission of the instructor.

## **THE 400 - Touring Theatre Production (3 credits)**

An eight-week course in the study, rehearsal, performance, and production of a touring play. Students gain a broad understanding of Shakespeare and the theatrical touring process through four weeks of rehearsals and four weeks of touring to outreach audiences. May be repeated for credit. Prerequisite: Permission of instructor, by audition only.

## **THE 454 - Acting Advanced Scene Study (3 credits)**

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Scene and monologue work with emphasis on auditioning. Practice with prepared and unprepared material. Training in selecting, editing, rehearsing, resume writing, and performing. Offered winter semester. Prerequisites: Two of the following: THE 151, THE 252, or THE 356 or equivalent.

## **THE 455 - Shakespeare Performance (3 credits)**

A six-week course in acting skills in conjunction with Shakespeare Festival productions. Students must audition for roles during the semester prior to the course. Lectures and studio work focus on characterization, vocal skills, text interpretation, and scene work. May be repeated for credit. Prerequisite: Permission of instructor, by audition only.

## **THE 465 - Directing II (3 credits)**

Includes study of directing for proscenium, thrust, and the round. Special attention paid to directing plays from other periods, children's plays, musicals, and placing plays in a transferred period. Students will direct a one-act play for public performance. Offered on sufficient demand. Prerequisite: THE 365 or by permission of instructor.

## **THE 490 - Internship (1 to 6 credits)**

Practical work and study in the area of acting, arts management, or technical production with a professional regional theatre. Offered every semester. Prerequisites: Senior standing, selected coursework in background to the specific area of the internship, and permission of theatre chairman.

## **THE 495 - Theatre Capstone (3 credits)**

The theatre Capstone is designed to be a culminating experience for theatre majors. Selected theatre practices are examined in the context of contemporary issues/questions. Seminar-style analysis and application of concepts based on readings selected to support discussions about one or more current critical issues in theatre. Prerequisites: Senior standing, declared theatre major or minor, and completion of 100- to 200-level core courses.

## **THE 499 - Independent Research (1 to 3 credits)**

Scholarly library project and critical essay in some area of theatre. Seniors majoring in theatre and dance. Offered every semester.

## **US 102 - Career Education Class (1 credit)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Designed for students seeking assistance in developing a career and educational plan suited to their needs, goals, and career choices. Emphasis and activities will be placed on personal and career assessment, career and occupational information, planning, and decision-making.

### **US 280 - Special Topics in University Studies (3 credits)**

A variable topics course emphasizing the study of university-wide topics in relation to a contemporary problem, issue, or theme. May be repeated for credit. Offered as needed.

### **US 301 - Internship and Job Search Strategies (1 credit)**

Provides a structured approach to organizing and executing a job search campaign for an internship or employment following graduation. Topics include skill identification, job market research, resume writing, effective networking, interviewing, negotiating offers, and job survival skills. Offered fall and winter semesters.

### **US 380 - Special Topics in University Studies (3 credits)**

A variable topics course emphasizing the study of university-wide topics in relation to a contemporary problem, issue, or theme. May be repeated for credit. Offered as needed.

### **US 480 - Environmental Sustainability (1 to 9 credits)**

Readings, lectures, and/or discussions in special topics not normally covered by other courses in the program.

### **WAT 532 - Advanced Aquatic Ecology (3 credits)**

Knowledge of the processes occurring in aquatic ecosystems is required in order to understand their dynamic and vital role in the biosphere. This lecture-discussion course, with special emphasis on freshwater resources, will serve as a forum for learning about recent advances in aquatic ecology and its significance to Earth's ecosystems. Cross-listed with WAT 532. Offered fall semester of odd-numbered years. Prerequisite: Graduate standing in biology or permission of instructor.

### **WAT 545 - Theoretical Perspectives in Aquatic Science (3 credits)**

Current theoretical and technical aspects of aquatic science will be reviewed and analyzed from a variety of perspectives. Designed for students with a non-science background. Offered fall semester. Prerequisite: Admission to the M.S. in water resource policy or permission of the instructor.

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## **WAT 565 - Water Policy and Science (3 credits)**

This course will engage students through an advanced analysis of water resource policy. Students will also evaluate the relationship between water resource policy and science. Offered winter semester. Prerequisite: Admission to the M.S. in water resource policy or permission of the instructor.

## **WAT 576 - Aquatic Ecosystem Management (3 credits)**

Wise management of aquatic ecosystems is a pressing need with societal demands on freshwater increasing. This class allows for hands-on experience developing and implementing a management plan in a local setting by linking an understanding of aquatic ecosystem structure and function with management, restoration, and protection. Cross-listed with NRM 576. Offered winter of even-numbered years. Prerequisite: Graduate standing or permission of instructor.

## **WAT 651 - Emerging Issues in Water Resources (2 credits)**

The most pressing water resource-related issues facing the planet today will be discussed and analyzed. Particular emphasis will be placed on analyzing these problems from a variety of perspectives, including environmental, economic, societal, and political. Cross-listed with BIO 651. Offered fall semester of odd-numbered years. Prerequisite: BIO 440 or BIO 451.

## **WAT 691 - Internship (6 to 9 credits)**

A culminating experience performed at a sponsoring entity/agency. Internships are six to nine credits and between 18 to 27 hours/week. Program director approval requires successfully completing required courses (at minimum) and maintaining good academic standing. Internships include the work outlined by the sponsoring entity/agency, a written analysis, and public oral presentation. Offered every semester. Prerequisite: Permission of the program director.

## **WAT 697 - Professional Learning (1 to 3 credits)**

Graduate credit awarded for professional learning acquired through non-credit courses, structured, non-credit professional development programs, and professional work experiences.

## **WGS 180 - Special Topics in Women, Gender, and Sexuality Studies (1 to 3 credits)**

Special topics in women, gender, and sexuality studies. Focus will vary by semester and instructor. May be repeated for credit when content differs. Offered every semester.

## **WGS 200 - Introduction to Gender Studies (3 credits)**

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Examines gender, sex, sexuality, and race as they relate to other categories of difference from an interdisciplinary perspective including disciplines in the social sciences and humanities. Fulfills Cultures - U.S. Diversity. Fulfills one of the Foundations - Social and Behavioral Sciences. Offered fall and winter semesters.

## **WGS 224 - Introduction to LGBTQ Studies (3 credits)**

Introduces LGBTQ histories, cultures, and theoretical perspectives in the context of race, class, gender, sexuality, age, religion, ability, and nation. Topics include literary and artistic expression, biological investigations, health matters, policy and politics, community life, and other issues relevant to studying gay, lesbian, bisexual, transgender, intersex, and queer life. Fulfills Foundations - Historical Perspectives. Offered winter semester.

## **WGS 255 - Gender and Popular Culture (3 credits)**

Introduction to historical and contemporary U.S. popular and everyday culture, arts, and entertainment as mechanisms that produce and reinforce ideologies about gender, race, and sexuality. Analyzes formal elements and aesthetics of various popular arts, modes of production and distribution, and the role of popular arts in activism and resistance. Fulfills Foundations - Arts. Fulfills Cultures - U.S. Diversity. Offered fall and winter semesters.

## **WGS 280 - Special Topics in Women Gender, and Sexuality Studies (3 credits)**

A variable course emphasizing the study of women, gender, and sexuality studies topics in relation to a contemporary problem, issue, or theme. May be repeated for credit when content differs. Offered upon sufficient demand.

## **WGS 302 - Women, Politics, and Public Policy (3 credits)**

This course explores the ways that gender influences government and policy decisions. Students will explore many gendered issues and the relevant policy responses. Topics include domestic violence, reproductive policies, divorce and the family, marriage and the family, poverty, class, and compensation. Cross-listed with PLS 302. Offered winter semester. Prerequisite: PLS 102 or junior standing.

## **WGS 310 - LGBTQ Rights and the Law (3 credits)**

An examination of U.S. law and policy issues related to sexual orientation and gender identity as they correspond to international human rights principles. Topics may include hate crime and anti-discrimination law, employment, family, and marriage law, HIV/AIDS policy, adoption bans, "bathroom bills," and immigration and refugee/asylum law. Part of the Human Rights Issue. Offered winter semester. Prerequisite: Junior standing.

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## **WGS 315 - Psychology of Sex Differences (3 credits)**

A critical examination of the psychological research regarding purported mental, emotional, and behavioral differences between women and men, theories of the development of gender identity, and the etiology of differences. Issues discussed will include the construction of difference and the cultural and ideological uses of the rhetorics of difference. Cross-listed with PSY 315. Offered winter semester.

## **WGS 316 - The Psychology of Human Intimacy and Sexuality (3 credits)**

A comparative analysis of sexual practices, reproductive strategies, and intimate relationships using competing viewpoints (e.g., cultural psychology and evolutionary psychology). Topics covered may include comparing dating, cohabiting, married and gay and lesbian couples; factors in relationship stability and divorce; and the social control of sexuality and production. Cross-listed with PSY 316. Prerequisite: PSY 101.

## **WGS 317 - Sociology of Gender (3 credits)**

Explores gender as a socially constructed system of stratification. Topics may include how ideas about gender shape childhood, families, education, work, violence, science, and social inequality. Examines how gender intersects with other socially constructed systems of stratification, including race, sexuality, class, age, and ability. Fulfills Cultures - U.S. Diversity. Part of the Identity Issue. Cross-listed with SOC 317. Offered fall semester. Prerequisite: Junior standing.

## **WGS 318 - Sociology of Sexuality (3 credits)**

Explores sexuality as a socially constructed system of stratification. Topics may include the production of sexual identities and desires, and how ideas about sexuality shape the media, violence, social movements, and work. Examines how sexuality intersects with other socially constructed systems of stratification, including race, gender, class, age, and ability. Fulfills Cultures - U.S. Diversity. Part of the Identity Issue. Cross-listed with SOC 318. Offered winter semester. Prerequisite: Junior standing.

## **WGS 320 - Crimes Against Women (3 credits)**

An in-depth study of crimes committed almost exclusively against women. Such crimes include sexual harassment, rape, and certain types of murder. The course is taught within the framework of feminist theory and research. Cross-listed with CJ 320. Offered fall semester.

## **WGS 325 - Body, Gender, Sexuality in Antiquity (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Introduction to views about the body, gender, and sexuality in ancient Greece and Rome. Special attention is given to ancient texts that inform feminist and queer theory. Topics include ancient medicine and modern dietetics, the figure of Antigone in feminist and postcolonial literature, Greek homosexuality, Victorian Hellenism, and American law. Part of the Identity Issue. Offered fall semester. Cross-listed with CLA 325. Prerequisite: Junior standing.

### **WGS 326 - Sexuality, Justice, and Advocacy (3 credits)**

An exploration of sexuality through an interdisciplinary lens. Topics include adult sexual development, public policy, and methods of advocacy for sexual health and justice. Through various learning activities, including field study with campus and community organizations, students will increase their knowledge and facilitation skills related to sexual health education. Part of the Health Issue. Cross-listed with INT 326. Offered every semester. Prerequisite: Junior standing.

### **WGS 334 - Sex, Power, and Politics (3 credits)**

Explores the ways that gender identity and sexual orientation matter politically, intersect with race and class issues, and impact human flourishing. Examines these issues from a philosophical perspective, sets them in historical and contemporary political contexts, and investigates the role public policy and social norms play in the process. Part of the Identity Issue. Cross-listed with PLS 334. Offered winter semester. Prerequisite: Junior standing.

### **WGS 335 - Women, Health and Environment (3 credits)**

This course is an overview of contemporary women's health issues focusing on the interconnectedness between health and the environment. Topics include reproductive issues, pesticides, sustainable development, occupational hazards, health insurance, and breast cancer. Discussions and readings will focus on the impact of race, class, and sexuality on women's health. Part of the Sustainability Issue. Offered fall semester in even-numbered years. Prerequisite: Junior standing.

### **WGS 336 - Lesbian, Gay and Queer Literature (3 credits)**

This interdisciplinary course makes use of literary, historical, and social scientific theories and methods in an in-depth study of lesbian, gay, and queer literature with attention to historical and cultural context. Literature may include literary classics, pulp fiction, postcolonial literature, feminist fiction, and postmodern narratives. Cross-listed with ENG 336. Offered winter semester of even-numbered years.

### **WGS 343 - Black Feminist Thought (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Survey of the interdisciplinary field of black feminist studies. Focuses on the history, theoretical approaches, and interventions of black feminist studies through examination of the foundational topics and concerns of the field. Cross-listed with AAA 343. Offered fall semester.

### **WGS 350 - Family and Gender in the Developing World (3 credits)**

A comparative examination of the impact of development on families and gender roles in third world countries. Will include consideration of general issues (e.g., factors affecting family reproduction decisions, women in the formal and informal labor force, etc.) and in-depth study of gender and family in one or more countries. Fulfills Cultures - Global Perspectives. Part of the Identity Issue. Cross-listed with SOC 350. Offered fall and winter semesters. Prerequisites: Fulfillment of general education Foundations - Writing and junior standing.

### **WGS 352 - Black Women's Culture and Communities (3 credits)**

A historical and theoretical analysis of the distinct identities African American women constructed for themselves (and had constructed for them) in response to the forces of patriarchal domination and political colonization. Fulfills U.S. Diversity requirement. Part of the Human Rights Issue. Cross-listed with AAA 352. Offered fall semester. Prerequisite: Junior standing.

### **WGS 358 - Women and Gender in South Africa (3 credits)**

This course will cover current debates in social and political issues for women and gender in South Africa. Topics may include history, education, labor, government, women's activism, family, violence, HIV/AIDS, health and reproductive issues, environmental issues, social entrepreneurship, and nongovernmental organizations. This course will be taught in South Africa. Offered spring/summer semester. Prerequisites: Permission of the instructor and minimum GPA of 2.5. Corequisite: WGS 493.

### **WGS 360 - Foundations of Feminism (3 credits)**

Focuses on the historical development of feminist thought. Interdisciplinary examination of the theoretical approaches to feminism and gender. Designed for, but not limited to, WGS students. Offered winter semester. Prerequisite: WGS 200 or permission of instructor.

### **WGS 365 - Queer Theory (3 credits)**

Engages in an interdisciplinary examination of theoretical approaches to sexuality and gender. Focuses on contemporary queer theory, including its historical development. Offered fall semester. Prerequisite: WGS 200 or WGS 224.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

## **WGS 370 - Women and the Law (3 credits)**

Overview of legal limitations on sex discrimination in the United States and efforts to end discrimination; marriage and divorce, relationships outside of marriage, reproductive rights and biological factors impacting these rights; violence against women, and employment discrimination focusing on gender-based influences that contribute to these human rights violations. Part of the Human Rights Issue. Cross-listed with LS 370. Offered winter semester. Prerequisite: Junior standing.

## **WGS 371 - Historical Perspectives on Gender and Sexualities (3 credits)**

Variable topics centering on the history of gender and sexuality. Topics include historical understandings of gender identity and sexual orientation and may vary by region and era. May be repeated if content varies. Part of the Identity Issue. Cross-listed with HST 371. Prerequisite: Junior standing.

## **WGS 380 - Special Topics in Women Gender, and Sexuality Studies (1 to 4 credits)**

Provides an interdisciplinary opportunity for students to pursue advanced study in special topics related to women and women's roles in this and other cultures. Topics vary each term. May be taken more than once when the topic is different. Offered on sufficient demand.

## **WGS 395 - Women and Gender Studies Research Methods (3 credits)**

Explores dominant epistemologies and familiarizes students with research methods commonly used in women and gender studies. Examines ways in which feminist and gender theories inform research questions, shape research practice, and define relationships with research participants. Offered fall semester. Prerequisite: WGS 360.

## **WGS 399 - Independent Readings (1 to 3 credits)**

Independent supervised readings in selected topics. Offered every semester. Prerequisite: Permission of program coordinator.

## **WGS 402 - Feminist Visionary Thinkers (3 credits)**

This variable topics course examines the life and work of a significant feminist visionary thinker or thinkers whose theories, work and/or actions have effected deep change in the world resulting

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

in paradigm shifts within global cultures, institutions, societies, and worldviews. Cross-listed with INT 402. May repeat for credit. Offered winter semester.

### **WGS 450 - Global Feminisms (3 credits)**

This course offers a comparative analysis of local/global feminisms through history, activism, development and forms of feminism in different countries as well as an examination of the status of women in those countries as it impacts feminist activism. Fulfills Cultures - Global Perspectives. Part of the Human Rights Issue. Offered fall semester. Prerequisite: Junior standing.

### **WGS 460 - Spanish Women Authors (3 credits)**

An in-depth study of Spanish and Spanish American women authors whose literature, across the centuries, has dealt with a particular historical, cultural, social, and philosophical experience. Cross-listed with SPA 460. Offered fall semester in even-numbered years. Prerequisites: Completion of SPA 330, plus SPA 331 or SPA 332 with a grade of C (not C-) or better.

### **WGS 461 - Language and Gender (3 credits)**

Examination of theoretical approaches to the dynamics of language and gender. Investigation of the relationship of language and gender with social categories such as age, ethnicity, class, and sexuality. Application of social and linguistic theories to analyses of data with particular attention to contexts of the classroom, workplace, and media. Cross-listed with ENG 461. Offered winter semester. Prerequisite: ENG 261.

### **WGS 490 - WGS Internship (variable credits)**

Work experience in the community relating practical training and independent study in a specialized area, initiated by the student, who prepares a proposal in consultation with a faculty advisor and a work site supervisor. The student submits a final report. Fifty hours internship/credit hour. Offered every semester. Prerequisite: 12 hours of WGS coursework.

### **WGS 491 - Contemporary Theory and Practicum (3 credits)**

Examination and application of contemporary feminist, gender, and queer theory. Includes student-designed practicum which might be an internship, case study, or activist project. Final paper locates student-designed practicum within contemporary feminist, gender, and queer theory. Offered fall semester. Prerequisite: WGS 360 or WGS 365.

### **WGS 492 - Community Collaborative (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

This course combines an analytical component with the practical field experience of working with a community agency that serves women and girls. Using an interdisciplinary perspective, the coursework draws upon the fields of gender studies, feminist theory, women's studies, business administration, nonprofit theory, and sociology. Offered winter semester. Prerequisite: Junior standing or permission of instructor.

### **WGS 493 - Community Collaborative in South Africa (3 credits)**

This course combines the practical field experience of working with a nongovernmental organization in South Africa with an analytical component focusing on gender, global feminist theory, nonprofit theory, and social entrepreneurship. Students will combine internship hours with training, contextual lectures, and reflection. Offered spring/summer semester. Prerequisites: Permission of the instructor and minimum GPA of 2.5. Corequisite: WGS 358.

### **WGS 495 - Capstone (3 credits)**

Explores examples of past and present scholarship to reaffirm the interdisciplinary nature of the field and to highlight the relationships among feminist theory, intellectual practice, and social change. Students complete an individual project on topic of their own choosing. Offered every semester. Prerequisites: WGS 360 and WGS 395.

### **WGS 499 - Independent Study and Research (1 to 4 credits)**

Research conducted individually with faculty supervision. Attention given to written and oral presentation of research findings. No more than six credit hours of WGS 399 and WGS 499 combined may count toward the WGS major, WGS minor, or LGBTQ minor. Prerequisites: WGS 360 or WGS 365; written permission of faculty.

### **WRT 120 - Strategies in Writing - Stretch I (3 credits)**

The first course in a two-course sequence designed for students who desire more time, practice, and support to complete the first-year writing requirement. Students will practice drafting and researching strategies and gain confidence in their writing and research skills. Students develop fluency and master conventions of standard academic writing. WRT 120 and WRT 130 fulfill Foundations - Writing. Offered fall semester.

### **WRT 130 - Strategies in Writing - Stretch II (3 credits)**

Continuation of WRT 120. Students learn strategies for research-based writing. They practice writing processes to build well-supported arguments and incorporate sources. Students must earn a grade of C (not C-) or better to fulfill the Foundations - Writing requirement. WRT 120 and

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WRT 130 or WRT 150 are prerequisites to SWS courses. Offered winter semester. Prerequisite: WRT 120.

## **WRT 150 - Strategies in Writing (4 credits)**

Students practice different kinds of academic writing and learn strategies for rhetorical research-based writing. They practice writing processes to build well-supported arguments and incorporate sources. Students must receive a grade of C (not C-) or better to fulfill the Foundations - Writing requirement. Fulfillment of general education Foundations - Writing is a prerequisite for any SWS course.

## **WRT 180 - Special Topics in Writing (3 credits)**

Topics will be announced in the class schedule and prerequisites may be listed. May be repeated for credit.

## **WRT 200 - Introduction to Professional Writing (3 credits)**

This course serves as an introduction to professional writing, providing the skills necessary for writing, presenting, and interacting in professional contexts. This course introduces students to some of the most common genres in professional writing and emphasizes the importance of audience and context for composing effective professional documents. Offered fall and winter semesters. Prerequisite: Fulfillment of general education Foundations - Writing.

## **WRT 210 - Introduction to Style (3 credits)**

Students will identify and analyze stylistic techniques and the rhetorical effects of style in writing. The course will help students discover and examine the intersections among style, genre, historical and cultural contexts, and technology. Students will also experiment with stylistic techniques for different audiences, purposes, genres, and effects. Offered fall and winter semesters. Prerequisite: Fulfillment of general education Foundations - Writing.

## **WRT 219 - Introduction to Creative Writing (3 credits)**

Introduction to the theory and practice of various forms of creative writing. Students may write poetry, fiction, or creative nonfiction and also read literature in each genre. Fulfills Foundations - Arts. Offered fall and winter semesters. Prerequisite: Fulfillment of general education Foundations - Writing.

## **WRT 253 - Document Production and Design (3 credits)**

This course provides an introduction to electronic layout, design, and typographic principles, as well as the technical foundation and practical experience to produce documents for print

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production. Students will work from a foundation in rhetoric and basic graphic design principles to write, design, and produce a range of document types. Offered fall and winter semesters. Prerequisite: Fulfillment of general education Foundations - Writing.

### **WRT 305 - Writing in the Disciplines (3 credits)**

Designed to enable students to sharpen their writing skills and begin exploring writing form and styles specific to their academic interests. Sections listed by academic area in the class schedule. Students must receive a grade of C (not C-) or better.

### **WRT 306 - Seminar for Writing Tutors (1 credit)**

A workshop for tutors employed by the Grand Valley Writing Center. Covers topics related to the process of individualized tutoring of students for improvement of writing skills. Offered fall semester. Prerequisites: Fulfillment of general education Foundations - Writing and current employment by the Writing Center. May be repeated one time for credit.

### **WRT 307 - Consulting with Writers (3 credits)**

Examines the role consultants play in the development of writers and writing. Students will observe and analyze situations in which writers work together, as well as practice response techniques. Readings and assignments focus on different kinds of work associated with assisting writers: consulting, responding, collaborating, and ghostwriting. Offered winter semester. Prerequisites: WRT 200 and WRT 219; or by permission of instructor.

### **WRT 308 - Editing and Publishing (3 credits)**

This course helps students work with other writers' manuscripts intended for publication in various venues. Students will assess a manuscript's potential and make editorial recommendations about the content, structure, length, style, and techniques appropriate to a manuscript's genre and potential audience. Students will also learn copyediting techniques and conventions. Offered fall and winter semesters. Prerequisites: WRT 200 or WRT 219; and WRT 210.

### **WRT 316 - Style and Technique (3 credits)**

Students will study the rhetorical and artistic dimension of writing techniques in multiple genres from fiction, nonfiction, and poetry. This class focuses particular attention on forms and techniques on the microlevel of the line, paragraph, chapter, scene, and section. Offered winter semester. Prerequisites: WRT 210 and WRT 219.

### **WRT 320 - Intermediate Poetry Workshop (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

Students will read and write poems. The class will feature analysis of published poetry as a path to learning the craft elements that make up successful poems. Students will learn to provide feedback on classmates' poetry in peer-review workshops. Offered fall and winter semesters. Prerequisite: WRT 219.

### **WRT 330 - Intermediate Fiction Workshop (3 credits)**

Students will read and write fiction. The class will feature analysis of published work as a path to learning the craft elements that make up successful fiction. Students will learn to provide feedback on classmates' writing in peer-review workshops. Offered fall and winter semesters. Prerequisite: WRT 219.

### **WRT 350 - Business Communication (3 credits)**

Training in communication skills for business and the professions. Assignments cover varieties of information management, including handling research, gathering data, writing reports, manuals, directions, and correspondence, and making oral presentations. Offered fall and winter semesters. Prerequisite: Fulfillment of general education Foundations - Writing.

### **WRT 351 - Writing for the Web (3 credits)**

Emphasizes learning rhetorical structures best suited for writing for the Web. Students practice professional writing as they learn to build Web documents for community and commercial Internet audiences. Additional topics will include designing with HTML/CSS, building websites with content management systems, user experience design, and search engine optimization. Offered fall and winter semesters. Prerequisites: CIS major standing or WRT 253 and one of the following: WRT 200, WRT 350, DS 201, or DS 202.

### **WRT 353 - Visual Rhetoric and Document Design (3 credits)**

Visual rhetoric and document design enhances the basic principles of writing learned in WRT 253. Drawing upon aesthetics, practical methods, and research in visual rhetoric, the course examines document design as an audience-oriented form of writing. This course also introduces students to cross-cultural iconography and the quantitative display of information. Offered winter semester. Prerequisites: WRT 200 and WRT 253.

### **WRT 354 - Writing in the Global Context: Culture, Technology, and Language Practices (3 credits)**

This course prepares students for the challenges of writing in the global context. Through analysis and practice, students will learn to write and design documents that respond to the needs of local and global audiences in the 21st century workplace. Focus is on communication

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competence and the cultural dimension of language and design. Part of the Globalization Issue. Offered fall semester. Prerequisite: Junior standing.

## **WRT 357 - Professional Writing in International Contexts (3 credits)**

This course helps students understand the theory, principles, and research of effective professional writing in international contexts while studying abroad. Students will address and solve communication problems typically encountered by international non-governmental organizations through the writing and researching of professional writing genres (grants, proposals, brochures, and other workplace documents). Offered spring/summer semester of even years. Prerequisites: WRT 150 and instructor permission.

## **WRT 360 - Intermediate Creative Nonfiction (3 credits)**

Students will read and write creative nonfiction. The class will feature analysis of published work as a path to learning the craft elements that make up successful creative nonfiction. Students will learn to provide feedback on classmates' writing in peer-review workshops. Offered fall and winter semesters. Prerequisites: Fulfillment of general education Foundations - Writing and WRT 219.

## **WRT 365 - Intermediate Magazine Writing (3 credits)**

This course will introduce students to common forms of magazine and long-form nonfiction. Students will pitch and develop article ideas and replicate magazine page layouts for their writing. Offered fall semester of even-numbered years. Prerequisites: WRT 210 and WRT 219.

## **WRT 380 - Special Topics in Writing (3 credits)**

Topics will be announced in the class schedule and prerequisites may be listed. May be repeated for credit.

## **WRT 381 - Writing and Sports (3 credits)**

Examines sports and culture from a range of perspectives in a range of genres, including those related to journalistic forms, commentary, the personal essay, fiction, and poetry. The theory and practice of these genres will be emphasized through student writing. Offered fall and winter semesters. Prerequisite: Fulfillment of general education Foundations - Writing.

## **WRT 399 - Independent Studies (1 to 4 credits)**

Before registration, the student must arrange for supervision by a faculty member and submit a contract (available in the writing office) specifying the scope of the proposed study. No more

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than three credits in WRT 399 may be applied to the major or minor. Offered fall and winter semesters. Prerequisite: Fulfillment of general education Foundations - Writing.

### **WRT 411 - Style and the Book (3 credits)**

Students will study the rhetorical and artistic dimension of writing techniques in multiple genres from fiction, nonfiction, and poetry. This class focuses particular attention on forms and techniques on the macrolevel of book-length works by notable contemporary writers, genre conventions, and cultural and commercial concerns related to publishing. Offered fall semester. Prerequisites: WRT 210 and WRT 219.

### **WRT 420 - Advanced Poetry Workshop (3 credits)**

The class will feature advanced analysis of published poetry as models for students' own original work. Students will participate in peer review, reflect on their creative processes and artist aesthetic, and learn revision techniques as they write poems appropriate for a portfolio or publication. May be repeated once for credit. Offered winter semester. Prerequisite: WRT 320.

### **WRT 430 - Advanced Fiction Workshop (3 credits)**

The class will feature advanced analysis of published fiction as models for students' own original work. Students will participate in peer review, reflect on their creative processes and artist aesthetic, and learn revision techniques as they write fiction appropriate for a portfolio or publication. May be repeated once for credit. Offered fall and winter semesters. Prerequisite: WRT 330.

### **WRT 451 - Advanced Writing for the Web (3 credits)**

Emphasizes writing and designing websites using Web content management systems (CMS). Students will learn to configure the CMS for drafting, revising, managing, and organizing documents, and they will use the CMS to create websites for various types of communities and different organizational needs. Offered winter semester of even-numbered years. Prerequisite: WRT 351.

### **WRT 455 - Multimodal Composing (3 credits)**

Multimodal composing prepares students to create texts that include different modes of meanings such as visuals, sounds, words, and motion. Working across genres (animated poems, podcasts, and kinetic typography), students use a variety of software programs and learn how to make informed choices to produce texts for different contexts and audiences. Prerequisites: WRT 253 and (either WRT 200 or DS 201 or DS 202).

### **WRT 460 - Advanced Creative Nonfiction (3 credits)**

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

The class will feature advanced analysis of published nonfiction as models for students' own original work. Students will participate in peer review, reflect on their creative processes and artist aesthetic, and learn revision techniques as they write nonfiction appropriate for a portfolio or publication. May be repeated once for credit. Offered winter semester. Prerequisite: WRT 360.

## **WRT 465 - Advanced Magazine Writing (3 credits)**

This course expands on students' knowledge of magazine and long-form periodical writing and focuses on tailoring their writing and designs to specific markets and magazine styles. Offered winter semester of even-numbered years. Prerequisite: WRT 365.

## **WRT 490 - Writing Internship (1 to 3 credits)**

Student-initiated supervised work experience in potential career interest area, planned with internship coordinator and worksite supervisor. Student spends 45 field hours per semester for each credit in addition to a weekly academic seminar. The internship must be at least 50 percent writing/editing. Credit is awarded when student, coordinator, and supervisor complete evaluations. Offered every semester. Prerequisites: WRT 200, WRT 210, WRT 219, WRT 253, writing major, junior standing, minimum 2.75 major GPA, and internship coordinator permission. Writing minors may only take this course with internship coordinator permission.

## **WRT 495 - Genre and Writing (Capstone) (3 credits)**

Capstone course required of all writing majors. Explores the historical and ideological boundaries that define conventional writing genres: poetry and prose, fiction and nonfiction, literary fiction and genre fiction, academic writing and professional writing, text and hypertext, and so on. The course will consider disciplinary and professional influences on genre definition, as well as various ethnic, gender, and economic conceptualizations of genre. Offered fall and winter semesters. Prerequisites: Writing core courses and senior standing.

# **Glossary of Terms**

**Academic advisor:** A university employee who helps the student make informed and responsible decisions in the pursuit of the student's academic goals.

**Academic dismissal:** Dismissal from a college or program for not maintaining the minimum required grade point average (GPA).

**Advanced placement:** Eligibility to enroll in courses beyond the entry level through transfer credit or examination.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

**Auditing:** Registering for and attending class(es) regularly without being held responsible for the work required for credit. (No credit hours are earned and full tuition must be paid. The grade AU appears on the record.)

**Bachelor of Arts degree:** Distinguished by its concentration in liberal arts; typically focused on culture, arts, philosophy, and language.

**Bachelor of Science degree:** Grounded in the liberal arts and distinguished by its focus on mathematics, statistics, quantitative reasoning, and scientific analysis.

**Bachelor's degree:** An undergraduate degree awarded by colleges and universities upon completion of a course of study, traditionally comprising the equivalent of four years of full-time academic study beyond the completion of high school.

**Badge:** A digital badge, or badge, is a record of achievement that recognizes a student's completion of a coherent and meaningful academic experience. A badge includes anywhere from 0.5 to 15 academic credits, and may include additional noncredit criteria. Badges are digital credentials and are posted to the academic transcript.

**Board:** A term used for the meal plan (e.g., room and board) at a college or university.

**Capstone course:** A senior-level culminating course within each undergraduate major. Normally it is among the last courses taken for degree completion. See Academic Policies and Regulations for more detail.

**Certificate:** A certificate is a record of achievement that recognizes a student's completion of a coherent and meaningful academic experience. A certificate includes anywhere from 9 to 18 academic credits and is posted to the academic transcript.

**Class standing:** A classification based on the number of credit hours earned to classify a student at the freshman, sophomore, junior, or senior level. One's classification, e.g., freshman, sophomore, junior, or senior.

**Cocurricular:** Being outside of but usually complementing the regular curriculum.

**Cognate:** A course related to the courses in a major program or to a degree requirement.

**Commencement:** The formal ceremony of conferring degrees at the end of the semester or academic year.

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**Concentration:** A subset of courses within a major.

**Concluding period:** A period at the end of a semester when final examinations are given.

**Concurrent enrollment:** A term describing a student who is attending two higher education institutions simultaneously (e.g., GVSU and GRCC or MCC).

**Corequisite:** A requirement, usually another course that must be undertaken at the same time.

**Credit hour:** A unit of academic credit measured in semester hours or quarter hours. One credit hour usually represents one hour of class time per week.

**Credit load:** The total number of credits for which a student registers during a semester or session.

**Credit/no-credit:** A method used to evaluate performance in courses, separate from the grade point system.

**Deadline:** The date by which certain information must be received by any given office or unit. (Current deadline dates are listed in the Annual Class Schedule.)

**Dean:** An administrator in charge of a division of a university or college.

**Dean's list:** A public announcement, at the end of each semester, listing students who have achieved a specified grade point average (GPA) or level of achievement established by the dean of the unit.

**Declaration of major/minor:** To state formally one's intention to pursue a specific major or minor, typically done through the university Record's/Registrar's Office.

**Degree analysis:** A report that shows the requirements for specific degree programs and details a student's progress toward completion of the degree.

**Degree-seeking student:** An applicant who has been granted admission to a degree program under full, provisional, or conditional status.

**Drop and add:** The process of making certain changes (dropping and adding classes) in a student's schedule of courses during the first five class days of the semester. Adding courses is possible only in this five-day period. See the class schedule listed on the Web for deadlines to drop courses.

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**Dual credit:** An option applying to courses that may be taken for either graduate or undergraduate credit provided the student obtains special permission.

**Dual enrollment:** Concurrent enrollment in high school and college or university courses.

**Elective:** A course that will count as general credit toward a degree but is not a specific program requirement.

**Emphasis:** A defined subset of courses within a major that appears as an official designation on the transcript.

**Encumbrance:** A hold placed on a student's record as a result of an unfulfilled monetary obligation to the university or of a disciplinary action by the university.

**Full-time student:** An undergraduate student taking 12 or more hours each semester, or a graduate student taking nine or more hours each semester. Undergraduates who are planning to complete a bachelor's degree in four years need to average 15 hours per semester.

**General education requirements:** A defined selection of courses from all divisions of the university, making up the liberal arts base of each baccalaureate degree. The General Education Program is a required component of each bachelor's degree.

**Good standing:** A designation that signifies that a student is eligible to continue, to return, or to transfer elsewhere. It implies good academic standing.

**Grade point average (GPA):** A student's scholastic average, computed by dividing total quality points by quality hours attempted.

**Graduate:** One who has received an academic or professional degree; one who has completed the prescribed course of study in any school or institution of higher learning.

**Graduation:** The actions of receiving or conferring an academic degree after all requirements have been met.

**Graduation audit:** The final review of a student's academic record that determines eligibility to graduate.

**Grant:** Financial assistance that is awarded to students and does not have to be repaid, usually based on need.

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**Guest student:** A degree student from another college or university who is taking courses at Grand Valley for one semester. The credits earned are usually transferred back to the student's home institution.

**GVSU hybrid online course:** A course that blends online and face-to-face on-campus meetings. At least 50 percent of the instruction and interaction is online.

**GVSU online course:** A course where all of the instruction and interaction is online. There are no face-to-face on-campus meetings.

**GVSU traditional course:** A course where the instruction and interaction is face-to-face on campus during class meetings. Web technologies may be incorporated into the course delivery.

**Honors:** Designation indicated on the university degree and transcript to reflect outstanding scholarship.

**Honors courses:** Special courses offered by the Grand Valley State University Frederik Meijer Honors College designed to offer intellectual challenge and personal attention to particularly able students.

**Incomplete:** The grade I, sometimes granted when a student is temporarily unable to complete course requirements because of unusual circumstances.

**Independent study:** A course of study undertaken by a student under the supervision of one or more faculty members outside the classroom.

**Interdisciplinary:** Designating a combination of subject matter from two or more disciplines within a course or program.

**Internship:** Work in a firm or agency related to a student's major program and/or career plans. Involves earning university credit and may or may not involve receiving payment.

**Issues:** The two-course upper-division component of the General Education Program in which students develop their ability to draw on previous knowledge and experience, collaborate with others, and address problems that connect to important world issues.

**Loan:** Financial assistance to students that must be repaid. Low-interest loans are available and financial need may or may not be a factor.

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**Major:** A collection of related courses generally consisting of 30 to 50 semester hours of credit.

**Master's degree:** A degree granted upon the completion of at least one year of graduate-level work beyond the bachelor's degree.

**Michigan residence requirements:** The requirements for identifying or establishing permanent residency in Michigan for tuition assessment purposes.

**Minor:** A collection of courses generally consisting of a minimum of 20 semester hours of credit.

**myPath:** A Web-based tool that provides an opportunity for students to monitor the progress toward their academic credentials.

**Nondegree-seeking student:** A student who has been admitted to a nondegree-seeking category (sometimes referred to as a continuing education student) and is not currently seeking a bachelor's or master's degree.

**Part-time student:** An undergraduate student who takes fewer than 12 hours during a semester or a graduate student who takes fewer than nine hours during a semester.

**Portfolio:** A collection of work (e.g., paintings, writings, etc.) that may be used to demonstrate competency in an academic area.

**Prerequisite:** A requirement, usually the completion of another course, that must be met before a student may register for a course.

**Provost:** A senior academic administrator at an institution of higher education.

**Quality point:** The numerical value given to letter grades. For example an A is equivalent to four points per semester hour, a B to three points, a C to two points, a D to one point, and an F to zero points.

**Readmission:** An admission procedure followed by a student who was previously enrolled at Grand Valley and then dismissed.

**Reentry:** An enrollment procedure followed by a student who was previously enrolled in good standing at Grand Valley but whose attendance was interrupted for two consecutive semesters, including the summer session.

**Registration:** The process of signing up and paying tuition and fees for courses each semester.

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**Residence requirement:** The requirement that the final 30 semester hours of coursework before the bachelor's degree be completed at Grand Valley. Graduate students must complete a minimum of 24 hours in residency at Grand Valley.

**Scholarship:** Financial assistance to students awarded on the basis of academic achievement. Financial need may or may not be a factor.

**Semester:** A unit of time, 15 weeks long, in the academic calendar.

**Semester hour:** The unit of academic credit, usually meaning the pursuit of a subject for one period a week for one semester.

**Senior institution:** An institution of higher education offering baccalaureate programs. Grand Valley is a public senior institution.

**Service-learning:** A method of teaching, learning, and reflecting that combines academic classroom curriculum with meaningful service throughout the community.

**Student employment:** Part-time jobs made available to students with financial need through federally funded programs (work-study) and to students without need through the Student Employment Office.

**Study abroad:** An arrangement by which GVSU students complete part of their degree program studying in another country.

**SWS section:** A section of a Grand Valley course that requires extensive writing to teach students to distinguish writing conventions and expectations in their major field from those in other fields while still recognizing that all writing depends on communicating purposefully with an audience.

**Teachable major:** A state-approved major program for teacher certification at the secondary and/or elementary level.

**Thesis:** An extensive written discourse on a new point of view resulting from research, usually a requirement for an advanced academic degree.

**Time limit:** The length of time within which a graduate degree must be completed. At Grand Valley the time limit is eight years.

**Transcript:** A copy of a student's permanent academic record at a particular institution. This term is also used to identify the financial aid form that indicates the amount and type of financial aid a student received from a college or university.

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**Transfer credit:** Credit earned at another accredited institution and accepted toward a Grand Valley degree.

**Tuition:** The amount of money that must be paid for courses based on the number of credits for which one registers.

**Undergraduate:** A university student who has not yet received a first degree.

**Upper division:** Classification of students or courses beyond the second year.

**Withdrawal:** Withdrawal from a course or the university. The grade assigned will depend upon the time in the semester in which the student withdrew.

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**Alkema, Chester**, Professor Emeritus of Art and Design. A.B., Calvin College; M.A., M.F.A., Michigan State University.

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**Balfour, Dan**, Professor Emeritus of Public Administration. B.A., Michigan State University; Ph.D., Florida State University.

**Balkema, K. Laurel**, Senior Librarian Emerita. B.A., Wheaton College, Illinois; A.M.L.S., University of Michigan.

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**Barber, Mary Ellen**, Assistant Professor Emerita of Mathematics. A.B., Albion College; M.A., Central Michigan University.

**Barnes, Karen**, Associate Professor Emerita of Education. B.A., Michigan State University; M.Ed., Wright State University; Ph.D., University of North Texas.

**Bernstein, David**, Professor Emeritus of Psychology. B.A., Memphis State University; M.A., Ph.D., University of Virginia.

**Bijkerk, Roelof**, Professor Emeritus of Psychology. Dr. Phil., Dr. Psych., Free University of Amsterdam.

**Blose, Laurance**, Professor Emeritus of Finance. B.S., M.B.A., Gannon University; Ph.D., University of Texas Austin. Employed from August 1997 through December 2019.

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**Boand, Joan**, Associate Professor Emerita of Physical Education. B.S., M.A., Michigan State University.

**Bond, Linda**, Professor Emerita of Nursing. B.S.Ed., M.S.N., Wayne State University; Ph.D., Michigan State University.

**Bornhofen, John O.**, Professor Emeritus of Economics and Finance. B.S., M.S., Ph.D., University of Illinois.

**Brintnall, Ruth Ann**, Associate Professor Emerita of Nursing. B.A., Aquinas College; M.S.N., Grand Valley State University; Ph.D., Rush University.

**Britton, Agnes**, Assistant Professor Emerita of Nursing. B.S.N., Wayne State University; M.S., University of Michigan.

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**Callahan, Johnine L.**, Professor Emerita of Biomedical and Health Sciences. B.S., Eastern Illinois University; M.A., Western Michigan University; Ph.D., Bowling Green State University.

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**Clark, Patricia**, Professor Emerita of Writing. B.A., University of Washington; M.A., University of Montana; Ph.D., University of Houston. Employed August 1989 through May 2020.

**Cole, Edward Alan**, Professor Emeritus of History. B.A., M.A., University of Nebraska; Ph.D., University of California at Berkeley.

**Coviak, Cynthia**, Professor Emerita of Nursing. B.S.N., Michigan State University; M.S.N., Grand Valley State University; Ph.D., University of Michigan.

**Cross, Robert**, Professor Emeritus of Education. B.A., M.A., Ph.D., Michigan State University.

**Curry, Brian**, Professor Emeritus of Biomedical and Health Sciences. B.Sc., St. Luke's College, Exeter University; M.S., University of Massachusetts; Ph.D., Michigan State University.

**Davis, Gayle R.**, Provost and Executive Vice President for Academic and Student Affairs Emerita. B.A., Muskingum College; M.A., Ph.D., Michigan State University.

**Davis, Gilbert**, Professor Emeritus of English. B.A., M.A., Ph.D., Wayne State University.

**Densmore, Max L.**, Professor Emeritus of Marketing. B.A., Michigan State University; M.B.A., Western Michigan University; Ph.D., Michigan State University.

**Devlin, Dennis**, Professor Emeritus of History. B.A., University of Texas; Ph.D., University of Chicago.

**deYoung, Mary**, Professor Emerita of Sociology. B.S., Grand Valley State University; M.A., University of Chicago; Ph.D., Western Michigan University.

**de la Rosa, Denise**, Associate Professor Emerita of Accounting. B.A., Wayne State University; M.A., University of Southern California; M.S. Ferris State University; Ph.D., University of North Texas.

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**Franklin, Ursula**, Professor Emerita of Modern Languages and Literatures. B.A., M.A., Ph.D., Michigan State University.

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**Garey, Carol**, Senior Librarian Emerita. B.A., A.M.L.S., University of Michigan.

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**Godwin, Joseph**, Professor Emeritus of Accounting. B.S., Southeast Missouri State University; B.B.A., M.B.A., M.ACC., Ph.D., University of Wisconsin.

**Golensky, Martha**, Professor Emerita of Social Work. B.A., State University of New York, Albany; M.A., University of Wisconsin; M.S.W., Hunter College; D.S.W., City University of New York.

**Gonce, Richard**, Professor Emeritus of Economics. B.B.A., M.B.A., Ph.D., University of Wisconsin.

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**Goode, James**, Professor Emeritus of History. B.S., Georgetown University; M.A., University of Massachusetts; Ph.D., Indiana University.

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**Grimm, Lucille**, Associate Professor Emerita of Nursing. B.S.N., Michigan State University; M.S.N., Sp.C.N.Ad., Wayne State University; Ed.D., Western Michigan University.

**Grinstead, Linda**, Professor Emerita of Nursing. B.S., University of Wisconsin-Milwaukee; M.N., University of Florida; Ph.D., Michigan State University.

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**Hecht, Steven**, Associate Professor Emeritus of Biomedical Sciences (Posthumously). B.S., Emporia State University; Ph.D., Tufts University; Employed from August 1999 through April 2017.

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**Harris, Richard**, Professor Emeritus of Accounting. B.S., M.B.A., J.D., University of Maryland; LL.M., Georgetown University Law Center; C.P.A.

**Haynes, Alphonso**, Professor Emeritus of Social Work. B.A., Long Island University; M.A., M.S., Ed.D., Columbia University.

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**Herzog, Thomas**, Professor Emeritus of Psychology. B.A., M.A., Ph.D., University of Michigan.

**Horan, Mary**, Professor Emerita of Nursing. B.S.N., Mercy College of Detroit; M.S.N., Wayne State University; Ph.D., University of Michigan.

**Huisman, David**, Professor Emeritus of English. A.B., Calvin College; M.A., Ph.D., University of Michigan.

**Huizenga, Paul**, Associate Professor Emeritus of Biology. A.B., Hope College; M.S., University of Michigan.

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**Jellema, Jon**, Associate Professor Emeritus of English. B.A., Calvin College; M.A., Michigan State University.

**Jensen, Susan**, Associate Professor Emerita of Nursing. B.S., Grand Valley State University; M.S.N., Michigan State University; Ph.D., Western Michigan University.

**Jewell, Gayla**, Associate Professor Emerita of Nursing. B.S., West Virginia Wesleyan College; M.S., The Ohio State University; Ph.D., Michigan State University.

**Johnson, Jacquelin**, Professor Emerita of Sociology. B.A., Macalester College; M.S., Ph.D., Purdue University.

**Johnson, Kenneth P.**, Professor Emeritus of Computing and Information Systems. B.A., Franklin and Marshall College; M.A., University of Michigan; Ph.D., Western Michigan University.

**Jones, Constance**, Professor Emerita of English. B.S., Western Michigan University; M.A., Michigan State University.

**Jones, Curtis**, Professor Emeritus of Sociology. B.A., M.A., Western Michigan University; Ph.D., Michigan State University.

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**Klein, Bruce**, Professor Emeritus of Computer Science and Information Systems. B.S., City College of New York; M.S., Trinity College.

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**McCrea, Linda D.**, Professor Emerita of Education. B.S., Eastern Michigan University; M.A., Ed.D., Western Michigan University.

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**Menning, Daleene**, Professor Emerita of Art and Design. B.S., M.S.A., University of Michigan.

**Merkle, Anne W.**, Associate Librarian Emerita. B.A., Hope College; M.S.L., Western Michigan University.

**Merkle, Bart**, Vice Provost for Student Affairs and Dean of Students. B.A., Hope College; M.Ed., Western Michigan University.

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**Mishra, Jitendra**, Professor Emeritus of Management. B.A., Delhi University; M.S., Northern Michigan University; M.B.A., Western Michigan University; F.Ph.S., Philosophical Society of England, London; Ph.D., Lucknow University.

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**Mullendore, Kristine**, Professor Emerita of Criminal Justice. B.S., Michigan State University; J.D. Boston University. Employed August 1995 through December 2020.

**Muraski, Virginia**, Professor Emerita of Mathematics and Computer Science. A.B., B.S., Jacksonville State College; M.A.T., Michigan State University; M.A., University of Illinois; Ph.D., Michigan State University.

**Murray, Diane**, Senior Librarian Emerita. B.A., Hope College; M.S.L., Western Michigan University; M.M., Aquinas College.

**Muskovitz, Rosalyn**, Professor Emerita of Art and Design. B.A., Oakland University; M.A., Michigan State University; M.F.A., Kent State University.

**Neal, William J.**, Professor Emeritus of Geology. B.S., University of Notre Dame; M.A., Ph.D., University of Missouri at Columbia.

**Niemeyer, Glenn A.**, Provost and Vice President for Academic Affairs Emeritus. A.B., Calvin College; M.A., Ph.D., Michigan State University; L.H.D., Grand Valley State University.

**O'Connor, Christine**, Professor Emerita of Psychology. B.A., University of Connecticut; M.A., Ph.D., Michigan State University.

**Orosz, Joel**, Distinguished Professor Emeritus of Public, Nonprofit, and Health Administration. B.A., Kalamazoo College; M.A., Ph.D., Case Western Reserve University.

**Osborn, William P.**, Professor Emeritus of English. B.A., University of California-San Diego; M.F.A., Bowling Green State University; Ph.D., State University of New York at Binghamton.

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**Osmun, Gregory**, Associate Professor Emeritus of Education. B.A., M.A., Michigan State University; Ed.D., University of Michigan.

**Ostroot, Nathalie M.**, Professor Emerita of Sociology. B.A., M.A., Ph.D., University of Chicago.

**Ott, Michael R.**, Associate Professor Emeritus of Sociology. B.A., Western Michigan University; M. Div., Princeton Theological Seminary; Ph.D., Western Michigan University.

**Pace, Diana**, Associate Dean of Students Emerita. B.A., Duke University; M.A., Ph.D., University of North Dakota.

**Pare, Eileen**, Associate Professor Emerita of Chemistry. B.A., Rosary College; M.S., University of Illinois; Ph.D., University of Windsor.

**Paschke, Richard E.**, Professor Emeritus of Psychology. B.S., University of Illinois; M.A., Northern Illinois University; Ph.D., Purdue University.

**Pettengill, Glenn**, Professor Emeritus of Finance. B.A., Fort Hayes Kansas State University; M.S., University of California, Davis; Ph.D., University of Arkansas.

**Poitras, Ronald**, Associate Professor Emeritus of Geography and Urban Planning. B.A., California State University/Northridge; M.U.P., University of Oregon.

**Pottorff, Donald**, Professor Emeritus of Education. B.S., M.S., Central Missouri State University; Ph.D., Michigan State University.

**Pratt, Philip**, Professor Emeritus of Mathematics. B.A., M.A., Ph.D., Michigan State University.

**Preston, Joseph P.**, Professor Emeritus of History. B.A., Park College; M.S., University of Wisconsin; Ph.D., University of Missouri.

**Pryor, Sherril**, Associate Professor Emerita of Education. B.S., M.A., Sp. In Arts, Ed.D., Eastern Michigan University.

**Randall, Virginia**, Associate Dean of Students Emerita. B.A., M.B.A., Grand Valley State University; Ph.D., Michigan State University.

**Rathbun, David**, Professor Emeritus of Communications. B.A., Wheaton College.

**Reick, Kay**, Assistant Professor Emerita of Nursing. B.S.N., M.S., University of Michigan.

**Reifel, John**, Professor Emeritus of Economics. B.A., University of Notre Dame; M.A., Ph.D., Michigan State University.

**Reinken, Barbara**, Associate Professor Emerita of Education. B.S., Indiana University; M.S., University of Wisconsin; Ph.D., Michigan State University.

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**Rogers, Joyce A. French**, Associate Professor Emerita of Nursing. B.S.N., Michigan State University; M.S.N., Wayne State University; Ph.D., Michigan State University.

**Rogers, Karel**, Professor Emerita of Biology. B.S., M.S., Ph.D., Michigan State University.

**Rowe, Patricia**, Professor Emerita of Movement Science. B.S., M.A., Central Michigan University; Ph.D., Michigan State University.

**Rowe, Stephen**, Stephen Rowe, Professor Emeritus of Philosophy. B.A., Colgate University; M.A., University of Chicago. Employed September 1972 through December 2019.

**Royer, Daniel**, Professor Emeritus of Writing. B.A., Washburn University of Topeka; M.A., Kansas State University; Ph.D., University of Kansas. Employed August 1995 through December 2020.

**Rudolph, Bennett**, Professor Emeritus of Marketing. B.S., Roosevelt University; M.S., Ph.D., University of Illinois.

**Rynbrandt, Linda**, Associate Professor Emerita of Sociology. B.A., Grand Valley State University; M.A., Ph.D., Western Michigan University.

**Salazar, Laura**, Professor Emerita of Communications. B.S., Wisconsin State University; M.A., Kent State University; Ph.D., University of Michigan.

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**Scott, James**, Associate Professor Emeritus of Movement Science. B.S., M.A., P.E.S., Central Michigan University.

**Seeger, Mary**, Professor Emerita of Modern Language and Literature.

**Seeger, Wilhelm**, Professor Emeritus of Modern Languages and Literatures. A.B., M.A., University of Michigan; Ph.D., University of Wisconsin.

**Seley, Beverly**, Professor Emerita of Visual and Media Arts. B.S., B.F.A., M.F.A., Michigan State University.

**Shedd, Joan**, Assistant Professor Emerita of Nursing.

**Sheline, Mary Ann**, Director Emerita of the Regional Math and Science Center. B.S., Chatham College; M.A., Carnegie Mellon University; Ed.S., University of Nebraska at Kearney.

**Shontz, John**, Professor Emeritus of Biology. B.S.Ed., Edinboro State College; M.A., Miami University; Ph.D., Duke University.

**Shroyer, Jan**, Associate Professor Emerita of Mathematics. B.S., Knox College; M.A.T., Ph.D., Michigan State University.

**Simone, Roberta**, Professor Emerita of English. B.S., Northern Illinois University; M.A., Bowling Green University; Ph.D., University of Illinois.

**Singleton, Harriet**, Senior Counselor Emerita of Counseling and Career Development Center. B.A., M.A., Michigan State University.

**Stark, Gary D.**, Professor Emeritus of History. B.A., Hamline University; M.A., Ph.D., The Johns Hopkins University.

**Stevenson, John**, Professor Emeritus of Physical Therapy. B.A., Vassar College; M.S., The Pennsylvania State University; M.S., Central Michigan University; Ph.D., Indiana University.

**Strickland, James**, Professor Emeritus of Physics. B.S., Franklin and Marshall College; Ph.D., Massachusetts Institute of Technology.

**Strickler, Timothy**, Professor Emeritus of Biomedical Sciences. B.S., Pennsylvania State University; Ph.D., University of Chicago.

**Sundstrom, Theodore**, Professor Emeritus of Mathematics. B.A., Western Michigan University; M.A., Ph.D., University of Massachusetts.

**Swanson, Jane**, Professor Emerita of Social Work. B.A., M.A., Ph.D., Michigan State University.

**Swartzlander, Susan**, Professor Emerita of Honors. B.S., Bloomsberg State College; M.A., Ph.D., Pennsylvania State University.

**Tanis, Dave**, Associate Professor Emeritus of Chemistry. B.A., Calvin College; M.S., Western Reserve University.

**Ten Brink, Norman**, Professor Emeritus of Geology. B.S., University of Michigan; M.S., Franklin and Marshall College; Ph.D., University of Washington.

**Ten Eyck, Allan**, Professor Emeritus of Education. A.B., Aquinas College; A.M., Ed.D., University of Michigan.

**Terry, M. Nancy**, Senior Librarian Emerita. A.B., A.M.L.S., University of Michigan.

**Thimmesch, Tim**, Associate Vice President Emeritus, Facilities Services Allendale. B.S., Newman University; M.S., Grand Valley State University. Employed from January 1995 through April 2021.

**Thomas, Lorelle Otis**, Professor Emerita of Visual and Media Arts. B.A., Eastern Michigan University; M.F.A., Syracuse University.

**Toot, Jane**, Professor Emerita of Honors. B.S., University of Michigan; M.A., George Washington University; Ph.D., Wayne State University.

**Travis, Anthony**, Professor Emeritus of History. B.S., Loyola University of Chicago; M.S., Ph.D., Michigan State University.

**Trier, Terry M.**, Associate Professor Emeritus of Biology. B.S., Purdue University; Ph.D., Michigan State University.

**Tucker, Veta Smith**, Professor Emerita of English. B.A., M.A., Michigan State University; A.D., University of Michigan.

**Tyson, Lois**, Professor Emerita of English. B.A., Rutgers University; M.Ed., M.A., Ohio University; Ph.D., The Ohio State University.

**Underwood, Kathleen**, Associate Professor Emeritus of History and Women, Gender, and Sexuality Studies. B.A., University of Colorado; M.A., Ph.D., University of California at Los Angeles.

**Vail, Janet**, Research Scientist Emerita of the Annis Water Resources Institute. B.S. University of Michigan; M.A., University of California, Santa Barbara; Ph.D., Western Michigan University. Employed August 1990 through December 2020.

**Van Orsdel, Lee**, Dean Emerita of University Libraries. B.A., Samford University; M.A., Florida State University; M.S.L.S., University of Alabama.

**VanAntwerp, Jill**, Associate Professor Emerita of English. B.A., M.A., Ph.D., Michigan State University.

**Vandenberg, Phyllis**, Professor Emerita of Philosophy. B.A., Marquette University; M.A., Western Michigan University; Ph.D., University of Utah.

**VanderWerf, Marilyn**, Assistant Professor Emerita of Nursing. B.S.N., Northern Illinois University; M.S.N., Grand Valley State University.

**VanSteeleland, Ronald**, Vice President for Finance and Administration Emeritus. B.A., Michigan State University; L.H.D., Grand Valley State University.

**Videtich, Patricia**, Professor Emerita of Geology. B.S., Grand Valley State University; M.Sc., Ph.D., Brown University.

**Waggoner, Kathryn**, Senior Librarian Emerita. B.A., Ball State University; M.A.T., M.L.S., Indiana University.

**Ward, Ronald**, Director Emeritus of the Annis Water Resources Institute. Sc.D., The Johns Hopkins University.

**Wardrop, Maribeth**, Vice President Emeritus. B.A.G.E., Aquinas College.

**Watson, Robert**, Associate Professor Emeritus of English. B.A., Princeton University; M.A., Ph.D., University of Wisconsin-Madison.

**Wenner, Wendy**, Dean Emerita of the Brooks College of Interdisciplinary Studies. B.A., Carlton College; M.A.T., Northwestern University; Ph.D., Marquette University.

**Westra, Helen**, Associate Professor Emerita of English. B.A., Calvin College; M.A., University of Michigan; Ph.D., University of Notre Dame.

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**Whipps, Judy**, Professor Emerita of Integrative, Religious and Intercultural Studies. B.A., Grand Valley State University; M.A., University of Chicago; Ph.D., Union Institute. Employed August 1996 through August 2019.

**White, Jonathan**, Professor Emeritus of Honors. B.A., M.A., Western Michigan University; M.Div., Western Theological Seminary; Ph.D., Michigan State University.

**Whitehill, Sharon**, Professor Emerita of English. B.A., Grand Valley State University; M.A., Ph.D., University of Illinois.

**Williams, Donald**, Professor Emeritus of Sociology. B.A., Western Michigan University; M.A., Michigan State University; Ph.D., Western Michigan University.

**Williams, Sr., Donald**, Dean Emeritus of Minority Affairs. B.S., Eastern Michigan University; M.A., West Virginia University.

**Wissink, John**, Associate Professor Emeritus of Education. B.A., Calvin College; M.A., Western Michigan University; Ph.D., University of Arizona.

**Wojciakowski, Claudia Sowa**, Professor Emerita of Leadership and Learning. B.S., M.A., Ph.D., Michigan State University.

**Wolter, James**, Professor Emeritus of Marketing. B.A., Indiana University; M.S., Ball State University; M.B.A., Indiana University; Ph.D., Michigan State University.

**Yackish, Thomas**, Associate Professor Emeritus of Engineering. B.S., Purdue University; M.S., University of Illinois.

**Zaugra, John**, Senior Counselor Emeritus of Counseling and Career Development Center. B.S., Southern Illinois University; M.S., Illinois State University; M.A., Roosevelt University; Ed.D., University of Montana.

## **Administrative Staff**

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**Philomena V. Mantella**, President. B.S., M.S.W., Syracuse University; Ph.D., Michigan State University.

**Jill Craig**, Director of Special Events. B.S., M.P.A., Grand Valley State University.

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**Cori Kahler**, Project Specialist for Presidential Initiatives and Board Relations. B.S., Michigan Technological University; M.Ed., Grand Valley State University.

**Patricia Waring**, Community Relations Director. B.S., Western Michigan University.

## **Charter Schools Office**

**Donald Cooper, II**, Associate Vice President for Charter Schools. B.A., Hillsdale College; M.P.A., Central Michigan University.

**Steven Hodas**, Executive Director of GV NextEd Accelerator. B.A., Sarah Lawrence College.

**Elliot Avis**, School Support Specialist. B.A., Wittenberg University; M.P.A., Northwestern University.

**Rajeshri Bhatia**, Deputy Director for School Performance. B.S., University of Michigan.

**Michael Cousins**, Manager of Communications. B.A., Grand Valley State University.

**Barry Hall, II**, Assistant Director for Charter through College Programs. B.S., Michigan State University; M.B.A., University of Phoenix; M.Ed., Grand Valley State University.

**Steven Hodas**, Executive Director of GV NextEd Accelerator. B.A., Sarah Lawrence College.

**Jayne Lesperance**, Manager of Teacher Development. B.A., Grand Valley State University.

**Jeffrey Maxwell**, School Support Specialist. B.S., Michigan State University; M.A., Dominican University.

**Wendy Miller**, Director of Targeted Learning Institute. B.A., University of Iowa; M.Ed., Grand Valley State University.

**Alyson Murphy**, Deputy Director for School Accountability. B.A., Purdue University; J.D., Thomas M. Cooley Law School.

**Maniramprasad Ravikumar**, Manager of Data Analytics. B.S., Anna University; M.S., University of Michigan Flint.

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**Alissa Thelen**, Acceleration Manager. B.A., University of Minnesota at Duluth; M.Ed., Grand Canyon University.

**Amirah Vosburgh**, Acceleration Manager. B.S., Grand Valley State University.

**Jill Weber**, Reading Intervention Specialist. B.S., Grand Valley State University.

## **Office of the Employee Ombuds**

**Elisa Salazar**, Employee Ombuds Officer. B.A., Hope College; M.S., M.S.W., Grand Valley State University.

## **Education Opportunity and Access**

**Robert Kimball**, Associate Vice President for Education Innovation & School Services and Executive Associate to the President and Equity. B.A., University of Michigan; M.A., Northwestern University; Ed.D., Michigan State University.

## **NextEd Accelerator**

**Alissa Thelen**, Acceleration Manager. B.A., University of Minnesota at Duluth; M.Ed., Grand Canyon University.

**Amirah Vosburgh**, Acceleration Manager. B.S., Grand Valley State University.

## **Legal Affairs Office**

**Patricia Smith**, General Counsel. B.S., Belmont College; J.D., Marquette University.

**Anne Jbara**, Associate General Counsel and Freedom of Information Act Coordinator. B.A., Illinois Wesleyan University; J.D., Indiana University.

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**Maria Cimitile**, Provost and Executive Vice President for Academic and Student Affairs. B.A., College of the Holy Cross; M.A., Villanova University; Ph.D., University of Memphis.

**Edward Aboufadel**, Associate Vice President for Academic Affairs. B.S., Michigan State University; Ph.D., Rutgers University.

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**Mary Albrecht**, Executive Associate for Administrative Operations. B.S., Cornerstone University.

**Suzanne Benet**, Associate Vice President for Academic Affairs. B.S., Jacksonville State University; Ph.D., University of North Carolina.

**Bonnie Bowen**, Associate Vice President for Academic Affairs. B.B.A., Grand Valley State University. M.Ed., Grand Valley State University.

**Taylor Boyd**, Assessment Specialist. B.S., Appalachian State University; M.Ed., Grand Valley State University.

**Travus Burton**, Director for Civic Learning and Community Engagement. B.A., Saginaw Valley State University; M.A., Central Michigan University.

**Christopher Plouff**, Senior Associate Vice President for Academic Affairs. B.S., M.S., Michigan Technological University; Ed.D., Eastern Michigan University.

**Ellen Schendel**, Assistant Vice President of Academic Affairs. B.A., Birmingham Southern College; M.A., Florida State University; Ph.D., University of Louisville.

**Kara Van Dam**, Vice Provost for Graduate and Lifetime Learning. B.G.S., University of Michigan; M.B.A., Kaplan University; M.A., Ph.D., University of North Carolina at Chapel Hill.

**Daniel Weller**, Health Equipment and Systems Manager. B.A., M.S., Grand Valley State University.

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**Alison Christensen**, Project Manager. B.F.A., Grand Valley State University.

**Andrew King**, Art Gallery Preparator. B.F.A., Grand Valley State University; M.F.A., Kendall College of Art and Design.

**Nathan Kemler**, Director of Galleries and Collections. B.A., Calvin College; M.A., Eastern Illinois University.

**Nicole Webb**, Collections Manager. B.A., Grand Valley State University; M.A., Eastern Illinois University.

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**Simone Jonaitis**, Executive Director of the Center for Adult and Continuing Studies. B.A., University of Michigan; M.A., Western Michigan University; Ph.D., Michigan State University.

**Melissa Peraino**, Director of Educational Outreach. B.A., Alma College; M.A., Ball State University.

## **Lakeshore Center**

**Shawntain Jenkins**, Director, Muskegon Center Program. B.B.A., M.P.A., Grand Valley State University.

## **Holland Center**

**Lisa Miller, Director**, Meijer Holland Campus. B.A., Alma College; M.Ed., Grand Valley State University.

**Katherine VanDerKolk**, Student Services Coordinator, Meijer Holland Campus. B.A., Hope College; M.Ed., Grand Valley State University.

## **Traverse Center**

**Jacquelyn Abeyta**, Student Services Coordinator, Traverse City Regional Campus. B.S., M.Ed., Grand Valley State University.

**Shannon Owen**, Director of Northern Michigan Programs. B.S., M.A., Eastern Michigan University.

## **Center for Scholarly and Creative Excellence**

**Robert Smart**, Vice Provost for Research Administration and Executive Director. B.A., Albion College; Ph.D., Michigan State University.

**Linda Chamberlain**, Director, Technology Commercialization. B.S., Ph.D., Purdue University.

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**Stacey Gardner**, Research Compliance Specialist. B.B.A., Davenport University.

**James Seufert**, Director of Laboratory Safety. B.S., Purdue University.

**Benjamin Vesper**, Director of Research Compliance Integrity. B.S., Central Michigan University; M.S., Ph.D., Northwestern University; M.B.A., University of Illinois at Chicago.

## **Office of Sponsored Programs**

**Robby Michael Gouin-Hart**, Director, Office of Sponsored Programs. B.A., Kalamazoo College; M.P.A., Grand Valley State University.

**Michele Quick**, Grants and Contracts Specialist. B.B.A., M.B.A., Cornerstone University.

**Melissa Wright**, Grants and Contracts Specialist. B.S., Ferris State University.

**Barbara Wygrant**, Grants and Contracts Specialist. B.A., M.P.A., Western Michigan University.

## **Office of Undergraduate Research and Scholarship**

**Susan Mendoza**, Director, Office of Undergraduate Research and Scholarship. B.S., M.A., Michigan State University; Ph.D., Western Michigan University.

**Brenda Tooley**, Associate Director of Undergraduate Scholar Engagement. B.A., M.A., Fort Hays State University. Ph.D., University of Notre Dame.

## **Robert and Mary Pew Faculty Teaching and Learning Center**

**Christine Renner**, Vice Provost for Instructional Development and Innovation/Director. B.S., Michigan State University; Ph.D., Northwestern University.

**Raquel Ramirez**, Project Coordinator. B.A., University of Michigan.

## **Student Academic Success Center (SASC)**

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**Damon Arnold**, Director, Laker Academic Success Center/Special Associate to Athletic Director. B.A., M.A., California State University at Chico; M.S., University of Idaho; Ph.D., Washington State University.

**Michael Messner**, Director of Student Success Programs. B.S., M.Ed., Grand Valley State University.

**Myesha Melvin-Gholston**, Academic Advisor, Student Academic Success Center. B.S., California State Polytechnic University; M.A., National University

**Matthew Musser**, Student Success Software Specialist. B.S., M.Ed., Grand Valley State University.

**Gabriel Pena**, Student Success Coach. B.A., University of Michigan; M.Ed., Grand Valley State University.

## **Student Affairs**

**Aaron Haight**, Associate Dean of Students. B.A.A., Central Michigan University; M.P.A., Grand Valley State University; Ed.D., Eastern Michigan University.

**Elizabeth Chase**, Student Retention and Special Projects Coordinator. B.A., Michigan State University; M.Ed., Grand Valley State University.

**Emily First**, Student Support Manager. B.A., Taylor University; M.Ed. Baylor University.

**Takeelia Garrett**, Student Ombuds. B.A., M.Ed., Grand Valley State University.

## **Career Center**

**Troy Farley**, Director of Career Center. B.S., Grand Valley State University.

**Christopher Babbitt**, Assistant Director of Career Center. B.A., Michigan State University; M.Ed., Grand Valley State University; M.A., Western Michigan University.

**Rachel Becklin**, Senior Associate Director of Career Center. B.A., Western Michigan University; M.Ed., Grand Valley State University.

**Stephanie Dombrowski**, Assistant Director of Career Center. B.S., Grand Valley State University; M.A., Western Michigan University.

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**Lisa Knapp**, Associate Director of Career Center. B.A., Hope College; M.Ed., Grand Valley State University.

**Susan Proctor**, Employer Development Manager. B.S., Grand Valley State University.

**Grace Pushman**, Assistant Director of Career Center. B.S., M.Ed., Grand Valley State University.

**Megan Riksen**, Assistant Director of Career Center. B.A., University of Michigan; M.Ed., Grand Valley State University.

**Kristie Scanlon**, Employer Relations Coordinator. B.S.W., Grand Valley State University; M.S.W., Western Michigan University.

**Lori Staggs**, Associate Director of Career Center. B.A., Hope College; M.A., California State University, San Bernardino.

**Meghan Veltri**, Assistant Director of Career Center. B.S., M.Ed., Grand Valley State University.

## **Children's Enrichment Center**

**Daphnea Sutherland**, Director of Children's Enrichment Center. B.S., M.Ed., Grand Valley State University.

## **Housing and Residence Life**

**Andrew Beachnau**, Associate Vice Provost for Student Affairs and Director of Housing and Health Services. B.A., Alma College; M.Ed., Grand Valley State University; Ph.D., Michigan State University.

**Justin Bean**, Living Center Director. B.A., University of Maine; M.Ed., Grand Valley State University.

**Kyle Boone**, Director of Housing & Residence Life. B.A., University of Louisville; M.A., University of Pacific; Ph.D., Louisiana State University.

**Colleen Lindsay-Bailey**, Associate Director, Residence Education. B.S., M.A., Michigan State University.

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**Allison Brown**, Living Center Director. B.A., Hope College; M.Ed., Union University.

**JaJuan Collins**, Living Center Director. B.S., M.S., Concordia University-Ann Arbor.

**Madison Creutz**, Living Center Director. B.S., Grand Valley State University.

**Shanikwa Cruickshank**, Living Center Director.

**Kristen Evans**, Assistant Director of Housing. B.S., Western Michigan University; M.Ed., Grand Valley State University.

**Abigail Forbes**, Financial Manager of Housing. B.A., M.A., Michigan State University.

**Catera Greer**, Living Center Director. B.A., Oakland University.

**Melanie Grover**, Assistant Director of Housing. B.S., M.Ed., Grand Valley State University.

**Taylor Guss**, Living Center Director. B.S., Central Michigan University; M.S., Mississippi State University.

**Jamillya Hardley**, Living Center Director. B.A., University of Michigan; M.Ed., Grand Valley State University.

**Suzanne Herman**, Residence Life Coordinator. B.A., Dominican University; M.Ed., Grand Valley State University.

**Zachary Jacobs**, Living Center Director. B.A.; DePauw University, M.Ed., Grand Valley State University.

**Jasmine Padin**, Living Center Director. B.S., M.Ed., Grand Valley State University.

**Michele Renaud**, Living Center Director. B.S., Central Michigan University; M.A., University of Nevada-Reno.

**Jonathan Richards**, Residence Life Coordinator. B.S., Florida Gulf Coast University; M.S., Florida International University.

**Adam Tate**, Facilities Manager. B.B.A., Western Michigan University.

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**Brandie Tenney**, Assistant Director of Housing. B.B.A., Western Michigan University; M.Ed., North Carolina State University.

**Robert Zinger**, Living Center Director. B.S., Grand Valley State University.

## **Recreation and Wellness**

**Katharine Harmon**, Director of Recreation and Student Wellness. B.S., Northern Michigan University; M.A., Central Michigan University.

**Joseph Bitely**, Assistant Director of Campus Recreation. B.S., Western Michigan University.

**Amy Campbell**, Associate Director of Campus Recreation. B.S., Hillsdale College; M.Ed., Grand Valley State University.

**Mitchell Eastlick**, Assistant Director of Campus Recreation. B.A., San Jose State University; M.S., Ohio University.

**Katie Jourdan**, Student Health Promotions Coordinator. B.S., Central Michigan University; M.P.H., University of Michigan.

**John Offerman**, Assistant Director. B.S., Eastern Illinois University; M.A., Gonzaga University.

**Michael Przydzial**, Associate Director in Campus Recreation. B.S., Grand Valley State University; M.E.D., University of Arkansas.

## **Student Conduct**

**Anthony Williams Jr.**, Director of Student Conduct. M.S., Illinois State University.

## **Student Life and Event Services**

**Melissa Baker-Boosamra**, Associate Director of Student Life. B.A., M.P.A., Grand Valley State University.

**Christopher McQueen**, Associate Director of Student Life. B.A., Virginia Commonwealth University; M.Ed., Walden University.

**Valerie Guzman**, Director of Student Life. B.A., Central Michigan University; M.Ed., Grand Valley State University.

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**Kellie Pnacek-Carter**, Assistant Director of Events Services. B.A., Grand Valley State University.

**Eric Stevens**, Assistant Director of Student Organization. B.A., Spring Arbor University; M.Ed., Grand Valley State University.

## **University Counseling Center**

**Amber Roberts**, Director of University Counseling Center. B.S., Grand Valley State University; M.A., Michigan State University; Ph.D., Purdue University.

**Maha Baalbaki**, Psychologist. B.A., University of Wisconsin-Madison; M.S., Ph.D., Marquette University.

**Brian Bossick**, Psychologist and Assistant Director of University Counseling Center. B.S., John Carroll University; M.A., Ph.D., University of Akron.

**Nicholas Debenardi**, Psychologist. B.S., Michigan State University; M.A., Ph.D., University of Missouri-Kansas City.

**Bonnie Dykstra**, Psychologist/Coordinator of Alcohol and Other Drug Prevention Services. B.S., M.A., Central Michigan University; Ph.D., Walden University.

**Abraham Eapen**, Psychologist. B.A., Mahatma Gandhi University; M.A., Psy.D., Wright State University.

**Eric Klingensmith**, Psychologist and Associate Director of University Counseling Center. B.S., University of Central Florida; Psy.D., Antioch University.

**Nicole Marganti**, Psychologist. B.A., Alma College; M.A., Psy.D., University of Indianapolis.

**Latrece McDaniel**, Assistant Director of Alcohol and Other Drugs Campus Education Services. B.S., B.A., M.S.W., Michigan State University.

**Pamela Miller**, Psychologist and Associate Director of University Counseling Center. B.S., Michigan State University; M.S.W., Washington University; Ph.D., Georgia State University.

**Dayna Phillips**, Counselor. B.S., Michigan State University; M.Ed., DePaul University.

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**Melissa Selby-Theut**, Social Worker. B.A., Concordia University; M.S.W., Grand Valley State University.

**Michelle Stahl**, Psychologist. B.S., Central Michigan University; M.A., Central Michigan University.

**Kelsey Wenzel**, Mental Health Outreach Specialist. B.S., M.P.A., Grand Valley State University.

**Leslie White**, Clinical Social Worker. B.A., Calvin College; M.S.W., Western Michigan University.

## **University Libraries**

**Annie Bélanger**, Dean of University Libraries. B.A., York University; M.L.I.S., University of Western Ontario.

**Robert Beasecker**, Curator, Rare & Distinguished Collections. A.B., Hillsdale College; A.M.L.S., University of Michigan.

**Stacey Burns**, Programs and Operations Manager. B.A., Western Michigan University.

**Cara Cadena**, Head of Collections & Digital Scholarship. B.A., Montana State University; M.L.S., University of Arizona.

**Sara Chan**, Access Services Manager. B.A., Biola University; M.L.I.S., Kent State University.

**Jeffrey Daniels**, Associate Dean of Curation, Publishing, and Preservation Services. B.S., Grand Valley State University; M.L.I.S., Wayne State University.

**Jason Durham**, Libraries Business Administrator. B.S., M.P.A., Grand Valley State University.

**Kyle Felker**, Library Applications Developer. B.A., University of Southern Mississippi; M.L.I.S., Louisiana State University.

**Jon Jeffryes**, Head of Professional Programs. B.A., Grinnel College; M.A., University of Wisconsin-Madison

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**Hazel McClure**, Head of Liberal Arts Programs. B.S., Central Michigan University; M.F.A., St. Mary's College of California; M.L.S., State University of New York-Buffalo.

**Brian Merry**, Head of Operations & User Services, . B.S., Grand Valley State University.

**Gabrielle Miller**, Digital Student Experience Coordinator. B.S., Oklahoma State University.

**Mary Morgan**, Library Technology Manager. B.S., Jordan College Energy Institute.

**Jacklyn Rander**, Publishing Services Manager. B.A., Grand Valley State University.

**Cassandra Rollins**, Manager of Library Services for the Van Andel Research Institute. B.A., Western Michigan University; A.M.L.S., University of Kentucky.

**Patrick Roth**, Head of Technology and Systems. B.S., Grand Valley State University; M.L.I.S., Wayne State University.

**Jennifer Torreano**, Library Knowledge Market Manager. B.A., Grand Valley State University; M.Ed., Grand Valley State University.

## **Vice Provost for Health**

**Jean M. Nagelkerk**, Vice Provost for Health. B.S.N., Nazareth College; M.S.N., Wayne State University; Ph.D., University of Florida.

**Douglas Ayers**, Simulation Coordinator. B.S., Grand Valley State University

**Sharon Baker**, Standardized Patient Program Coordinator. B.S.N., Spring Arbor University.

**Tina Barnikow**, Senior Director for Health. B.S.N., Michigan State University.

**Kathrine Branch**, Director of Simulation. B.S.N, University of Missouri Columbia; M.S.N., Michigan State University.

**Matthew Bozzo**, Career Navigator. B.A., University of Michigan.

**Sara Burtis**, Special Projects Coordinator. B.A., Western Michigan University.

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**Christine Daily**, Health Compliance Specialist. B.S., Ferris State University.

**Sally Hoekzema**, Health Compliance Specialist. B.S.N., Grand Valley State University.

**Kathryn King**, Standardized Patient Program Assistant Coordinator. B.S.N., Grand Valley State University.

**Kelly Klerk**, Multimedia Coordinator. B.A., University of Southern Mississippi; M.Ed., William Carey University.

**Mary Kooyer**, Learning Resource Coordinator. B.A., Calvin College; B.S.N., Grand Valley State University.

**Kimberly Muma**, Health Compliance Coordinator. B.S.N., Grand Valley State University; B.S., M.S., Ferris State University.

**Lisa Naymick**, Clinical Simulation and Learning Resource Specialist. B.A., Michigan State University; M.S., Marquette University.

**Rebekah Sabo**, Clinical Initiatives Specialist. B.S.N., Pensacola Christian College.

**Al Shifflett III**, Director of Community Engagement. B.B.A., Western Michigan University.

**John Sterling**, Multimedia Coordinator. B.S., Indiana University of Pennsylvania.

**Jeffery Trytko**, Program Director (Scribe Training Program). B.A., Hope College; M.S., DePaul University.

**Brian Ulrich**, Director of Interprofessional Education Office and Special Projects. B.S., Western Michigan University; M.A., Central Michigan University; M.A., Ph.D., Michigan State University.

## Colleges

### Brooks College of Interdisciplinary Studies

**Mark Schaub**, Interim Dean of the Brooks College of Interdisciplinary Studies. B.A., Lakeland University; M.F.A., Wichita State University; Ph.D., Purdue University.

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**Melanie Shell-Weiss**, Interim Associate Dean of Brooks College of Interdisciplinary Studies. B.A., University of Michigan; M.A, Ph.D., Michigan State University

**Majd Al-Mallah**, Program Coordinator of Middle Eastern Studies. B.A., University of Jordan; M.A., Ph.D., Indiana University.

**Krista Benson**, Program Coordinator of Leadership. B.A., Gonzaga University; M.A., University of Manchester; Ph.D., The Ohio State University.

**Meredith Fedewa**, Writing Center Specialist. B.A., Grand Valley State University.

**Coeli Fitzpatrick**, Chair of Honors Faculty. B.A., Regis University; M.A., Ph.D., Binghamton University.

**Roger Gilles**, Director of Frederik Meijer Honors College. B.A., Carnegie-Mellon University; M.F.A., Ph.D., University of Arizona.

**Carol Griffin**, Director of General Education. B.S., North Dakota State University; M.S., Indiana University; M.S., Ph.D., State University of New York.

**Michael Hinkle**, Farm Manager and Educator. Office of Sustainability Practices. B.S., Grand Valley State University.

**Azfar Hussain**, Interim Graduate Program Director. B.A., M.A., Dhaka University; M.A., Ph.D., Washington State University. **Yumiko Jakobcic**, Director of the Office of Sustainability Practices. B.S., Grand Valley State University; M.E.M., Duke University; Ph.D., University of Vermont.

**Jennifer Jameslyn**, Director of Brooks College Advising Center. B.A., Kalamazoo College; M.A., University of Iowa.

**Patrick Johnson**, Director of Fred Meijer Center for Writing and Michigan Authors. B.A., M.A., Washington State University.

**Kin Ma**, Program Coordinator of East Asian Studies. B.A., Williams College; M.S., Ph.D., Michigan State University.

**Jack Mangala**, Chair of Area and Global Studies. B.A., University of Kinshasa; M.A., L.L.M., Ph.D., Catholic University of Louvain, Belgium.

**Diane Maodush-Pitzer**, Program Coordinator of Religious Studies. B.S., Northern Illinois University; M.Div., Western Theological Seminary; M.A., University of Notre Dame; Ph.D., Eastern Michigan University.

**Amy McFarland**, Interim Chair of Environmental and Sustainability Studies. B.A., Rice University; M.Ed., Texas State University; Ph.D., Texas A&M University.

**Andrea Riley-Mukavetz**, Program Coordinator of Intercultural Competence and Communication. B.S., Central Michigan University; M.A., Illinois State University; Ph.D., Michigan State University.

**Lisa Perhamus**, Director of the Padnos-Sarosik Center for Civil Discourse. B.A., William Smith College; M.A., The New School for Social Research; Ph.D., University of Rochester.

**Nora Salas**, Director of the Kutsche Office of Local History. B.A., University of Michigan; M.S.W., Michigan State University. **Jerry Stinnett**, Director of Writing Across the Curriculum and Faculty Writing Support. B.A., M.A., Northeastern State University; Ph.D., University of Oklahoma.

**Deana Weibel**, Interim Chair of Integrative, Religious, and Intercultural Studies. B.A., University of California, Irvine; M.A., Ph.D., University of California, San Diego.

**Karen Zivi**, Interim Chair of Human Rights. B.A., University of Virginia; M.A., Ph.D., Rutgers University.

## **Barbara and Stuart Padnos International Center**

**Elizabeth Jawish**, Coordinator of International Student Services. B.A., Grand Valley State University.

**Ehren Kuzekov**, Coordinator of Study Abroad and International Partnerships. B.S., Grand Valley State University; M.Ed., Seattle University.

**Alissa Lane**, Coordinator of Outreach and International Students. B.F.A., Michigan State University; M.Ed., Grand Valley State University.

**Rebecca Morrissey**, Director of Study Abroad and International Partnerships. B.S., M.Ed., Grand Valley State University.

**Elena Selezneva**, Intercultural Faculty/Coordinator of Faculty-led Programs. M.A., Michigan State University.

**Meaghann Smith**, Study Abroad Advisor. B.A., M.Ed., Grand Valley State University.

**Katherine Stoetzner**, Director of International Student and Scholar Services. B.A., Kalamazoo College; M.Ed., Grand Valley State University.

## **Dorothy A. Johnson Center for Philanthropy**

**Teresa Behrens**, Executive Director. B.A., Case Western Reserve University; M.S., Ph.D., North Carolina State University.

**Kallie Bauer**, Project Coordinator, Community Research Institute. B.B.A., M.B.A., Grand Valley State University.

**Julie Couturier**, Operations Director. B.S., Central Michigan University.

**Jamie DeLeeuw**, Research Manager. B.S., Grand Valley State University; M.A., Ph.D., Wichita State University.

**Patricia Flannery Robinson**, Associate Director for Special Projects, Community Research Institute. B.S., M.P.A., Grand Valley State University..

**Carol Glanville**, Program Manager, B.A., Western Michigan University; M.Ed. University of Phoenix.

**Brian Herron**, Web Developer. B.S. Grand Valley State University.

**Karen Hoekstra**, Marketing and Communication Coordinator.

**Michael Layton**, W.K. Kellogg Community Philanthropy Chair. B.A., Haverford College; M.A., Ph.D., Duke University.

**Victoria Martin**, Director of Communications and Engagement. B.A., University of Virginia; M.A., Georgetown University.

**Michael Moody**, Frey Chair for Family Foundations and Philanthropy. B.A., Indiana University; M.A., University of Chicago; Ph.D., Princeton University.

**Juan Olivarez**, Distinguished Scholar in Residence, Diversity, Equity, and Inclusion. B.S., Aquinas College; Ph.D., Michigan State University.

**Adriana Paz Santos**, Senior Database Administrator.. B.S., Universidad Francisco Marroquin; M.S., Grand Valley State University.

**Kevin Peterson**, Program Coordinator, Nonprofit Services. B.S., Grand Valley State University.

**Amanda Sharp**, Program Manager. B.S., Michigan State University; M.S., DePaul University.

**Tamela Spicer**, Program Manager, Nonprofit Services. B.A., B.S., Aquinas College; M.A., Spring Arbor University.

**Leslie Staroneck**, Director of Learning Services. B.A., State University of New York; M.A., University of Pittsburgh.

**Melyssa Tsai**, Research Manager. B.A. Occidental College; M.P.H., University of Michigan.

**Aaron Van Oosterhout**, Research Manager. B.A., University of Notre Dame; Ph.D., Michigan State University.

**Jeff Williams**, Director of Community Data and Research Labs. B.S., Michigan State University; M.A., University of Minnesota; M.B.A., University of Michigan.

## **College of Education and Community Innovation**

**Sherril Soman**, Dean, College of Education and Community Innovation. B.Sc., Prairie View A&M University; Ph.D., Purdue University.

**Erika Bailey**, Academic Advisor. B.S., M.S.W., M.P.A., Grand Valley State University.

**David Bair**, Director, Center for Educational Partnerships. B.A., The College of Wooster; Ed.D., University of Michigan.

**Mary Bair**, Chair, Educational Foundations. B.S., University of Delhi, India; M.S., University of Calicut, India; Ph.D., University of Michigan.

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**Scott Berlin**, Director, School of Social Work. B.S., Michigan State University; M.S.W., Wayne State University; Ph.D., Michigan State University.

**Trenton Beamon**, Academic Advisor. B.S., M.Ed., Grand Valley State University.

**Suzanne C. Bierlein**, Assistant to the Dean for Academic Scheduling and Enrollment. B.A., M.Ed., Grand Valley State University.

**Jason Cronkrite**, Associate Director, Student Information and Services Center. B.S., M.B.A., Ferris State University.

**Amy Dunn**, Educational Specialist Student Services Coordinator. B.S., Aquinas College; M.Ed., Grand Valley State University.

**Tom Fellows**, Academic Advisor. B.S., M.Ed., Grand Valley State University.

**Patrick Gerkin**, Director, School of Criminal Justice. B.A., M.A., Ph.D., Western Michigan University.

**Breeann Gorham**, Director of CCPS Undergraduate Advising Center. B.S., M.A., Central Michigan University.

**Raymond Higbea**, Chair, Department of the School of Public, Nonprofit, and Health Administration. B.S., Bob Jones University; M.H.A., University of Florida; Ph.D., Western Michigan University.

**Mark Hoffman**, Associate Dean. B.A., College of Wooster; M.A., Ph.D., Cleveland State University.

**Katie Humphrey**, Assistant Dean, College of Education and Community Innovation. B.A., Grand Valley State University.

**Alexander Jacobsson**, Assistant Director, Administrative Services. B.A., Aquinas College.

**Sean Lancaster**, Chair, Department of Literacy and Technology. B.S., M.S., Ph.D., University of Kansas.

**Sharon Mah**, Associate Director, Center for Educational Partnerships. B.F.A., Michigan State University; M.S., Teachers College, Columbia University.

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**Denise McConnell-Brown**, Field Placement Coordinator, Student Information and Services Center. B.S., Central Michigan University; M.Ed., Grand Valley State University; M.Ed., Western Michigan University.

**Catherine Meyer-Looze**, Department Chair, Educational Leadership and Counseling. B.A., Saginaw Valley State University; M.A., Central Michigan University; Ed.D., Eastern Michigan University.

**Cray Mulder**, Director, M.S.W. Program. B.A., Calvin College; M.S.W., Grand Valley State University; Ph.D., University of Illinois at Urbana-Champaign.

**Lisa Rene Norris**, Field Placement Coordinator, Student Information and Services Center. B.S., Wayne State University; M.Ed., Ed.S., Grand Valley State University.

**Kimberly Pawelka**, Field Placement Coordinator, Student Information and Services Center. B.A., Hope College; M.Ed., Western Michigan University.

**Clayton Pelon**, Associate Director, Center for Educational Partnerships. B.A., M.A., Michigan State University.

**Melissa Pierczynski**, Project Coordinator. B.S., Eastern Illinois University; M.Ed., Saint Xavier University; Ph.D. George Mason University.

**Jeffrey Rollins**, Database and Reporting Specialist, Student Information and Services Center.

**Deborah Ronk**, Field Education Coordinator, B.S.W. Program. B.S., Central Michigan University; M.S.W., Grand Valley State University.

**Scott Rood**, Chair, Department of Hospitality and Tourism Management. B.S., University of Michigan; M.P.A., Central Michigan University.

**Amy Schelling**, Associate Dean College of Education and Community Innovation. M.Ed., Grand Valley State University; Ed.D., Western Michigan University.

**Ellen Schiller**, Chair, Department of Teaching and Learning. B.S., M.Ed., Grand Valley State University; Ph.D., Michigan State University.

**Katie Scheuerle**, Field Education Coordinator, B.S.W. Program. B.A., Hope College; M.S.W., Grand Valley State University.

**Michele Shannon-Wildt**, Coordinator of Graduate Field Practica and Advising, Student Information and Services Center. B.S., Michigan State University; M.A., Western Michigan University; M.Ed., Grand Valley State University.

**Robin Smith Colton**, Director, B.S.W. Program. B.S., M.S.W., Grand Valley State University; Ph.D., Loyola University-Chicago.

**Amanda Stansbie**, Hospitality and Tourism Management Internship Coordinator. B.S., Southern New Hampshire University.

**Paul Stansbie**, Associate Dean. B.S., Southern New Hampshire University; M.B.A., University of Nottingham; Ph.D., The University of Plymouth.

**Annukka Thelen**, Director, Student Information and Services Center. B.B.A., M.Ed., Grand Valley State University.

**Lucas Treadwell**, Certification Officer, Student Information and Services Center. B.B.A., Davenport University; M.Ed., Grand Valley State University.

**Williamson Wallace**, Director of Criminal Justice Training. B.S., University of North Carolina-Charlotte; J.D., Thomas M. Cooley Law School.

**Quincy Williams**, Undergraduate and Internship Program Coordinator. B.A., Missouri Valley College; M.A., Lindenwood University.

## **College of Health Professions**

**Teresa Beck**, Acting Dean of the College of Health Professions. B.S., Indiana University; M.S., Florida State University; Ph.D., University of North Texas.

**Theresa Bacon-Baguley**, Associate Dean of the College of Health Professions. B.S.N., Michigan State University; Ph.D., Wayne State University.

**Ranelle Brew**, Chair, Public Health. B.S., Southern Connecticut State; M.A., M.S., Ed.D., Columbia University.

**Paul Christensen**, Chair, Physician Assistant Studies. B.A., M.D., University of Minnesota.

**Christine Dailey**, Health Compliance Coordinator. B.S., B.S.N., Ferris State University.

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**Jennie Glynn**, Academic Advisor, Student Services. B.S., Grand Valley State University; M.A., Central Michigan University.

**Julie Hall**, Assistant Dean of the College of Health Professions. B.S., Ferris State University; M.S., Grand Valley State University.

**Dan Halling**, Chair, Communication Sciences and Disorders. B.S., Utah State University; M.A., University of Northern Colorado; Ph.D., Indiana University.

**Jonathan Hodge**, Chair, Allied Health Sciences. B.S., Calvin College; M.S., California State University-Dominguez Hills; Ph.D., Western Michigan University.

**Michelle Johnson**, Senior Academic Advisor. B.A., Siena Heights University; M.Ed., Grand Valley State University.

**Brianne Perez**, Senior Academic Advisor. B.A., M.Ed., Grand Valley State University.

**Michael Saldana**, Senior Academic Advisor, Student Services. B.A., M.Ed., Grand Valley State University.

**Todd C. Sander**, Chair, Physical Therapy. B.S., Central Michigan University; MPT, U.S. Army-Baylor University; Ph.D., University of Virginia.

**Scott Truskowski**, Chair, Occupational Science and Therapy. B.S., M.S., Grand Valley State University; Ph.D., Nova Southeastern University.

**J. Randy Wyble**, Chair, Diagnostic and Treatment Sciences. B.S., M.S., Michigan State University; D.H.Ed., A.T. Still University.

**Darlene Zwart**, Director of College of Health Professions Student Services. B.A., Calvin College; M.Ed., Grand Valley State University.

## **College of Liberal Arts and Sciences**

**Jennifer A. Drake**, Dean. B.A., Brown University; M.A., State University of New York at Binghamton; Ph.D., State University of New York at Binghamton.

**Donovan Anderson**, Associate Dean for Personnel, Faculty and Staff Development, and Community Engagement. B.A., University of Kansas; M.A., Ph.D., University of Michigan.

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**Zachary Hancock**, Laboratory IT Specialist. B.B.A., Grand Valley State University.

**Monica Johnstone**, Director of College of Communications and Advancement. B.A., M.A., Ph.D., University of California at Berkeley.

**George McBane**, Associate Dean for Facilities, Scheduling, Research and Analytics. B.S., North Carolina State University; Ph.D., Cornell University.

**Michelle McCloud**, Assistant Dean for Finance and Project Management. B.B.A., M.B.A., Davenport University.

**Aaron Perry**, Director of Laboratory Services. B.S., Central Michigan University.

**Elizabeth Schaner**, Assistant Dean for Advising and Student Services. B.A., Aquinas College; M.Ed., Grand Valley State University.

**Tamara Shreiner**, Associate Dean for Curriculum and Instruction. B.S., Eastern Michigan University; M.A., Ph.D., University of Michigan.

## **Annis Water Resources Institute, Robert B.**

**Alan Steinman**, Director. B.S., University of Vermont; M.S., University of Rhode Island; Ph.D., Oregon State University.

**Christina Catanese**, Education Specialist. B.S., M.S., University of Pennsylvania.

**Anthony Fiore Jr.**, Fleet Captain.

**Michael Hassett**, Scientific Technician II. B.S., Michigan State University; M.S., Loyola University of Chicago.

**Richard Rediske**, Distinguished Research Fellow. Ph.D., University of Michigan.

**Brian Scull**, Research Lab Supervisor. A.S., Santa Fe Community College; B.S., Grand Valley State University.

## **Anthropology Department**

**Heather Van Wormer**, Chair. B.A., University of Nevada; Ph.D., Michigan State University.

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**Wesley Jackson**, Collections and Information Management Specialist. B.S., Grand Valley State University; M.A., Southern Illinois University, Carbondale.

## **Autism Education Center**

**Jana Benjamin**, Grant Project Manager. B.A., J.D., University of Michigan.

**Lisonn Delcamp**, Autism Training Intervention Specialist. B.A., Madonna University; M.A., Eastern Michigan University.

**Kellie Fitzgerald**, Project Coordinator of Logistics and Communications. B.A., North Central College.

## **Biology Department**

**Janet Vigna**, Chair. B.S., University of Michigan; Ph.D., University of Iowa.

**Christina Hipshier**, Greenhouse Supervisor. B.S., Michigan State University.

**Diane Laughlin**, Lead Laboratory Supervisor. B.S., Michigan Technological University.

**Star Santiago**, Laboratory Supervisor. B.S., University of Michigan.

## **Biomedical Sciences Department**

**Dan Bergman**, Chair. B.S., Ph.D., Bowling Green State University.

**Kimberly Hendricks**, Laboratory Supervisor, Gross Anatomy. B.S., Michigan State University; M.S., College of Charleston.

**Jeffrey Kozal**, Laboratory Supervisor, Anatomy and Physiology. B.S., Michigan State University.

**Joshua Stickney**, Lead Laboratory Supervisor, Microbiology. B.A., B.S., M.S., Grand Valley State University.

## **Cell and Molecular Biology Department**

**Mark Staves**, Chair. B.S., M.S., Ph.D., University of Texas at Austin.

**Jodi DenUyl**, Laboratory Supervisor. B.S., M.S., Grand Valley State University.

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## **Chemistry Department**

**Deborah Herrington**, Chair. B.S., Wilfrid Laurier University; M.S., University of Waterloo; Ph.D., Purdue University.

**Stephanie Bilinovich**, Laboratory Instrumentation Specialist. B.S., Walsh University; Ph.D., University of Akron.

**Michelle DeWitt**, Lead Laboratory Supervisor. B.S., Aquinas College.

**Mary Jo Smith**, Laboratory Instructional Coordinator. B.S., Ferris State University.

**Nicholas Olle**, Laboratory Instructional Coordinator. B.S., Grand Valley State University.

## **CLAS Academic Advising Center**

**Michelle Redmond**, Director. B.A., Oklahoma State University; M.S., Kansas State University.

**Julie Amon-Mattox**, Assistant Director. B.S., M.Ed., Grand Valley State University.

**Kiara Conway**, Academic Advisor. B.A., M.Ed., Grand Valley State University.

**Emily Davis**, Academic Advisor. B.A., Central Michigan University; M.Ed., Grand Valley State University.

**Brian Eikenhout**, Senior Academic Advisor. B.S., M.Ed., Grand Valley State University.

**Daniel Lauer**, Academic Advisor. B.A., Central Michigan University; M.A., Grand Rapids Theological Seminary.

**Doris Penn**, Academic Advisor. B.B.A., M.Ed., Grand Valley State University.

**Jason Prowant**, Academic Advisor. B.S., M.Ed., Grand Valley State University.

**Jackie Rautio**, Senior Academic Advisor. B.S., Central Michigan University; M.A., Western Michigan University.

**Alexis Schewe**, Senior Academic Advisor. B.S., Central Michigan University; M.S., St. Cloud State University.

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**Nicholas Woodward**, Academic Advisor. B.A., Central Michigan University; M.Ed., Grand Valley State University.

## **Classics Department**

**Melissa Morison**, Chair. B.A., University of Virginia; M.A., Indiana University; Ph.D., Boston University.

## **Communications, School of**

**Richard Besel**, Director. B.A., North Central College; M.A., University of Illinois, Chicago; Ph.D., University of Illinois, Urbana-Champaign.

## **English Department**

**Ashley Shannon**, Chair. B.A., M.A., University of Notre Dame; Ph.D., University of Texas.

## **Geology Department**

**Figen Mekik**, Chair. B.S., M.S., Middle East Technical University; Ph.D., Northern Illinois University.

**Gregory C. Wilson**, Laboratory Supervisor. B.S., Grand Valley State University; M.S., Southern Illinois University.

## **History Department**

**Michael Huner**, Chair. B.A., Valparaiso University; M.A., Ph.D., University of North Carolina at Chapel Hill.

## **Modern Languages and Literatures Department**

**Veronica Clapp**, Assistant Coordinator of Languages Resource Center. B.A., Universidad De Deusto; B.A., Grand Valley State University.

**David Shultz**, Coordinator of Language Resource Center. B.A., Principia College; M.A., Berklee School of Music, Webster University.

## **Movement Science Department**

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**Christina Beaudoin**, Chair. B.A., Brandeis University; M.S., Kansas State University; Ph.D., University of North Carolina Greensboro.

**Karol Tiemersma**, Fitness Skill and Activity Course Coordinator. B.S., Aquinas College; M.A., Western Michigan University.

## **Music, Theatre, and Dance, Department of**

**Danny Phipps**, Chair. B.M., The Curtis Institute of Music; M.M., D.M.A., The Catholic University of America.

**Nathaniel Bliton**, Equipment and Space Coordinator. B.M., M.M., Michigan State University.

**Cassandra DeHaan**, Box Office and Performance Curriculum Coordinator. B.A., M.A., Central Michigan University.

**Christopher Mahlmann**, Equipment and Space Supervisor. B.A., Hope College.

**Catherine O'Callaghan**, Costume Shop Coordinator.

**Russell Staples**, Scene Shop Specialist. B.F.A., Central Michigan University.

**Bridgett Vanderhoof**, Publicity and Recruitment Coordinator. B.A., Grand Valley State University; M.A., Ph.D. (ABD), University of Wisconsin-Madison.

## **Philosophy Department**

**John Uglietta**, Chair. A.B., University of Chicago; J.D., University of Michigan Law School; Ph.D., The Johns Hopkins University.

## **Political Science Department**

**Darren Walhof**, Chair. B.A., Calvin College; Ph.D., University of Minnesota.

## **Physics Department**

**Richard Vallery**, Chair. B.A., Gustavus Adolphus College; M.S., Ph.D., University of Michigan.

**Timothy A. Evans**, Laboratory Supervisor. B.S., M.S., Michigan State University.

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## **Psychology Department**

**Michael Wolf**, Chair. B.A., University of California; M.A., Ph.D., University of Colorado.

## **Regional Math and Science Center**

**Kristofer Pachla**, Director. B.S., B.A., M.A., Grand Valley State University. Ph.D., George Mason University.

**Kathy Agee**, Science Program Coordinator. B.S., M.A., Western Michigan University.

**Natalie Lowell**, MiStem Project Director. B.G.S., M.P.A., University of Michigan.

**Diane Miller**, Business Community and Education Liaison. B.S., M.P.A., Grand Valley State University.

**Chelsea Ridge**, Program Coordinator. B.A., Hope College; M.A., Grand Valley State University.

**Ginger Rohwer**, STEM Education Coordinator. B.A., Cornerstone University; M.A., Western Michigan University.

**Larry Wyn**, MiSTEM Project Manager. B.S., M.Ed., Grand Valley State University.

## **Sociology Department**

**George Lundskow**, Chair. B.A., Boston University; M.A., University of New Orleans; Ph.D., University of Kansas.

## **Statistics Department**

**Paul Stephenson**, Chair. B.S., Bob Jones University; M.S., Ph.D., Clemson University.

## **Visual and Media Arts, Department of**

**Merritt DeLano-Taylor**, interim Chair. B.S., B.A., University of Rochester; Ph.D., University of Michigan

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**Giles Hefferan**, 3-D Technical Supervisor. B.F.A., Grand Valley State University; M.F.A., Temple University.

**Yin-Fen Pao**, Visual Resource Curator. B.A., Tamkang University; M.A., The Ohio State University; M.L.I.S., Wayne State University.

**James Schaub**, Communication System Technician. B.A., Michigan State University; B.S., M.S., Grand Valley State University.

## **Writing Department**

**Christopher Toth**, Chair. B.A., Hiram College; M.A., Ph.D., Iowa State University.

## **Frederik Meijer Honors College**

**Roger Gilles**, Director, Frederik Meijer Honors College. B.A., Carnegie-Mellon University; M.F.A., Ph.D., University of Arizona.

**Coeli Fitzpatrick**, Chair, Frederik Meijer Honors College. B.A., Regis University; M.A., Ph.D., Binghamton University.

**Megan Marshall**, Academic and Enrichment Advisor. B.A., University of Rhode Island; M.A., Loyola University Chicago.

## **Kirkhof College of Nursing**

**Lola Coke**, Interim Dean. B.S., Nazareth College; Ph.D., Rush University.

**Emily Bembem**, Psychiatric Mental Health Nurse Practitioner. B.A., Occidental College; M.S.N., University of Texas at Austin.

**Brianne Burke**, Patient Services Manager, Nursing Family Health Center.

**Cassonya Carter**, Senior Academic Advisor. B.S., M.Ed., Grand Valley State University.

**Shannon Dale**, Director of Communications and External Relations. B.A., Elmhurst College; M.A., Colorado State University.

**Donna DeMann**, Family Nurse Practitioner. B.S.N., M.S.N., Michigan State University.

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**Jennifer Frisbie**, Psychiatric Mental Health Nurse Practitioner. B.S.N., M.S., University of Illinois at Chicago.

**Kim Francis**, Project Manager. B.A., M.S.W., Arizona State University.

**Jennifer Fox**, Project Manager. B.S., Athens State University; B.S., Lincoln Memorial University; M.S., Ohio University.

**Jennifer Frisbie**, Psychiatric Nurse Practitioner. B.S., Missouri State University; M.A., DePaul University; B.S., M.S., University of Illinois at Chicago.

**Priscilla Harmon**, Licensed Master of Social Worker. B.A., Ferris State University; M.S.W., Grand Valley State University.

**Jerrica Kallio**, Nurse Practitioner. B.A., Wheaton College; B.S., M.S.N., Nell Hodgson Woodruff School of Nursing.

**Joyce Malone**, Clinical Medical Assistant. C.C.M.A., University of Texas Arlington.

**Jerrica Kallio**, Nurse Practitioner. B.S.N., M.S.N., Emory University.

**Anne Markaity**, Registered Nurse. B.S., Grand Valley State University.

**Katherine Moran**, Associate Dean for Graduate Nursing Programs. B.S.N., M.S.N., University of Phoenix; D.N.P., Madonna University.

**Melissa Nestle**, RN Care Manager. B.S.N., Ferris State University.

**Kristin Norton**, Director of Office of Student Services. B.A., M.A., Central Michigan University.

**Mackenzie Prins**, Academic Advisor. B.S., M.Ed., Grand Valley State University.

**Mary Robinson**, Regional Nursing Program Coordinator, Northern Michigan. B.S.N., Grand Valley State University; M.S.N., University of Phoenix.

**Melissa Smith**, RN Care Manager. B.S.N., University of Detroit Mercy; M.S.N., Arizona State University.

**Carrie Smucker**, Program Specialist: Technology Management and Evaluation. B.A., M.Ed., Grand Valley State University.

**Kristin Start**, Clinical Medical Assistant. RMA, Ross Medical Education Center.

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**Michael Stoll**, Academic Advisor. B.S., M.Ed., Grand Valley State University.

**Tamara Van Kampen**, Practice Manager. B.S.N., Grand Valley State University; M.S.N., Ferris State University; D.N.P., Grand Valley State University.

**Maju Wilhelm**, Academic Community Liaison. B.S.N., D.N.P., Grand Valley State University.

## **Seidman College of Business**

**Diana Lawson**, Dean of the Seidman College of Business. B.S., State University of New York at Cortland; M.A., M.B.A., Ph.D., Kent State University.

**Paul Isely**, Associate Dean. B.S., University of Wisconsin-Madison; M.S., Ph.D., Purdue University.

**Sonia Dalmia**, Chair of the Department of Economics. B.A., M.A., B.Ed., University of Delhi; M.A., University of Oklahoma; Ph.D., University of Iowa.

**Tami DeFouw**, Senior Academic Advisor. B.S., M.Ed., Grand Valley State University.

**Jaclyn Jenkins**, Academic Advisor. B.A., Grand Valley State University; M.Ed., Western Carolina University.

**Joy Gianakura**, Associate Dean for Seidman Student Academic Services. B.S.Ed., Ed.D., Central Michigan University; M.Ed., Grand Valley State University.

**Christopher Gillespie**, SAP System Administrator. B.S., Grand Valley State University.

**Travis Love**, Academic Advisor. B.A., Grand Valley State University.

**Aaron Lowen**, Chair of Finance Department; Interim Director of the School of Accounting. B.A., University of Northern Iowa; M.A., Ph.D., University of Iowa.

**Anthony Mayberry**, Technology Coordinator for Executive Education. B.S., Grand Valley State University.

**Koleta Moore**, Assistant Dean. B.A., University of California; M.P.A., Grand Valley State University.

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**Jaideep Motwani**, Chair of the Department of Management. B.B.A., Bombay University; M.B.A., Sam Houston State University; Ph.D., University of North Texas.

**Douglas Robideaux**, Chair of the Department of Marketing. B.A., M.B.A., Northeast Louisiana University; D.B.A., Louisiana Tech University.

**Karen Ruedinger**, Assistant Dean. B.A., Alma College; M.B.A., University of Michigan.

**Amy Schuster**, Academic Advisor. B.A., Calvin University; M.Ed., Grand Valley State University.

**Shannon Zakalik**, Academic Advisor. B.S., M.S., Saginaw Valley State University.

## **Jay P. Van Andel Global Trade Center**

**Sonja Johnson**, Executive Director. B.S., Mankato State University.

**Mark Bleckley**, Associate Director. B.S., Oral Roberts University; M.B.A., Western Michigan University.

**Katherine Dreyer**, Global Resource Specialist. B.B.A., Grand Valley State University.

## **Michigan Small Business Development Center (LEAD)**

**Ernest Anderson**, Business Growth Consultant. B.B.A., University of Michigan; M.B.A., University of Wisconsin.

**David Beeson**, Business Growth Consultant. B.S., M.B.A., Ball State University.

**Anna Bier**, Technology Business Consultant. B.A., Virginia Polytechnic and State University; M.S., Texas A&M University.

**Joshua Billington**, Disaster Response Manager. B.B.A., North Park University; M.B.A., Cornerstone University.

**Hollie Blagg**, Associate State Director. B.S., Baker University; M.B.A., Grand Valley State University.

**Daniel Brophy**, Business Growth Specialist. B.B.A., Georgetown University; M.B.A., University of Detroit.

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**Toni Brownfield**, Business Development and Project Manager. B.A., University of Michigan.

**Hanna Burmeister**, Marketing Manager. B.A., Michigan State University.

**Jason Collins**, Executive Director. B.A., Albion College; M.B.A., University of Notre Dame.

**Melanie de Vries**, Technology Business Consultant. B.A., University of Michigan.

**Bernard Drew**, Business Growth Consultant. B.S., University of Michigan.

**Richard Ewing**, Economic Inclusion Business Consultant. B.B.A., M.B.A., Western Michigan University.

**Michael Gay**, Business Growth Specialist. B.B.A., Western Michigan University; M.B.A., University of Michigan.

**Russell Hartley**, Content Marketing Specialist. B.A., Grand Valley State University.

**Robert Honeyman**, Technology Business Consultant. B.S., M.B.A., University of Michigan.

**Brooks Kindel**, Business Growth Specialist. B.B.A., M.B.A., Western Michigan University.

**Lindsay Klee**, Technology Business Consultant. B.A., M.H.S.A., University of Michigan.

**Kristi Kozubal**, Business Growth Team Manager. B.S., University of Michigan; J.D. Michigan State University.

**Joshua Marko**, Program Manager. B.A., Aquinas College; M.B.A., Davenport University.

**Sienna Mavima**, Assistant Director. B.A., University of Zimbabwe; M.I.S.D., Florida State University.

**Jim McLain**, Business Growth Consultant. B.B.A., Western Michigan University.

**Kathy Miller**, Business Growth Specialist. B.S., Michigan State University; M.S., Eastern Michigan University.

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**Martha Moore**, Finance Manager. B.B.A., M.P.A., Grand Valley State University.

**Julie Oldham**, Business Growth Specialist. B.A., Michigan State University; M.S., Walsh College.

**Clay Phillips**, Mobility Technology Program Manager. B.A., Trinity College; M.B.A. Columbia University.

**Alain Piette**, Technology Team Manager. B.S., M.B.A., Wayne State University.

**Jason Pliml**, Technology Business Consultant. B.S., Lake Superior State University.

**Arcadio Ramirez**, Technology Business Consultant. B.A., University of Michigan; J.D., Stanford University Law School.

**Ian Rogers**, Training Manager. B.A., Michigan State University.

**Scott Taber**, Cyber Security Awareness Specialist. B.S., Ferris State University.

**Scott Taylor**, Technology Business Consultant. B.S., M.S., University of Michigan.

**Philip Tepley**, Director of Technology Commercialization Services. B.A., University of Michigan.

## **Richard M. and Helen DeVos Center for Entrepreneurship and Innovation**

**Shorouq Al-mallah**, Director of Center for Entrepreneurship and Innovation. B.A., M.I.S., Indiana University.

## **Small Business Development Center, West Michigan (Regional)**

**Edward Garner**, Regional Director. B.S., Michigan State University; M.B.A., Western Michigan University.

**Qi'Shaun Coyle**, Program Coordinator. B.B.A., Grand Valley State University.

**Marie Elliott**, Business Consultant. B.S., Ferris State University.

**George Fotis**, Business Consultant. B.B.A., Davenport University.

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**Elizabeth Hoffswell**, Business Consultant. B.A., Alma College; M.B.A., Arizona State University.

**Brooks Kindel**, Business Growth Specialist. B.B.A., M.B.A., Western Michigan University.

## **Seymour and Esther Padnos College of Engineering and Computing**

**Paul D. Plotkowski**, Dean, Padnos College of Engineering and Computing. B.S., M.S., Ph.D., Oakland University.

**Ryan Aldridge**, IDC Operations Manager.

**Timothy Born**, Associate Dean, Padnos College of Engineering and Computing. B.S., Calvin College; Ph.D., Mayo Graduate School.

**Elizabeth Brand**, Academic Advisor. B.A., Hope College; M.Ed., Grand Valley State University.

**Joshua Bourdon**, User Support Specialist. B.M., McNally Smith College of Music.

**Colin DeKuiper**, Academic Advisor. B.A., DePaul University., M.Ed., DePaul University.

**Hector Garcia-Pacheco**, Laboratory Supervisor. B.A., Grand Valley State University.

**John Hall**, Biomedical Engineer, Applied Medical Device Institute. B.S., Case Western Reserve University; M.S., University of Akron.

**Matthew Hodgman**, Network Systems Supervisor and High Performance Computing Manager. B.S., Michigan Technological University.

**Thomas Holcomb**, Network Systems Engineer. B.S., Central Michigan University; M.B.A., Grand Valley State University.

**Diane LaFreniere**, James R. Sebastian Endowed Chair, School of Engineering. B.S., Michigan Technological University.

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**Sara Maas**, K-12 Outreach Coordinator. B.S., Ferris State University; M.S.E., Grand Valley State University.

**Wael Mokhtar**, Unit Head and Associate Professor, School of Engineering. B.S., M.S., Alexandria University; Ph.D., Old Dominion University.

**Adrian Mora Villagomez**, Laboratory Systems Administrator. B.S., Grand Valley State University.

**Brent Nowak**, Executive Director of the Applied Medical Device Institute. B.S., University of Illinois - Urbana; M.S., Illinois Institute of Technology; Ph.D., University of Texas - Austin.

**Mary Nuznov**, Academic Advisor. B.A., Grand Valley State University; M.A., Ball State University.

**Audra Pretty-Smith**, Academic Advisor. B.A., Hope College; M.A., Ball State University.

**Shrutika Thakur**, Full Stack Application Developer. B.S., University of Mumbai; M.S., Rochester Institute of Technology.

**Casey Thelenwood**, Director, Assistant Dean. B.A., University of Michigan; M.Ed., Grand Valley State University.

**Roy Visser**, Laboratory Supervisor.

**Sara Wheeler**, Director of Advising Center. B.S., M.Ed., Grand Valley State University.

## **Inclusion and Equity**

**Jesse Bernal**, Vice President for Inclusion and Equity and Executive Associate for Presidential Initiatives. B.S., Westmont College; M.A., Ph.D., University of California at Santa Barbara.

**Constance Dang**, Director of Multicultural Affairs. B.S., Western Michigan University; M.P.A., Grand Valley State University.

**Elizabeth Doyle**, Special Associate for the Presidential Initiatives. B.S., Grand Valley State University; M.A., Central Michigan University.

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**Marlene Kowalski-Braun**, Associate Vice President for Inclusion and Student Support. B.S., Central Michigan University; M.A., Ball State University; Ph.D., Western Michigan University.

**Joseph VanArendonk**, Project Specialist. B.B.A., Grand Valley State University.

**Kathleen VanderVeen**, Assistant Vice President for Equity, Planning and Compliance. B.S., M.Ed., Grand Valley State University; Ph.D., Western Michigan University.

**Jill Wolfe**, Military & Veteran Resource Manager. B.S., Grand Valley State University.

## **Campus Interfaith Resources/Kaufman Interfaith Institute**

**Paul Kindschi**, Director of Kaufman Interfaith Institute. B.A., Houghton College; M.A., University of Wisconsin - Madison.

**Kyle Kooyers**, Associate Director of Kaufman Interfaith Institute. B.A., Waynesburg University; M.Div., Calvin Theological Seminary.

## **Disability Support Resources**

**Shontaye Witcher**, Director, Disability Support Resources. B.S., M.S.W., Michigan State University; Ed.S., Grand Valley State University.

**Leijhi Koval**, Senior Disability Advisor, Disability Support Resources. B.S., M.Ed., Grand Valley State University.

**Kevin McIntosh**, Disability Support Advisor. B.A., Emory University; M.T.S., Harvard Divinity School.

**Jason Osborne**, Senior Disability Advisor, Disability Support Resources. B.S., Central Michigan University; M.Ed., Grand Valley State University.

**Doralynn Runyon**, Disability Resources Admin.

**Jeffrey Sykes**, Assistive Technology Coordinator. B.S., Grand Valley State University.

## **Equity, Planning, and Compliance**

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**Theresa Rowland**, Title IX Coordinator/Equity Officer/Director. B.A., Trevecca Nazarene University; M.Ed., Grand Valley State University.

**Michael Szydowski**, Deputy Title IX Coordinator. B.A., M.A., Central Michigan University.

## **Information Technology**

**Milos Topic**, Vice President of Information Technology and Chief Digital Officer. B.S., M.B.A., Montclair State University; M.S., Ph.D., Stevens Institute of Technology.

**Benjamin Rapin**, Chief Technology Officer. B.S., Grand Valley State University; M.S., Ferris State University.

**William Fisher**, Associate Director, Technical Services. B.S., Grand Valley State University.

**Joy Seeley**, Senior Network Systems Engineer. B.S., Grand Valley State University.

## **Data and Analytics**

**Maria Thelen**, Director, Data and Analytics. B.S., Ferris State University.

## **eLearning Technologies**

**Kimberly Kenward**, Director of e-Learning Technologies. B.A., Aquinas College; M.I.L.S., University of Michigan.

**Hunter Bridwell**, Digital Media Developer. B.F.A., Kendall College of Art and Design; M.S., Grand Valley State University.

**Colleen Cameron**, Systems Analyst. B.F.A., M.B.A., Grand Valley State University.

**Noah Campbell**, Digital Media Developer. B.S., Grand Valley State University.

**Katherine Clark**, Systems Analyst. B.S., Baker College.

**Glenna Decker**, Instructional Design Specialist. B.S., Eastern Michigan University; M.Ed., Grand Valley State University.

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**Justin Melick**, Instructional Design Specialist. B.S., M.Ed., Grand Valley State University.

**David Nivala**, Instructional Technology Project Specialist. B.A., Nazareth College; M.A., California State University.

**Matthew Roberts**, Instructional Design Specialist. B.A., Calvin College; Ph.D., University of Minnesota.

**Vincent St. Germain**, eLearning and Instructional Technology Specialist. B.S., M.Ed., Grand Valley State University.

**Barbara Stevens**, Instructional Technology Project Specialist. B.A., Spring Arbor University; M.B.A., Baker College.

**Stephanie Webber**, Instructional Technology Project Specialist. B.B.A., Grand Valley State University.

## **Enterprise Applications**

**Nick Nelson**, Systems Analyst. B.S., Grand Valley State University.

**Irene Bhaskaran**, Database Administrator. B.E., Government College of Engineering.

**John Cook**, Systems Analyst. B.S., Central Michigan University.

**Michael Grannan**, Systems Analyst. B.S., Lawrence Technological University; M.A., Wayne State University; M.B.A., Grand Valley State University.

**Shannon Hatch**, Systems Analyst. B.S., Davenport University.

**Susan Johnson**, Systems Analyst. B.S., Bemidji State University.

**Todd Michalski**, Systems Analyst. B.S., Aquinas College; M.S., Ferris State University.

**Eleanor Ohm**, Systems Analyst. B.S., Ferris State University.

**Pamela Potter**, Administrative Systems Specialist. B.S., Grand Valley State University.

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**Kenneth Radlick**, Administrative Systems Architect. B.S., University of Michigan. M.S., Grand Valley State University.

**Brandon Ridge**, Systems Analyst. B.S., Grand Valley State University.

**Jesse Roe**, Systems Analyst. B.S., Grand Valley State University.

**Brian Snyder**, Systems Analyst. B.S., Western Michigan University.

## **Enterprise Architecture**

**Jason Kunnen**, Director of Enterprise Architecture. B.B.A., B.S., Grand Valley State University.

**Daniel Barricklow**, Senior Network Systems Engineer. B.S., Grand Valley State University.

**Thomas Beukema**, Infrastructure Project Engineer.

**Yvonne Bird**, Network Systems Engineer. A.S., Davenport College.

**Cody Eding**, Network Systems Engineer. B.S., Grand Valley State University.

**Patrick Kemp**, Network Systems Engineer. B.S., Central Michigan University.

**David Krueger**, Senior Network Systems Engineer. B.S., Western Michigan University.

**James McPherson**, Network Systems Supervisor-Infrastructure and Telecommunications. B.S., Lake Superior State University.

**Kyle Nielsen**, Senior Network Systems Engineer. B.S., Baker College.

**William "Jud" Scott**, Network Systems Engineer. B.S., Baker College.

**Bogdan Teodorescu**, Senior Systems Database Administrator. B.S., Davenport University.

**Robert VanDusen**, Network Systems Engineer. B.S., Baker College.

**David Van Sweden**, Senior Network Systems Engineer. B.A., Oakland University; M.P.A., Western Michigan University.

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## **Information Security**

**Luke DeMott**, Chief Information Security Officer. B.S., Ferris State University.

**Gregory Vedders**, Information Security Analyst. B.S., Aquinas College.

**Christopher Voorheis**, Information Security Analyst. M.S., Central Michigan University

## **IT Innovation and Research**

**Eric Kunnen**, Senior Director, IT Innovation and Research. B.S., M.Ed., Grand Valley State University.

## **IT Operations**

**Melissa Cunningham**, Senior Director, IT Operations. B.S., Methodist College; M.Ed., Grand Valley State University.

**Heather Hardy**, Technology Supply Specialist. B.A., Western Michigan University; M.P.A., Grand Valley State University.

## **IT Services**

**Kenneth Cott**, Director of IT Services. B.A., Grand Valley State University.

**Scott Benjamin**, Academic Systems Specialist. B.B.A., Cleary University.

**Karen Burchard**, Academic Systems Specialist. B.S., Grand Valley State University.

**Jayne Dissette**, Academic Systems Supervisor. B.S., M.B.A., Grand Valley State University.

**Robin Getz**, Laboratory Supervisor. B.S., University of Montevallo.

**Paul Harmelink**, Helpdesk Specialist. B.A., Kalamazoo College.

**Robert Holcomb**, Desktop Support Supervisor. B.A., Central Michigan University.

**Samantha McLaughlin**, Computer Operations Supervisor. B.S. Kent State University.

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**Eric Persing**, Helpdesk Specialist. B.F.A., Kendall College of Art and Design.

**Kelsey Welling**, IT Services Technician. B.S., Grand Valley State University.

## **Project Management**

**Katherine Fay**, Director, Project Management Office. B.S., Illinois State University.

**John Klein**, Associate Director and Program Manager. B.S., M.S., Grand Valley State University.

## **Enrollment Development**

**Brencleveton "Donta" Truss**, Vice President for Enrollment Development. Ed.D., M.S., B.S., Alabama State University.

**V'Lecea Hunter**, Enrollment Development Counselor. B.A., M.Ed., Grand Valley State University.

**Rachel Dziabuda**, Victim Advocate, B.A., Grand Valley State University.

## **Admissions**

**Jodi Chycinski**, Associate Vice President and Director of Admissions. B.B.A., Davenport College; M.B.A., Western Michigan University.

**Lauren DeHaan**, Data Communications Specialist. B.S., Grand Valley State University.

**Mike Eichberger**, Assistant Director of Admissions. B.S., Grand Valley State University; M.P.A., Grand Valley State University.

**Maegan Frierson**, Admissions Counselor. B.A., Western Michigan University; M.Ed., Grand Valley State University.

**Michael Guerra**, Admissions Counselor. B.A., University of Texas at San Antonio.

**Alyssa Gunn**, Program Advisor. B.A., Western Michigan University; M.Ed., Grand Valley State University.

**E. Chris Hendree**, Associate Director of Admissions. B.A., Taylor University; M.A., Webster University.

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**Wallace Holder**, Assistant Director of Admissions. B.A., M.S., Grand Valley State University.

**Tracey James-Heer**, Associate Director of Admissions. B.A., Grand Valley State University; M.A., Michigan State University.

**Astin Martin**, Assistant Director of Admissions. B.S., Grand Valley State University.

**Rachel Martin**, Admissions Counselor. B.S., Grand Valley State University; M.A., Eastern Michigan University.

**Elizabeth Martinez**, Admissions Counselor. B.A., Grand Valley State University.

**Melanie Retberg**, Associate Director of Admissions. B.S., M.Ed., Grand Valley State University.

**Jackson Strick**, Admissions Counselor. B.S., Grand Valley State University.

**Sarah Tibbe**, Admissions Counselor. B.S., M.Ed., Grand Valley State University.

**Bonnie Ulmer-DeGraves**, Associate Director of Admissions. B.S., M.B.A., Grand Valley State University.

**Rachel Van Den Broek**, Recruiter, Graduate Programs. B.A., Northwestern College; M.L.I.S., University of Iowa.

**Joshua Ware**, Admissions Counselor. A.A., Grand Rapids Community College; B.S., Grand Valley State University.

## **Financial Aid Office**

**Michelle Rhodes**, Associate Vice President for Financial Aid. B.B.A., Western Michigan University; M.B.A., Grand Valley State University.

**Kelly Berg**, Financial Aid Counselor. B.S., M.Ed., Grand Valley State University.

**Nicholas Bromley**, Associate Director of Financial Aid. B.A., University of Texas at Austin; M.Ed., Grand Valley State University.

**Javier Carrillo**, Financial Aid/Admissions Counselor. B.S., Grand Valley State University.

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**Danielle Carter**, Assistant Director of Financial Aid. B.S., Marquette University.

**Yug Gill**, Assistant Director of Financial Aid. B.S. Calvin College; M.Ed. Grand Valley State University.

**Francesca Golden**, Associate Director of Financial Aid. B.A., Grand Valley State University.

**Melissa Horning**, Assistant Director of Financial Aid. B.A.S., Davenport University.

**Anna Johnson**, Assistant Director of Financial Aid. B.A., Columbia College; M.A., Gordon-Conwell Theological Seminary.

**Stephanie Menendez**, Financial Aid Counselor. B.S., Grand Valley State University.

**Joseph Montney**, Financial Aid Counselor. B.A., Grand Valley State University.

**Samantha Mulder**, Assistant Director of Financial Aid. B.S., Grand Valley State University.

**Jenna Poll**, Associate Director of Financial Aid. B.A., Hope College.

**Benjamin Rhodes**, Assistant Director of Financial Aid. B.A., Cornerstone University.

**Alfany Rosales-Muro**, Financial Aid Counselor. B.S., Grand Valley State University.

**Ashlee Thayer**, Financial Aid Counselor. B.A., Aquinas College.

**Marylise White**, Assistant Director of Financial Aid. B.A., Michigan State University.

## **Gayle R. Davis Center for Women and Gender Equity**

**Sharalle Moore**, Associate Director of Center for Women and Gender Equity. B.A., California State University; M.A., Washington State University.

**Rachel Dziabuda**, Victim Advocate. B.A., Grand Valley State University. M.S.W., Michigan State University.

**Jessica Jennrich**, Social Justice Project Specialist and Director of the Center for Women and Gender Equity. B.A., Bowling Green State University; M.L.S., Eastern Michigan University; Ph.D., University of Missouri.

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## **Institutional Analysis**

**Philip Batty**, Associate Vice President for Institutional Analysis. B.A., University of Illinois; M.A., Tulane University; Ph.D., The University of Memphis.

**Rachael Passarelli**, Research Analyst. B.S., Grand Valley State University; M.S., Western Michigan University.

## **Milton E. Ford LGBT Resource Center**

**Jennifer Hsu**, Director of Milton E. Ford LGBT Resource Center. B.S., University of Michigan; M.P.A., Western Michigan University.

**Marla Wick**, Associate Director of Milton E. Ford LGBT Resource Center. B.A., Montana State University; M.A., Ohio University; Ph.D., University at Buffalo.

## **Office of Multicultural Affairs**

**Juanita Davis**, Assistant Director of Multicultural Affairs. B.A., Grand Valley State University; M.A., Cornerstone University.

**Thalia Guerra-Flores**, Assistant Director of Multicultural Affairs. B.A., M.A., Western Michigan University.

## **Records and Registration**

**Pamela Wells**, Associate Vice President and University Registrar. B.S., University of Wisconsin-Oshkosh; M.S., Purdue University; Ph.D., University of Kentucky.

**Hannah Axdorff**, Assistant Registrar. B.A., Hope College.

**Mary Brittain**, Associate Registrar.

**Elyssa Durham**, Project Coordinator. B.A., Grand Valley State University.

**Haley McKenna**, Project Coordinator. B.S., Grand Valley State University.

**Jennifer Okada**, Assistant Registrar. B.A., Grand Valley State University.

**Laura Przybytek**, Associate Registrar. B.A., University of Michigan.

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**Zachary Reichard**, Project Coordinator. B.A., Western Michigan University; M.Ed., Ohio University.

**Meagan Treadway**, Associate Registrar. B.S., M.Ed., Ed.S., Grand Valley State University. Ph.D., Eastern Michigan University.

**Daniel Vainner**, Associate Registrar. B.B.A., Grand Valley State University; M.A., Michigan State University.

**William Widmaier**, Associate Registrar. B.A., Grand Valley State University; M.A., Ball State University.

## **TRIO Educational Talent Search**

**Sarah Lopez**, Director, TRIO Educational Talent Search. B.M., University of Miami; M.P.A., Grand Valley State University.

**Ashley Fritz**, Program Advisor, TRIO Education Talent Search. M.S., University of Phoenix.

## **TRIO McNair**

**David Martin Jr.**, Program Director of McNair Scholars. Associate Director of Undergraduate Research and Scholarship. M.S, Ph.D., University of Oregon; Ph.D., Grand Rapids Community College.

## **TRIO Student Support Service Stem Program**

**William Washington**, Director of TRIO Student Support Services. B.S., M.Ed., Grand Valley State University; Ph.D., Eastern Michigan University.

**Nykia Gaines**, Assistant Vice President for Federal TRIO Programs. B.S., M.Ed., Grand Valley State University; Ph.D., Bowling Green University.

**Linda Rettig**, Assistant Director of Student Support Services STEM Program. B.A., Aquinas College; M.Ed., University of Phoenix; M.Ed., Grand Valley State University.

**Tanisha Kuykendall**, Student Engagement Specialist, TRIO Student Support Services and TRIO Student Support Services STEM Program. B.A., M.Ed., Grand Valley State University.

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## **TRIO Teacher Prep Student Support Services**

**Aliya Armstrong**, Director, TRIO Teacher Preparation Student Support Services. B.A., M.Ed., Western Michigan University; M.Ed., Grand Valley State University.

**Hector Belmont**, TRIO Advisor. B.A., Grand Valley State University.

## **TRIO Upward Bound**

**Joshua Brandsen**, Director, TRIO Veterans Upward Bound. B.S., M.Ed., Grand Valley State University.

**Margarita Chappell**, Assistant Director TRIO Veterans Upward Bound. B.A., Western Michigan University; M.S.W., University of Michigan.

## **TRIO Veterans Upward Bound**

**Tim Marroquin**, Director of Veterans Upward Bound. B.S., Grand Valley State University; M.A., Central Michigan University.

**Bobby Springer**, Associate Director of Veterans Upward Bound. B.A., University of North Carolina; M.A., Western Michigan University.

## **Finance and Administration**

**Gregory Sanial**, Vice President for Finance and Administration. B.S., U.S. Coast Guard Academy; M.A., Naval War College; M.S., Massachusetts Institute of Technology; Ph.D., Northcentral University.

**Heather Taylor**, Assistant Vice President for Enterprise Risk Management and Insurance Program. B.A., DePaul University.

## **Business and Finance**

**Craig Wieschhorster**, Associate Vice President for Business and Finance. B.S., United States Coast Guard Academy; M.S., National Graduate School; M.P.A., George Washington State University; M.B.A., MIT Sloan School of Management.

**Cheryl McConomy**, Grant Accountant. B.S., Central Michigan University

## **Accounting Services**

**DaMar Boyd**, Assistant Director of Student Accounts Services. B.B.A., M.P.A., Grand Valley State University.

**Jean Conzelmann**, Billings Services Supervisor. B.B.A., Saginaw Valley State University; B.S., Grand Valley State University.

**Erica Herwig**, Assistant Controller. B.A., Davenport University.

**Jennifer Kamradt**, Senior Accountant. B.B.A., M.B.A., Grand Valley State University.

**Kevin Kotlewski**, Senior Accountant. B.B.A., Grand Valley State University.

**Stacey Lefevre**, Assistant Controller. B.B.A., M.B.A., Grand Valley State University.

**Brenda Lindberg**, Associate Controller. B.S., B.A., Central Michigan University.

**Ryan McLatcher**, Senior Accountant. B.B.A., Grand Valley State University.

**Ian Mills**, Senior Accountant. B.A., M.S., Michigan State University.

**Terra Muckenthaler**, Accountant. B.B.A., M.S., Grand Valley State University; C.P.A.

**Karen Mushong**, Controller. B.B.A., Western Michigan University.

**Chad Reynolds**, Director of Treasury and Tax. B.B.A., Western Michigan University; M.B.A., Grand Valley State University.

**Ryan Smitt**, Accountant. B.B.A., Grand Valley State University.

**James Spees**, Financial Aid Counselor Assistant Director of Student Account Services. B.B.A., Davenport University.

## **Auxiliary Services**

**Doug Wentworth**, Director of Auxiliary Services. B.S., B.A., Central Michigan University.

## **Conference and Event Planning Services**

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**David VanderSloot**, Director of Conference Planning and Hospitality Services. A.A.A.S., Grand Rapids Community College; A.A.S., B.S., Johnson and Wales University; M.P.A., Grand Valley State University; C.M.P., C.M.M., C.A.S.P.

**Martin Ashcraft**, Client Services Manager. B.S.B.A., Central Michigan University; C.M.P.

**Kelly Barlow**, Client Services Coordinator. B.S., Grand Valley State University.

**Kari Czarnecki**, Business Development Manager. B.S., Grand Valley State University.

**Amy Dettwiler**, Client Services Manager. B.S., Grand Valley State University.

**Jennifer May**, Client Services Manager. B.S., Grand Valley State University.

**Joyce Miller**, Client Services Coordinator. B.A., Michigan State University.

**Erika Van Dyke**, Client Services Coordinator. B.S., Grand Valley State University.

**Kathleen Wright**, Assistant Director of Conference Planning. B.A., Aquinas College; C.M.P.

## **GVSU Laker Store - Allendale Campus**

**Christopher Boerma**, Bookstore Manager - Copy Services and Systems.

**Paul Cullen**, Manager: Web Fulfillment, Warehouse and Inventory Control. B.S., Grand Valley State University.

**Megan Dent**, Assistant Manager Retail Services. A.A., Lake Michigan College.

**Tony Glaab**, Laker Store Manager. B.S., Slippery Rock University.

**Nicole Greiner**, Manager: Operations, Apparel Buying and Merchandising. B.B.A., Grand Valley State University.

**Ethan McCann**, Manager - Warehouse Copy Center. B.S., Grand Valley State University.

**Liza Ollila-Guikema**, Auxiliary Services Marketing Manager. B.A., Grand Valley State University.

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## **GVSU Laker Store-Grand Rapids Campuses**

**Thomas Bevington**, Course Materials at GVSU Lake Store. B.B.A., Siena Heights University.

**Elizabeth Junglas**, Laker Store Manager. A.A., Grand Rapids Community College; B.S., Grand Valley State University.

**Lisa Lansky**, Assistant Manager Laker Store. A.A., University of Florida.

## **Muskegon Innovation Hub**

**Kevin Ricco**, Director of the Muskegon Innovation Hub. B.S., University of Michigan; M.B.A., Eastern Michigan University.

**Thomas Hopper**, Associate Director for Business Development. B.S., Alma College; M.S., University of Detroit Mercy.

**Allison Dile**, Business Incubator Manager. B.A., Central Michigan University.

## **Procurement Services**

**Aaron Caccamo**, Senior Strategic Sourcing Specialist. B.A., Aquinas College; M.A., Central Michigan University.

**Valerie Rhodes-Sorrelle**, Senior Strategic Sourcing Specialist. B.S., Ferris State University; M.P.A., Grand Valley State University; C.P.M., A.P.P.

**Kip Smalligan**, Senior Strategic Sourcing Specialist. B.A., Calvin College.

**Heather White**, Procurement Systems Analyst. B.A., Virginia Tech.

## **The Meadows Golf Club**

**Donald Underwood**, Director of Golf Operations. B.S., Ferris State University; P.G.A. Class A certification.

**Jeffrey Bodziak**, Assistant Golf Course Superintendent. A.A., Grand Rapids Community College; Technology Certificate, Michigan State University.

**Ronald Dahlin**, Golf Course Superintendent. B.S., M.S., Colorado State University; CGCS.

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**Steven Milewski**, Head Golf Professional. B.S., Illinois State University.

## **Payroll**

**Luanne Brown**, Director of Payroll Services. B.S., Cornerstone University.

**Brenda Sain**, Payroll Tax and Process Accountant. B.S., University of Arkansas; M.B.A., Davenport University.

## **University Budgets**

**Jennifer Schick**, Director of University Budgets. B.B.A., Western Michigan University; M.B.A., Grand Valley State University.

**Davidpaul Lemmen**, Senior Budget Analyst. B.B.A., Davenport University.

**Terri Suess**, Senior Budget Analyst. B.B.A., Western Michigan University.

**Andrea Westdorp**, Assistant Director of University Budgets. B.B.A., Grand Valley State University; M.B.A., Grand Valley State University; C.P.A.

## **Department of Public Safety - Allendale**

**Brandon DeHaan**, Director of Public Safety and Chief of Police. B.S., Grand Valley State University.

**Daniel Bohle**, Dispatch and Security Camera Supervisor. B.S., Grand Valley State University.

**Jeffrey Stoll**, Assistant Director of Public Safety Services. B.S., M.P.A., Grand Valley State University.

## **Department of Public Safety - Grand Rapids**

**Kari Balcom**, Security Supervisor. B.S., Grand Valley State University.

**Kouros Khatir**, Assistant Director of Public Safety and Captain. B.S., Arizona State University; M.A., Northern Arizona University.

## **Facilities Planning**

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**Karen Ingle**, Associate Vice President for Facilities Planning. B.S., Michigan State University.

**Matthew DeRuiter**, Project Manager 1. B.S., Ferris State University.

**James Flanders**, Senior Project Manager, Space Planning and Management. B.S., Ferris State University.

**Jeffrey Hammond**, Senior Project Manager. B.A., University of Detroit School of Architecture.

**Jake Mallekoote**, Project Manager 2. B.S., Ferris State University.

**Paul Nederveld**, Project Manager 2. B.S., Ferris State University.

**Justin Petersen**, Project Manager 1. B.S., Ferris State University.

**Joel Van Ravenswaay**, Project Manager 2. Pursuing B.S., Grand Valley State University.

**Scott Whisler**, Senior Project Manager, Planning and Design. B.S., Lawrence Technological University.

## **Facilities Services**

**Lawrence Meredith**, Director of Facilities Services. B.S., Western Michigan University; M.B.A., Grand Valley State University.

**Janet Aubil**, Facilities Services Supervisor. B.S., Western Michigan University.

**Richard Freehafer**, FSP Coordinator of Information Systems and Technology. B.A., Aquinas College.

**Cathy Headley**, Facilities Services Supervisor. B.S., Cornerstone University.

**Daniel Hysten**, Assistant Facilities Supervisor. B.S., Grand Valley State University.

**Raven McClinton**, Assistant Facilities Services Supervisor. B.S., Grand Valley State University.

**Edward Simon**, Grounds Operations Supervisor. A.S., Ferris State University; B.S., Grand Valley State University.

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**Steven Snell**, Arborist. B.S., Michigan State University.

**Edward Wierzbicki**, Facilities Services Supervisor. B.S., Aquinas College.

## **Facilities Services - Grand Rapids Campuses and Regional Centers**

**Lisa Haynes**, Associate Vice President, Facilities Services Grand Rapids Campuses and Regional Centers. B.S., Grand Valley State University.

**Chad Kellogg**, Manager of Facilities Services and Projects. B.B.A., Grand Valley State University.

**William Lucksted**, Director of Facilities Services. B.S., Grand Valley State University.

**Chris Swank**, Manager of Parking, Transportation, and Services. B.S., M.A., University of Michigan-Flint.

**Ronald Villanueva**, Manager of Facilities Services and Grounds. B.B.A., Grand Valley State University.

## **Human Resources**

**Michael Coleman**, Associate Vice President for Human Resources. B.S., Illinois State University; M.Ed., University of Minnesota; Ed.D, University of St. Thomas.

**Rebecca Berrevoets**, Compensation Analyst. B.A., Grand Valley State University.

**Tara Bivens**, Senior Benefits Manager. B.S., M.P.A., Grand Valley State University.

**Megan Bravo**, Employment Specialist. B.A., B.B.A., Grand Valley State University.

**Lindsey DesArmo**, Senior Manager, Wellness and Human Resources Communications. B.A., M.P.A., Grand Valley State University.

**Nicholas Ekstrom**, Benefits Specialist. B.B.A., Grand Valley State University.

**Ruthanne Griffin**, Director, HR Administration and Technology. B.B.A., Grand Valley State University.

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**Adam MacRae**, Human Resources Specialist. B.B.A., Grand Valley State University; M.B.A., Aquinas College.

**Deborah Sanders**, Director of Staff Relations and Compensation. B.S., Michigan State University; M.A., Western Michigan University.

**Natalie Trent**, Human Resources Specialist. B.A., Michigan State University; M.S., Central Michigan University.

## **Intercollegiate Athletics**

**Keri Becker**, Director of Athletics. B.A., Saginaw Valley State University; M.B.A., Ferris State University.

**Emily Aaron**, Staff Athletic Trainer. B.A., University of Michigan.

**Lou Andreadis**, Associate Head Track, Field, and Cross Country Coach. B.S., Butler University.

**Sidney Baker**, Facility Operations Coordinator. B.S., Stephen F. Austin State University.

**Jerry Baltes**, Head Track, Field, and Cross Country Coach. B.S., Butler University.

**Jalon Bibbs**, Assistant Football Coach. B.A., Northern State University.

**Gary Bissell**, Head Men's Golf Coach. B.S., Ferris State University.

**Nora Boerger**, Assistant Womens Lacrosse Coach. B.S., Urbana University; M.A., Lenoir-Rhyne University.

**Andrew Boyce**, Head Men and Women's Swimming and Diving Coach and Coordinator of Aquatics. B.S., Ball State University.

**Dana Callihan**, Head Women's Softball Coach. B.S., Grand Valley State University.

**Matthew Conly**, Assistant Track & Field Coach. B.S., Ball State University.

**Alison Cornelisse**, Staff Athletic Trainer. B.S., Grand Valley State University; M.S., Illinois State University.

**Careena DeMull-Hillard**, Director of Irwin Club. B.S., Aquinas College; M.A., Siena Heights University.

**Jamie Detillion**, Head Baseball Coach. B.S., Ashland University.

**Gretchen Goodman**, Athletics Health Care Administrator. B.S., Grand Valley State University; M.A., Western Michigan University.

**Cody Grice**, Assistant Men's Baseball Coach. B.S., M.B.A., Grand Valley State University.

**Jason Johnson**, Associate Head Women's Volleyball Coach. B.S., Grand Valley State University.

**Taylor Johnson**, Assistant Men's Basketball Coach. B.A., Western Michigan University; M.A., North Carolina State University.

**Mackenzie Lawler**, Head Women's Lacrosse Coach. B.S., Robert Morris University.

**Jacob Levy**, Director of Athletic Communications and Broadcasting. B.S., University of South Carolina; M.A., Wingate University.

**Douglas Lipinski**, Deputy Director of Athletics for External Affairs. B.S., M.P.A., Grand Valley State University.

**James Louis**, Assistant Football Coach. B.S., M.S., St. Cloud State University.

**Rebecca Mailloux**, Head Women's Golf Coach. B.S., University of South Florida.

**Jake Marg**, Assistant Athletic Director for Game and Event Management. B.S., M.Ed., University of West Florida-Pensacola.

**Matthew Mitchell**, Head Football Coach. B.S., Cornell College.

**Walter Moore**, Associate Director for Students - Athlete Welfare and Development. B.S., Central Michigan University; M.Ed., Grand Valley State University.

**James Murray**, Assistant Head Men and Women's Swimming and Diving Coach. B.S., Central Michigan University.

**Timothy Nott**, Associate Director of Athletics for Communications. B.A., Central Michigan University.

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**Ryan Olson**, Assistant Football Coach. B.A., Simpson College; M.A., Minnesota State University.

**Kelsey Penland**, Assistant Director of Athletics for Sales and Marketing. B.S., Grand Valley State University.

**Nicholas Postma**, Assistant Football Coach. B.S., Saginaw Valley State University.

**Meghan Pynnonen**, Assistant Athletic Director Athletic and Recreation Facilities. B.S., Bowling Green State University.

**Reynaldo Radin**, Assistant Track and Field/Cross Country Coach. B.A., University of North Carolina at Chapel Hill; M.S., Troy University.

**Katie Rejc**, Staff Athletic Trainer. B.S., Grand Valley State University; M.S., Eastern Michigan University.

**Jennifer Rivera**, Assistant Women's Softball Coach. B.S., Grand Valley State University.

**Phil Sayers**, Associate Women's Basketball Coach. B.S., Grand Valley State University.

**Deanne Scanlon**, Head Women's Volleyball Coach. B.S., Eastern Kentucky University.

**Samantha Schall**, Head Mens and Womens Tennis Coach. B.A., Metropolitan State University.

**Mark Stoessner**, Associate Athletic Director/Director of Medical Services. B.S., Bowling Green State University; M.A., Northern Michigan University.

**Kasey Sullivan**, Assistant Athletic Director for Digital Marketing and Branding. B.A., Central Michigan University.

**Brent Tavis**, Assistant Athletic Director, Athletic and Recreation Facilities. B.B.A., Davenport University; M.P.A., Grand Valley State University.

**Joseph Verschueren**, Associate Director for Revenue and Fan Development. B.A., Hope College; M.S., Valparaiso University.

**Matthew Vitzthum**, Assistant Football Coach. B.A., Wartburg College.

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**Bradley Wallace**, Associate Athletic Director, Athletic and Recreation Facilities. B.S., Grand Valley State University; M.S., Southern Illinois University.

**Lawrence Wallace**, Assistant Men's Basketball Coach. B.S., Grand Valley State University.

**Richard Wesley**, Head Men's Basketball Coach. B.S., Central Michigan University.

**Michael Williams**, Head Women's Basketball Coach. B.S., University of Wisconsin-Stevens Point.

**Wendy Wilson**, Associate Director of Athletics. B.S., Aquinas College; J.D., Michigan State University.

**James Winkler**, Senior Staff Athletic Trainer. B.S., M.S., Northern Michigan University.

**Alexander Wise**, Facility Operations Coordinator, Athletic and Recreation Facilities. B.A., Saginaw Valley State University; M.Ed., Oakland University.

**Scott Wooster**, Assistant Football Coach. B.S., M.Ed., Wayne State University.

**David Wynkoop**, Athletics Marketing and Promotions Director. B.A., Siena Heights University.

## **Strategic Initiatives**

# **University Development**

**Laura Meengs-Aikens**, Vice President for Development. B.A., Hope College; M.S.W., University of Michigan.

**Daniel Hurwitz**, Associate Vice President of University Development. B.S., Union College.

**Andrew Bixel**, Director of Endowed and Planned Giving. B.A., Bluffton University; M.S., Miami University.

**Melessa Ellis**, Special Events Manger. B.A. Central Michigan University.

**Nancy French**, Senior Director of Communications. B.A., Michigan State University; M.S., Grand Valley State University.

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**Courtney Geurink**, Assistant Director of Alumni Relations. B.S., Grand Valley State University.

**Katelyn Hanley Semelbauer**, Assistant Director of Annual Giving. B.A., Albion College.

**Mary Jo Hills**, Systems Analyst. B.S., M.S., Michigan Technological University; M.S., Grand Valley State University.

**Derek Johnson**, Annual Giving Manager. B.A., Central Michigan University.

**Jennifer Lugo**, Assistant Director for Creative and Production. B.A.A., Central Michigan University.

**Molly McLogan**, Prospect Research and Development Manager. B.A., Albion College; M.P.A., Grand Valley State University.

**Mary Ouellette-Maine**, Assistant Director of Communications. B.A., Central Michigan University.

**Briette Phillips**, Development Officer for Scholarship and Fellowship Giving. B.B.A., Northwood University; M.P.A., Grand Valley State University.

**Heather Rowen**, Manager of Campus Philanthropy Initiatives. B.A. Kendal College of Art and Design; M.P.A., Grand Valley State University.

**Kimberly Schmidt**, Associate Director of Alumni Relations. B.A., M.P.A., Grand Valley State University

**Shannon Small-Wilson**, Director of Corporate Giving. B.A., M.Ed., Grand Valley State University.

**Jennifer Wardrop**, Assistant Vice President for Development. B.A., Aquinas College.

**Kenneth Zahrt**, Director of Foundation Relations. B.A., Grand Valley State University.

## **Hauenstein Center for Presidential Studies**

**Brent Holmes**, Associate Director of Hauenstein Center for Presidential Studies. B.S., Davenport University.

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**Grace Tummel**, Program Manager. B.A., Eastern Michigan University; M.S., Florida State University.

## **Alumni Relations Office**

**Christopher Barbee**, Director of Alumni Relations. B.S., Grand Valley State University.

**Courtney Geurink**, Assistant Director of Alumni Relations. B.S., Grand Valley State University.

**Susan Howard**, Assistant Director of Communications. B.A., M.A., Grand Valley State University.

**Kimberly Schmidt**, Director of Athletic Giving. B.A., M.P.A., Grand Valley State University.

## **University Relations**

**Matthew E. McLogan**, Vice President for University Relations. B.A., M.A., Western Michigan University.

## **Institutional Marketing**

**Rhonda Lubberts**, Associate Vice President for Institutional Marketing. B.A., Calvin College; M.P.N.L., Grand Valley State University.

**Jennifer Allard**, Associate Director for Student Recruitment Marketing. B.A., Michigan State University; M.A., Western Michigan University.

**Stephanie Aikens**, Senior Graphic Designer. B.F.A., Grand Valley State University.

**Bryan Bickford**, Advertising and Communications Manager. B.S., Grand Valley State University.

**Mark Fay**, Web Developer. B.A., Marycrest International University.

**Richard Luce**, Creative Services Manager. B.F.A., Kendall College of Art and Design.

**Christine O'Brien**, Senior Graphic Designer. B.S., Grand Valley State University.

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**Thomas Pikes**, Web Developer. B.S., M.S., Grand Valley State University.

**Dave Poortvliet**, Associate Director of Web Application Development. B.S., Grand Valley State University.

**Kelley Rogers**, Web Designer. B.A.S., Davenport University.

**Daniel Slaughter**, Senior Web Developer. B.S., M.S., Grand Valley State University.

**Brent Swisher**, Senior Web Developer. B.S., Grand Valley State University.

**Danielle Thompson**, Marketing Communications Coordinator. B.A., University of Michigan.

**Carrie Thrall**, Marketing Communications Coordinator. B.S., Ferris State University.

**Nick Viau**, Multimedia Project Coordinator. B.A., M.S., Grand Valley State University.

**Joseph Vugteveen**, Web Project Coordinator. B.B.A., Aquinas College; M.Ed., Grand Valley State University.

**Justin Wickenheiser**, Web Developer. B.S., Grand Valley State University.

**John Zerfas**, Senior Graphic Designer. B.S., Ferris State University.

## **Public Broadcasting: WGVU/WGVK-TV, WGVU-AM/FM**

**Nathan Abramowski**, Digital Coordinator. B.S., Grand Valley State University; M.F.A., Savannah College of Art and Design.

**Richard Bierling**, Radio Program Manager, WGVU. B.S., Grand Valley State University.

**Kristyn Bomberg**, Education Coordinator. B.S., M.Ed., University of Minnesota.

**Daniel Boothe**, Report/Producer. B.A., University of Missouri.

**Patrick Center**, News and Public Affairs Manager, WGVU. B.S., Ohio University.

**Stephen Chappell**, Grant Writer, WGVU. B.A., Hope College.

**Megan Davey**, Business and Information Manager. B.A., DePaul University.

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**Mark Hill**, Engineering Supervisor. A.A.S., Browns College.

**Brooke Hotchkiss**, WGUV Membership Officer. B.S.W., Grand Valley State University.

**Shelley Irwin**, Producer-Anchor, WGUV. B.S., Indiana University; M.S., University of Indianapolis.

**Phil Lane**, Director of Content, WGUV. B.A., Indiana University.

**Zachary Liniewski**, Producer/Director. B.A., Grand Valley State University.

**Kathryn Mosher**, Assistant Programming/Traffic Manager. B.S., Central Michigan University.

**Jennifer Moss Hawkins**, Reporter/Producer/Anchor. B.A., Eastern Michigan University.

**Andrew Murray**, Producer/Director. B.S., Grand Valley State University.

**David Oliver**, Director of Engineering, WGUV. A.A., University of Laverne.

**Van Orr, III**, Promotion Manager, WGUV. B.A., Olivet College.

**James Rademaker II**, General Manager, WGUV. B.A., Western Washington University; M.B.A., Grand Valley State University.

**Alyssa Richardson**, Membership Coordinator, WGUV. B.I.S., Ferris State University.

**Kimberly Shefferly**, Assistant Business Development Manager, WGUV. B.A., Grand Valley State University.

**Jaclyn Sirianni**, Business Development Coordinator.

**Edward Spier Jr.**, Project Manager and Traffic Supervisor, WGUV. B.S., Grand Valley State University.

**Scott Vander Werf**, Music Director, WGUV. B.A., Aquinas College.

**Leodis William-Aaron Turner**, Development Manager. B.A., Michigan State University.

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**Garrett Zack**, Business Development Coordinator. B.S., University of Michigan.

## **University Communications**

**Mary Eileen Cleary**, Associate Vice President for University Communications. B.A., University of Georgia; M.S., Grand Valley State University.

**Dottie Barnes**, Associate Director of News. B.A.A., Central Michigan University; M.S., Grand Valley State University.

**Michele Coffill**, Associate Director of Publications. B.A., Michigan State University; M.A., Delta State University.

**William Cuppy**, Creative Director. B.S., Grand Valley State University.

**Margaret Ensing**, Communications Specialist. B.A., Michigan State University.

**David LeFurge-McLeod**, Videographer.

**Elizabeth Lienau**, Photography Coordinator. B.S., Grand Valley State University.

**Kendra Mills**, Photographer. B.A., Western Kentucky University.

**Tony Packer**, Videographer. B.S., Grand Valley State University.

**Amanda Pitts**, Senior Photographer. B.S., Grand Valley State University.

**Brian Vernellis**, Communications Specialist. B.A., University of Michigan; M.A., Michigan State University.

**Anna Young**, Social Media Specialist. B.A., Michigan State University.

## **Faculty Directory A-O**

**Aboufadel, Edward F.** (1995), Assistant Vice President for Academic Affairs and Professor of Mathematics. B.S., Michigan State University; Ph.D., Rutgers University.

**Adamczyk, Bogdan** (1999), Professor of Engineering. B.S., M.S., University of Nevada-Reno; Ph.D., Oakland University.

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**Adams, Allison R.** (1998), Assistant Professor of Hospitality and Tourism Management. B.S., M.B.A., Central Michigan University.

**Adams, Ellen** (2014), Associate Professor of Art History, Frederik Meijer Honors College. B.A., University of Delaware; M.A., Hunter College of the City University of New York; Ph.D., New York University.

**Adams, Robert D.** (1998), Professor of Computing. B.S., Northern Kentucky University; M.S., Ph.D., University of Kentucky.

**Adrian, Daniel** (2014), Associate Professor of Statistics. B.S., Valparaiso University; M.S., Northern Illinois University; Ph.D., Iowa State University.

**Akbulut, Asli Yagmur** (2003), Professor of Management. B.S., M.B.A., Ankara University, Turkey; M.S., Ph.D., Louisiana State University.

**Alaimo, Salvatore** (2009), Associate Professor of Nonprofit Administration. B.S., Ramapo State College of New Jersey; M.S., Georgia State University; Ph.D., Indiana University.

**Alayont, Feryâl** (2006), Professor of Mathematics. B.S., Bilkent University; Ph.D., University of Minnesota.

**Albrecht, Richard** (2000), Professor of Movement Science. B.S., M.A., Ph.D., Michigan State University.

**Alderink, Gordon** (1984), Associate Professor of Physical Therapy. B.A., Hope College; M.S., University of Michigan; Ph.D., Michigan State University.

**Aldrich, Naomi** (2013), Associate Professor of Psychology. B.A., University of Tennessee; M.A., Brooklyn College-CUNY; M.Phil., Ph.D., The Graduate Center-CUNY.

**Alles, Julie** (2013), Associate Professor of Health Information Management. B.S., M.S., Ferris State University; D.H.A., Capella University.

**Ali, Arjumand** (2015), Assistant Professor of Engineering. B.S.E., NED University of Engineering & Technology; M.S., M.Sc., Ph.D., University of Wisconsin-Milwaukee.

**Al-Mallah, Majd** (2002), Professor of Modern Languages. B.A., University of Jordan; M.A., Ph.D., Indiana University.

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**Alrebh, Abdullah** (2016), Assistant Professor of Sociology. B.A., King Saud University; M.A., Ph.D., Michigan State University.

**Alsabbagh, Jamal** (2000), Professor of Computing. B.Sc., M.Sc., University of Wales; M.S., Ph.D., University of Southwestern Louisiana.

**Alvarez, David** (1997), Professor of English. B.A., Polytechnic of Central London; M.A., Ph.D., University of Texas.

**Ambrose, Bradley S.** (1999), Professor of Physics. B.S., Yale University; M.S., Ph.D., University of Washington.

**Anderson, Donovan** (2006), Associate Dean for Personnel, Hiring and Planning and Associate Professor of Modern Languages. B.A., University of Kansas; M.A., Ph.D., University of Michigan.

**Anderson, Kirk** (2003), Professor of Statistics. B.S., M.S., Ph.D., Western Michigan University.

**Anderson, Rachel S.** (2004), Professor of English. B.A., University of Iowa; M.A., Ph.D., Indiana University.

**Andrews, Gordon** (2009), Associate Professor of History. B.A., M.A., Western Michigan University.

**Antczak, Frederick J.** (2004), Professor of English. B.A., University of Notre Dame; M.A., Ph.D., University of Chicago.

**Anton, Corey** (1998), Professor of Communications. B.A., University of Wisconsin; M.S., Illinois State University; Ph.D., Purdue University.

**Anyalebechi, Princewill N.** (2001), Professor of Engineering. T.E.C. Higher Diploma, West Bromwich College of Commerce and Technology; M.Sc., Ph.D., Brunel University.

**Ardila, Rene** (2017), Assistant Professor of Mathematics. B.F.A., M.A., City College of New York; Ph.D., University of Iowa.

**Armstrong, Natalie** (2012), Affiliate Professor of Physics. M.Ed., Grand Valley State University.

**Arnold, Elizabeth R.** (2009), Associate Professor of Anthropology. B.A., M.A., University of Manitoba; Ph.D., University of Calgary.

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**Armstrong, Stephanie L.** (2016), Assistant Professor of Movement Science. B.S., Boston University; M.A.T., The Colorado College; Ph.D., University of New Mexico.

**Aschenbach, Todd** (2007), Associate Professor of Biology and Natural Resources Management. B.S., University of Wisconsin-Stevens Point; M.A., Ph.D., University of Kansas.

**Ashby, Blake** (2010), Associate Professor of Engineering. B.S., Utah State University; M.S., Ph.D., Stanford University.

**Aslim, Erkmen G.** (2020), Assistant Professor of Economics. B.A., M.A., Bilkent University; M.A., University of New Hampshire; Ph.D., Lehigh University.

**Austin, David M.** (1999), Professor of Mathematics. B.A., M.A., Rice University; Ph.D., University of Utah.

**BC, Bishal** (2016), Assistant Professor of Accounting. B.S., Southwest Minnesota University; M.Acc., The George Washington University; Ph.D., The University of Texas at Dallas.

**Bacon-Baguley, Theresa** (1991), College of Health Professions Associate Dean for Research & Professor of Physician Assistant Studies. B.S.N., Michigan State University; Ph.D., Wayne State University, School of Medicine, Department of Physiology; Post-Doctoral Fellowship, University of Michigan, Department of Pathology.

**Baid, Chandresh** (2020), Assistant Professor of Management. B.Tech., Indian Institute of Technology; P.G.P.M., Indian Institute of Management; Ph.D., Washington State University.

**Bailey, Kathleen** (1995), Professor of Criminal Justice. B.S., Central Michigan University; M.A., Ed.D., Western Michigan University.

**Bailey, Lora** (2020), Assistant Professor of Mathematics. B.A., St. Olaf College; M.A., Ph.D., University of California Irvine.

**Bailey, Tami** (2002) Affiliate Instructor of Mathematics. B.S., Aquinas College.

**Bailey-Fakhoury, Chasity** (2013), Assistant Professor of Education. B.A., University of Michigan; M.Ed., Ph.D., Wayne State University.

**Baine, Nicholas** (2013), Associate Professor of Engineering. B.S., M.S., Ph.D., Wright State University; M.B.A., Grand Valley State University.

**Bair, David E.** (1997), Professor of Education. B.A., The College of Wooster; Ed.D., University of Michigan.

**Bair, Mary** (2005), Professor of Education. B.S., University of Delhi, India; M.S., University of Calicut, India; Ph.D., University of Michigan.

**Barnes, Kyle R.** (2015), Assistant Professor of Movement Science. B.A., Hope College; M.S., Colorado State University; Ph.D., Auckland University of Technology.

**Barnhart, Katie** (2015), Assistant Professor of Public Health. B.S., Southern Illinois University Edwardsville; M.P.H., Saint Louis University; Ph.D., Indiana University Bloomington.

**Barrows, Nathan J.** (2007), Associate Professor of Chemistry. B.S., Montana State University; M.S., Ph.D., University of Northern Colorado.

**Bartz-Smith, Shari D.** (1999), Associate Professor of Movement Science. B.S., Grand Valley State University; M.A., University of Alabama-Birmingham; Ph.D., University of Alabama and University of Alabama at Birmingham.

**Battani, Marshall** (2000), Professor of Sociology. B.A., San Francisco State University; M.F.A., University of Arizona; M.A., Ph.D., University of California, Davis.

**Baxter, M. Aaron** (2006), Associate Professor of Biomedical Sciences. B.S., Idaho State University; M.S., University of Arkansas; Ph.D., University of Iowa.

**Beasecker, Robert** (1970), Senior Librarian. A.B., Hillsdale College; A.M.L.S., University of Michigan.

**Beasley, Jeanine A.** (2004), Professor of Occupational Therapy. B.A., Western Michigan University; M. Ed., Grand Valley State University; Ed.D., Eastern Michigan University.

**Beaudoin, Christina M.** (2008), Professor of Movement Science. B.A., Brandeis University; M.S., Kansas State University; Ph.D., University of North Carolina at Greensboro.

**Beck, Teresa** (1995), Professor of Therapeutic Recreation. B.S., Indiana University; M.S., Florida State University; Ph.D., University of North Texas.

**Bélangier, Annie** (2017), Dean of University Libraries. B.A., York University; M.L.I.S., University of Western Ontario.

**Bell, James** (2007), Associate Professor of Theatre. B.A., Brigham Young University; Ph.D., Florida State University.

**Bender, John** (1998), Professor of Chemistry. B.S., Baldwin-Wallace College; Ph.D., Brown University.

**Bender, Stephanie** (2012), Senior Affiliate Professor of Biomedical Sciences. B.S., Northern Arizona University; M.S., Wright State University.

**Benefiel, Andrea** (2017), Assistant Librarian, Archivist for Collection Management and Digital Collections Librarian. B.A., Ball State University; M.S.L.I.S., Simmons College.

**Benet, Suzeanne B.** (1992), Associate Professor of Marketing. B.S., Jacksonville State University; Ph.D., University of North Carolina.

**Benson, Krista** (2017), Assistant Professor of Integrative, Religious, and Intercultural Studies. B.A., Gonzaga University; M.A., University of Manchester; Ph.D., The Ohio State University.

**Bergman, Daniel A.** (2007), Associate Professor of Biomedical Sciences. B.S., Ph.D., Bowling Green State University.

**Berlin, Scott** (2006), Professor of Social Work. B.S., Michigan State University; M.S.W., Wayne State University; Ph.D., Michigan State University.

**Besel, Richard** (2019), Professor and Director of the School of Communications. B.A. North Central College; M.A., University of Illinois; Ph.D. University of Illinois.

**Bhagwat, Yatin, N.** (1992), Professor of Finance. B.Sc., M.M.S., University of Bombay; M.Sc., University of Baroda; M.B.A., University of Akron; Ph.D., University of Tennessee at Knoxville.

**Bhuse, Vijay** (2016), Associate Professor of Computing. B.T., Dr. Babasaheb Ambedkar Technological University, Lonere, India; Ph.D., Western Michigan University.

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- Biby, Roberta L.** (2019), Affiliate Faculty of Instruction in Economics. B.A., Michigan State University; M.B.A., Western Michigan University.
- Biddanda, Bopi** (2002), Professor of Water Resources. B.Sc., St. Joseph's College; M.S., Karnatak University; Ph.D., University of Georgia.
- Billings, Esther M.** (1998), Professor of Mathematics. B.S., Wheaton College; M.S., Ph.D., Northern Illinois University.
- Biros, Shannon M.** (2008), Professor of Chemistry. B.A., B.S., Grand Valley State University; Ph.D., The Scripps Research Institute.
- Bishop, Joshua** (2019), Assistant Professor of Social Work. B.S.W., Michigan State University; M.S.W., Michigan State University; Ph.D., Michigan State University.
- Blackman, Sheila A.** (1998), Professor of Biology and Cell and Molecular Biology. B.Sc., University of Calgary; Ph.D., Queen's University.
- Bliss, Rosalynn** (2019), Frederik Meijer Endowed Honors Chair in Entrepreneurship and Innovation. B.A., University of South Alabama; M.S.W., Michigan State University.
- Blockett, Reginald** (2018), Assistant Professor of Education. B.A., Saginaw Valley State University; M.Ed., Iowa State University; Ph.D., Indiana University Bloomington.
- Bloem, Patricia** (2000), Professor of English. B.A., Calvin College; M.Ed., Harvard University; Ph.D., Kent State University.
- Blumreich, Kathleen** (1988), Professor of English. B.A., M.A., Ph.D., Michigan State University.
- Bobeldyk, Denton** (2020), Assistant Professor of Computing. B.S., Calvin College; M.S., Grand Valley State University; Ph.D., Michigan State University.
- Boelkins, Matthew R.** (1998), Professor of Mathematics. B.S., Geneva College; M.S., Western Washington University; Ph.D., Syracuse University.
- Boit, Sorio** (2020), Assistant Professor of Computing. B.S., Moii University; M.S., College of St. Scholastica; Ph.D., Dakota State University.
- Bolea, Patricia Stow** (1997), Professor of Social Work. B.S., Ball State University; M.S.W., Indiana University; Ph.D., Michigan State University.

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**Bolen, Brett** (2009), Associate Professor of Physics. B.S., University of Evansville; M.S., Ph.D., University of Mississippi.

**Booth, Andrew** (2007), Assistant Professor of Physician Assistant Studies. D.H.Ed., M.S., Central Michigan University.

**Born, Timothy** (2013), Associate Professor of Occupational Safety and Health. B.S., Calvin College; Ph.D., Mayo Graduate School.

**Borst, Joan** (2003), Professor of Social Work. B.A., Calvin College; M.S.W., Grand Valley State University. Ph.D., Michigan State University.

**Borti, Adeline** (2019), Assistant Professor of English. B.Ed., University of Cape Coast, Ghana; M.A., University of Ghana; Ghana; Ph.D., University of Wyoming.

**Bourbina, Jennifer** (2019), Affiliate Professor of Biomedical Sciences. B.S., Muskingum College; M.S., Grand Valley State University.

**Bowdle, Brian** (2005), Associate Professor of Psychology. B.S., University of Michigan; M.S., Ph.D., Northwestern University.

**Bowman, Nathan** (2019), Assistant Professor of Computing. B.S., Grand Valley State University; Ph.D., University of Illinois at Urbana-Champaign.

**Boyden, Adam** (2019), Affiliate Faculty of Chemistry. B.S., Grand Valley State University; M.S., Wayne State University.

**Bradley, Sarah** (2016), Affiliate Faculty of Therapeutic Recreation. B.S., Michigan State University; M.Ed., University of Georgia.

**Brakora, Karl** (2014), Assistant Professor of Engineering. B.S., M.S., Ph.D., University of Michigan.

**Brechbiel, Mattie** (2020), Clinical Faculty of Medical Laboratory Science. B.S., M.S., Grand Valley State University.

**Brege, Brad** (2006), Affiliate Faculty of Computing. B.S., Northern Michigan University; M.S., Pacific Lutheran University.

**Brew, Ranelle** (2009), Associate Professor of Public Health. B.S., Southern Connecticut State University; M.A., M.S., Ed.D., Columbia University.

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**Brice, Colleen** (2003), Associate Professor of English. B.S., Bowling Green University; M.A., Ph.D., Purdue University.

**Brink, Kyle** (2019), Associate Professor of Management. B.S., Grand Valley State University; M.S., Ph.D., University of Georgia.

**Britsch, Richard** (2010), Senior Professor of Music. B.A., University of South Florida at Tampa.

**Brown, Daniel** (2017), Assistant Professor of English. B.B.A., Loyola College; M.A., University of Hawai'i at Manoa; Ph.D., Northern Arizona University.

**Brown Bayus, Debra** (2004), Affiliate Faculty of Nursing. B.S.N., Ursuline College; M.S.N., Grand Valley State University.

**Brown, Carl** (2014), Assistant Professor of Communications. B.A., M.A., East Tennessee State University; Ph.D., University of Southern Mississippi.

**Buckridge, Steeve** (1998), Professor of History. B.A., Barry College; M.A., University of Miami; Ph.D., Ohio State University.

**Buckwalter, Neal D.** (2012), Associate Professor of Public Administration. B.A., M.P.A., Brigham Young University; Ph.D., Indiana University.

**Buday, Amanda** (2019), Assistant Professor of Environmental and Sustainability Studies and Sociology. B.A., Indiana University; M.A., Ph.D., Southern Illinois University.

**Buist, Carrie** (2016), Assistant Professor of Criminal Justice. B.S., M.A., Eastern Michigan University; Ph.D., Western Michigan University.

**Bullock, Kurt** (2003), Professor of English. B.A., B.S., Taylor University; M.A., Ph.D., Ball State University.

**Bultsma, Shawn** (2006), Associate Professor of Education. B.A., Calvin College; M.Ed., William Patterson University; Ph.D., Western Michigan University.

**Burd, Geoff** (2006), Affiliate Professor of Visual and Media Arts. B.A., University of Washington; M.F.A., Central Michigan University.

**Burg, Debra L.** (1999), Associate Professor of Biomedical Sciences. B.A., Hope College; Ph.D., University of Iowa.

**Burg, Martin G.** (2001), Professor of Biomedical Sciences. B.A., Hope College; Ph.D., University of Iowa.

**Burns, Lawrence R.** (1996), Professor of Psychology. B.S., California Maritime Academy; M.A., Ph.D., State University of New York at Stony Brook.

**Burritt, Karen** (2011), Associate Professor of Nursing. B.S.N., M.S.N., Ph.D., Michigan State University.

**Byrnes, Jeffrey** (2018), Assistant Professor of Philosophy. BA., Ozark Christian College; M.A., University of Arkansas; Ph.D., University of Essex, United Kingdom

**Cadena, Cara** (2014), Associate Librarian. B.A., Montana State University; M.L.S., University of Arizona.

**Cai, Meghan** (2016), Assistant Professor of Chinese, East Asian Studies, and Chinese Studies. B.S., University of Minnesota; M.A., University of Wisconsin-Madison; Ph.D., Arizona State University-Tempe.

**Caillaud, Anne** (1990), Associate Professor of French. M.A., Ph.D., Michigan State University.

**Calkins, Michelle** (2019), Affiliate Professor of Writing. B.A., Grand Valley State University; M.F.A., Virginia Tech.

**Callahan, Caitlin** (2015), Assistant Professor of Geology. B.A., Mount Holyoke College; M.S., University of New Mexico; Ph.D., Western Michigan University.

**Calvillo, Mandy** (2015) Affiliate Instructor of Mathematics. B.S., Grand Valley State University; M.A., University of Arizona.

**Campbell, Amy** (2008), Associate Professor of Psychology. B.S., Grand Valley State University; M.S., Ph.D., University of Oregon.

**Campbell, Arthur** (1997), Professor of Music. B.M., Mount Allison University; M.M., D.M., Northwestern University.

**Campbell, Rachel** (2009), Associate Professor of Sociology. B.A., M.A., Ph.D., University of Alberta.

**Cao, Xiang** (2017), Assistant Professor of Computing. B.E., M.S., Nanjing Normal University, Nanjing, China; M.S., Ph.D., University of Minnesota.

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**Capodilupo, John G.** (1996), Professor of Biomedical Sciences. B.S., Mercy College of Detroit; M.S., Ph.D., Wayne State University.

**Carlson, Nancy G.** (2006), Affiliate Faculty of Nursing. A.D.N., Kalamazoo Valley Community College; B.S.N., University of Michigan; M.S.N., University of California.

**Carlson, Paul** (2012), Assistant Professor of Music. B.M., University of Illinois; M.M., University of New Mexico; D.M., Indiana University Jacobs School of Music.

**Carlson, Todd A.** (1986), Professor of Chemistry. B.S., Valparaiso University; Ph.D., Michigan State University.

**Carrier, Erin** (2019), Assistant Professor of Computing. B.S., Grand Valley State University; Ph.D., University of Illinois at Urbana-Champaign.

**Castelão-Lawless, Teresa** (1993), Professor of Philosophy. B.A., M.A., Classic University of Lisboa; M.S., Ph.D., Virginia Polytechnic Institute and State University.

**Castellanos, Rebeca** (2012), Associate Professor of Spanish. B.A., M.A., Florida International University; Ph.D., University of Texas at Austin.

**Cata, Isabelle M.** (1993), Professor of French. B.A., Université de Paris III; M.A., Ph.D., University of Southern California.

**Cataldo, Jeremiah** (2011), Associate Professor of History, Frederik Meijer Honors College. B.A., M.A., Bethel College; Ph.D., Drew University.

**Centers, David** (2008), Senior Affiliate Faculty of Instruction. B.B.A., M.B.A., Western Michigan University.

**Chang, George Y.** (2007), Professor of Finance. B.S., Chung-Yuan University, Taiwan; M.A., M.B.A., The Ohio State University; Ph.D., University of Iowa.

**Chapin, Krisanne B.**, (2015) Assistant Professor of Movement Science. A.B., Mount Holyoke College; M.S., Purdue University; Ph.D., University of Oregon

**Chapin, Krisanne** (2020), Assistant Professor of Movement Science. B.A., Mount Holyoke College; M.S., Purdue University; Ph.D., University of Oregon.

**Chapman, Alice** (2006), Associate Professor of History. B.A., Utah State University; M.A.R., Yale; Ph.D., Cambridge.

**Chen, Hsiao-Ping** (2006), Associate Professor of Visual and Media Arts-Art Education. B.A., Zhong Guo Gon Shan College, Taipei, Taiwan; B.A., M.A., and Ph.D., The Ohio State University.

**Chen, Jing** (1999), Associate Professor of Psychology. B.A., Beijing Normal University; M.A., Ph.D., Washington University.

**Chesser, Brianna** (2016), Assistant Professor of Physical Therapy. B.S., Loyola University of Chicago; M.P.T., Northwestern University.

**Cho, Sookyung** (2015), Associate Professor of Music. B.M., The Juilliard School; M.M., The Johns Hopkins University; D.M.A., The Juilliard School.

**Choi, Beomyku** (2017), Assistant Professor of Education. B.A., Chuncheon National University of Education; M.A., Korea National University of Education; Ph.D., The University of Connecticut.

**Choudhuri, Shabbir** (2004), Professor of Engineering. B.S., Bangladesh University of Engineering and Technology; M.S., Ph.D., Pennsylvania State University.

Christensen, Paul (2018), Associate Professor of Physician Assistant Studies. B.A., M.D., University of Minnesota.

**Christians, Matthew J.** (2013), Associate Professor of Cell and Molecular Biology. B.S., Calvin College; Ph.D., University of California-Riverside.

**Chycinski, Breanna** (2014), Assistant Professor in Occupational Science and Therapy. B.S., M.S., Grand Valley State University.

**Cid, Ernesto** (2008), Affiliate Faculty in Spanish. B.A., M.A., University of South Florida.

**Cimitile, Maria C.** (1999), Provost and Executive Vice President for Academic and Student Affairs. B.A., College of the Holy Cross; M.A., Villanova University; Ph.D., University of Memphis.

**Clark, David** (2014), Associate Professor of Mathematics. B.S., Michigan Technological University; M.A., University of Waterloo; Ph.D., Michigan Technological University.

**Clark, Sarah** (2014), Affiliate Faculty of Chemistry. B.S., Michigan Technological University; M.S., University of Wisconsin-Madison.

**Cleary, Ian** (2016), Associate Professor of Biomedical Sciences. B.S., University of Alberta; Ph.D., University of Alberta.

**Cleghorn, Susan** (2008), Associate Professor of Occupational Therapy. B.S., Illinois State University; M.S., Grand Valley State University; Dr. OT, Creighton University.

**Cleveland, Rosemary** (2002), Affiliate Professor of Education. B.A., Nazareth College; M.A., Ed.D., Western Michigan University.

**Cline, Gregory** (2008), Assistant Professor of Public and Health Administration. B.S., University of Toledo; Ph.D., Michigan State University.

**Coffey, David** (2000), Professor of Mathematics. B.S., Pepperdine University; M.S., University of Michigan; Ph.D., Western Michigan University.

**Cole, Kevin C.** (1989), Associate Professor of Geology. B.S., M.S., University of Washington; Ph.D., University of Arizona.

**Coles, Jonathon** (2018), Assistant Professor of Movement Science. B.A., Valparaiso University; M.A., Central Michigan University; Ph.D., Northcentral University.

**Colgan, Patrick** (2003), Professor of Geology. B.S. University of Missouri-Kansas City; M.S., University of Kansas; Ph.D., University of Wisconsin-Madison.

**Colley, Brett** (2004), Associate Professor of Visual and Media Arts-Studio Art. B.F.A., Grand Valley State University; M.A., M.F.A., University of Iowa.

**Constantelos, John** (1996), Professor of Political Science. B.A., Tufts University; M.A., The Johns Hopkins University; M.S., Tufts University; Ph.D., Duke University.

**Cook, Paul** (2013), Associate Professor of Chemistry. B.S., Grand Valley State University; Ph.D., University of Wisconsin-Madison.

**Cooley, Richard** (2001), Associate Professor of History. B.A., State University at Cortland, NY; M.A., Wichita State University; Ed.D., Kansas State University.

**Coolidge, Grace** (2001), Professor of History. B.A., Saint Olaf College; M.A., Ph.D., Indiana University.

**Cooper, Kristin M.** (2004), Affiliate Faculty of Nursing. B.S.N., M.S.N., Grand Valley State University.

**Copeland, Adrian** (2019), Assistant Professor of Criminal Justice. B.A., Eastern Michigan University; J.D., Michigan State University College of Law.

**Corker, Katherine S.** (2016), Associate Professor of Psychology. BA., University of Northern Iowa; M.A., Ph.D., Michigan State University.

**Corneal, Lindsay** (2011), Associate Professor of Engineering. B.A.Sc., University of Windsor; M.B.A., Lawrence Technological University; Ph.D., Michigan State University

**Cornelius, Tara** (2004), Professor of Psychology. B.S., Santa Clara University; M.A., Ph.D., Western Michigan University.

**Cornish, Paul J.** (2003), Associate Professor of Political Science. B.A., Geneseo State College; M.A., Ph.D., State University of New York at Buffalo.

**Crampton, Suzanne** (1994), Professor of Management. B.B.A., M.B.A., Grand Valley State University; Ph.D., Michigan State University.

**Crane, David C.** (2014), Assistant Professor of Classics. A.B., University of Chicago; M.A., Ph.D., University of California, Berkeley.

**Crawford, Brett** (2020), Assistant Professor of Management. B.B.A., Rochester College; M.B.A., University of Massachusetts-Amherst; Ph.D., Copenhagen Business School.

**Crouthamel, Jason**, (2003), Professor of History. B.A., University of California Santa Cruz; M.A., Ph.D., Indiana University.

**Crow, Taylor** (2019) Affiliate Instructor of Mathematics. B.A., M.A., Western Michigan University.

**Crowell, Gregory** (2008), Senior Affiliate Professor of Music. D.M.A., M.M., University of Cincinnati College-Conservatory of Music; B.M., New England Conservatory of Music.

**Cruz, Christopher John F.** (2019), Assistant Professor of Economics. B.S., M.S., University of the Philippines Diliman; M.A., Ph.D., University of Illinois at Chicago.

**Curtiss, Phyllis J.** (1998), Professor of Statistics. B.S., M.S., Western Michigan University; Ph.D., Bowling Green State University.

**Cwick, Jaclyn** (2016), Assistant Professor of Criminal Justice. B.A., Eastern Illinois University; M.A., Northern Illinois University.

**Dalela, Vivek** (2009), Associate Professor of Marketing. B.S., St. Stephen's College; M.S., University of Lucknow, India; Ph.D., University of Alabama.

**Daley, Matthew** (2004), Professor of History. B.A., University of Detroit Mercy; M.A., Wayne State University; Ph.D., Bowling Green State University.

**Dalmia, Sonia** (1999), Professor of Economics. B.A., M.A., B.Ed., University of Delhi; M.A., University of Oklahoma; Ph.D., University of Iowa.

**D'Amour, Catherine** (2013), Affiliate Faculty of Nursing. B.S.N., University of Michigan; M.S.N., Michigan State University.

**Damstra, Kelli M.** (2009), Associate Professor of Nursing. B.S.N., University of Michigan; M.S.N., University of Texas.

**Daniels, Jeffrey** (2010), Associate Dean and Associate Librarian. B.S., Grand Valley State University; M.L.I.S., Wayne State University.

**Danielson, Sigrid** (2004), Associate Professor of Visual and Media Arts-Art History. B.A., Macalaster College; M.A., Ph.D., Indiana University.

**Danko, Dori** (2001), Instructor of Accounting. B.S., Michigan State University; M.B.A., Grand Valley State University.

**Davis, Alisha** (2010), Associate Professor of Allied Health Sciences. B.S., M.A., Ph.D., Western Michigan University.

**Davis, Rebecca** (2001), Interim Associate Dean for Research and Scholarship and Professor of Nursing. B.S.N., Georgia State University; M.S.N., Grand Valley State University; Ph.D., University of Michigan.

**De, Kuhelika** (2017), Assistant Professor of Economics. B.A., University of Delhi; M.A., University of Manchester; Ph.D., University of Georgia.

**Dean, Kristy** (2009), Associate Professor of Psychology. B.A., Michigan State University; M.S., Ph.D., Northwestern University.

**Deaner, Robert** (2006), Professor of Psychology. B.A., Colgate University; Ph.D., Duke University.

**DeBruine, Marinus** (1991), Associate Professor of Accounting. B.B.A., Grand Valley State University; Ph.D., The Ohio State University.

**DeFrance, Nancy** (2009), Associate Professor of Education. B.S., Ohio University; M.A., Cleveland State University; Ph.D., University of Michigan.

**DeKorver, Brittlund K.** (2017), Assistant Professor of Chemistry. B.A., Grand Valley State University; Ph.D., Purdue University.

**DeLano-Taylor, Merritt K.** (2007), Professor of Biomedical Sciences. B.S., B.A., University of Rochester; Ph.D., University of Michigan.

**DeMuth, Danielle** (2006), Associate Professor of Women, Gender, and Sexuality Studies. B.A., Heidelberg College; M.A., Ph.D., University of Toledo.

**DeVasto, Danielle** (2019), Assistant Professor of Writing. B.S., M.A., Ph.D., University of Wisconsin-Milwaukee.

**DeVries, Byron** (2017), Assistant Professor of Computing. B.C.S., Calvin College; M.S., Grand Valley State University; Ph.D., Michigan State University.

**DeVries, Dawn** (2013), Associate Professor of Therapeutic Recreation and Program Chair. B.S.R., Calvin College; M.P.A., Grand Valley State University; D.H.A., Central Michigan University.

**DeWilde, Michael** (2000), Professor of Management. B.A., William James College; M.T.S., Harvard University.

**DeWildt, Christine** (2018), Assistant Professor of Education. B.S., Eastern Michigan University; M.Ed., Grand Valley State University; Ed.D., Western Michigan University.

**Deyo, Brian** (2013), Associate Professor of English. B.A., Miami University; M.A., University of Chicago; Ph.D., Vanderbilt University.

**Diarrassouba, Nagnon** (2008), Assistant Professor of Education, B.A., M.A., University of Abidjan; Ed.D., Northern Arizona University.

**Dickinson, William** (2000), Professor of Mathematics. B.A., Cornell University; M.S.E., Ph.D., University of Pennsylvania.

**Dierking, Amber** (2019), Assistant Librarian. B.A., University of Denver; M.L.I.S., University of British Columbia.

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**Dillard, Amanda** (2009), Associate Professor of Psychology. B.A., The Ohio State University; M.S., Ph.D., North Dakota State University.

**Dimkoff, Gregg K.** (1975), Professor of Finance. B.S., Michigan State University; M.B.A., Saint Louis University; Ph.D., Michigan State University.

**Dimkoff, Victoria** (2017), Affiliate Faculty of Nursing. B.S.N., Ferris State University; M.S.N., University of Michigan.

**Diven, Polly** (1994), Professor of Political Science. B.A., Hamilton College; M.A.L.D., Fletcher School of Law and Diplomacy, Tufts University; Ph.D., University of North Carolina at Chapel Hill.

**Dobson, Christopher** (2003), Professor of Biology. B.S., Oregon State University; M.S., Portland State University; D.A., Idaho State University.

**Doru, Filiz** (2003), Professor of Mathematics. B.S., Ankara University; M.S., Brown University; M.S., Virginia Tech University; M.A., University of Toledo; Ph.D., Pennsylvania State University.

**Dondzila, Christopher J.** (2015), Associate Professor of Movement Science. B.S., Grand Valley State University; M.S., Ph.D., University of Wisconsin.

**Dowling, Michelle** (2020), Assistant Professor of Computing. B.S., Grand Valley State University; M.S., Ph.D., Virginia Polytech Institute and State University.

**Downer, Robert** (2005), Professor of Statistics. B.Sc., Memorial University; MMath, University of Waterloo; Ph.D., Dalhousie University.

**Doyon-Martin, Jacquelynn** (2012), Associate Professor of Criminal Justice. B.A., Carthage College; M.A., Ph.D., Western Michigan University.

**Drake, Brian** (2009), Associate Professor of Mathematics. B.A., University of Michigan; Ph.D., Brandeis University.

**Drake, Jennifer** (2020), Dean of the College of Liberal Arts and Sciences and Professor of English. B.A., Brown University; M.A., Ph.D., State University of New York at Binghamton.

**Driscoll, Rachel** (2015), Affiliate Faculty of Chemistry. B.S., Michigan State University; M.S., Central Michigan University.

**Du, Jie** (2013), Associate Professor of Computing. B.S., Southwest Jiaotong University; M.S., Beijing Jiaotong University; M.S., Ph.D., University of Maryland Baltimore County.

**Dueker, Gwenden** (2002), Professor of Psychology. B.A., Quincy University; M.S., Ph.D., Duke University.

**Dueweke, Thomas** (2012), Affiliate Faculty of Chemistry. B.A., Kalamazoo College; Ph.D., University of Illinois.

**Duitman, Henry** (2008), Associate Professor of Music. B.M.E., Florida State University; M.A., University of South Florida; Ph.D., The Ohio State University.

**Dulimarta, Hans** (2002), Associate Professor of Computing. B.S., Institute of Technology Bandung, Indonesia; M.S., Ph.D., Michigan State University.

**Dunn, Cheryl** (2005), Professor of Accounting. B.A., M.B.A., Ph.D., Michigan State University.

**Dunne, Bruce** (2003), Professor of Engineering. B.S.E.E., M.S.E.E., University of Illinois; Ph.D., Illinois Institute of Technology.

**Dykes, Bradford** (2017), Assistant Professor of Statistics. M.A., Ph.D., Western Michigan University.

**Eaton, David** (2009), Associate Professor of History. B.A., Trent University; M.A., Queen's University; Ph.D., Dalhousie University.

**Eddens, Aaron** (2019), Assistant Professor of Area and Global Studies. B.A., Western Colorado University; Ph.D., University of Minnesota.

**Edwards, Susan** (2000), Associate Professor of Finance. B.S., Purdue University; M.B.A., Ph.D., Kent State University.

**Eggers, Jill** (2000), Associate Professor of Visual and Media Arts-Painting. B.F.A., Western Michigan University; M.F.A., Yale University.

**Eick, David** (2020), Professor of Modern Languages. B.A., Central College; M.A., Ph.D., University of Iowa.

**Ellenberger, Kurt** (2005), Professor of Music, Frederik Meijer Honors College. B.A., University of Windsor; M.M., University of Northern Colorado; D.M.A., University of Texas at Austin.

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**Ellis, Jill** (2012), Associate Professor of Physician Assistant Studies. B.S., M.P.A.S., Grand Valley State University; D.H.Sc., A.T. Still University.

**Ellis, Lindsay M.** (2007), Associate Professor of English. B.A., Wheaton College; M.A., University of Chicago; Ph.D., University of Michigan.

**Elrod, Genevieve** (2016), Assistant Professor of Nursing. B.S.N., Grand Valley State University; Ph.D., University of Kansas.

**El-Said, Mostafa M.** (2004), Professor of Computing. B.E.E., M.E.E., Zagazig University; M.S., Ph.D., University of Louisville.

**Engelsma, Jonathan R.** (2009), Professor of Computing. B.S., Grand Valley State University; M.S., Ph.D., Michigan State University.

**Espitia-Fonseca, H. Fabio** (2004), Affiliate Faculty in Spanish. B.A., Universidad Pedagógica Nacional, Bogota, Colombia; M.A., Carthage College.

**Essila, Jean C.** (2020), Assistant Professor of Management. Ph.D., George Washington University; Ph.D., California Intercontinental University.

**Evans, Timothy** (2008), Associate Professor of Biology. B.S., M.S., University of Wyoming, Laramie; Ph.D., University of Wisconsin-Madison.

**Fairman, Kate** (2020), Affiliate Faculty of Integrative, Religious, and Intercultural Studies. B.S., University of Vermont; M.S., University of Michigan.

**Fan, Lei** (2020), Assistant Professor of Management. Ph.D., M.B.A., University of Houston.

**Faraz, M. Iftikhar** (2020), Assistant Professor of Engineering. B.S.c., University of Engineering and Technology Taxila, Pakistan; M.S.c., University of Engineering and Technology Lahore, Pakistan; Ph.D., Delft University of Technology.

**Farris, John** (1998), Professor of Engineering. B.S., M.S., Lehigh University; Ph.D., University of Rhode Island.

**Fateye, Babasola** (2017), Assistant Professor of Biomedical Sciences. B.S., University of Ibadan; M.S., University of Ibadan; Ph.D., Philadelphia College of Pharmacy.

**Fausone, Elizabeth A.** (2013), Affiliate Instructor of Speech-Language Pathology. B.S., Western Michigan University; M.S., University of Michigan.

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**Feedback, Matthew R.** (2016), Assistant Professor of Movement Science. B.S., Kent State University; M.S., The University of Akron; Ph.D., Kent State University.

**Fenik, Anton** (2015), Assistant Professor of Marketing. B.S., M.B.A., University of South Carolina; Ph.D., University of Tennessee.

**Ferdinandt, Amy** (2016), Associate Professor of Writing. B.A., St. Norbert College; M.A., Marquette University; Ph.D., Purdue University.

**Ferguson, Roger C.** (1998), Professor of Computing. B.S., Michigan Technological University; M.S., Central Michigan University; Ph.D., Wayne State University.

**Fernández-Tardani, Sandra L.** (2008), Affiliate Faculty in Spanish. B.A., Universidad Pedagógica Nacional, Bogotá, Colombia; M.A., Michigan State University.

**Feurzeig, Lisa** (1998), Professor of Music. B.A., Harvard College; M.M., University of Maryland; Ph.D., University of Chicago.

**Fidalgo-Eick, Maria** (2003), Associate Professor of Spanish. M.A., Ph.D., University of Iowa.

**Fifi, Mario** (2011), Associate Professor of Psychology. B.A., University of Belgrade; M.A., Ph.D., Indiana University.

**Fishback, Paul** (1993), Professor of Mathematics. A.B., Hamilton College; Ph.D., University of Wisconsin.

**Fisher, Joseph B.** (1996), Professor of Education. B.S., M.Ed., Grand Valley State University; Ph.D., University of Kansas.

**Fisher, Timothy** (2000), Associate Professor of Visual and Media Arts-Drawing. B.A., M.A., Central Washington University; M.F.A., University of Cincinnati.

**Fitzpatrick, Coeli** (2002), Professor of Philosophy and Middle East Studies, and Chair of Frederik Meijer Honors College. B.A., Regis University; M.A., Ph.D., Binghamton University.

**Flandreau, Elizabeth I.** (2015), Assistant Professor of Psychology. B.A., Lawrence University; Ph.D., Emory University.

**Fleischmann, Shirley T.** (1989), Professor of Engineering. B.S., M.S., Ph.D., University of Maryland.

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**Flint, Ann** (2020), Assistant Professor of Allied Health Sciences. B.S., University of Michigan; M.S., Ed.D., Ferris State University.

**Floyd-Slabaugh, Carla** (2015), Assistant Professor of Occupational Science and Therapy. B.S., Northeast Louisiana University; Dr.OT., Chatham University.

**Ford, James** (2018), Assistant Professor of Communications. B.S., Michigan State University; M.Ed., M.S., Grand Valley State University.

**Ford, Jennifer** (2018), Assistant Professor of Clinical Dietetics. B.S., Western Michigan University; M.A., Western Michigan University

**Fortes Gonzalez, Mayra** (2009), Associate Professor of Spanish. B.A., Universidad de las Américas-Puebla, México; M.A., Ph.D., Vanderbilt University.

**Forslund, Catherine** (2016), Affiliate Faculty of Nursing. B.S.N., St. Mary's College; M.S.N., Sacred Heart University.

**Fortuna, Jennifer** (2020), Assistant Professor of Occupational Therapy. B.S., Walden University; M.S. Grand Valley State University.

**Fowler, Josie S.** (2015), Affiliate Instructor of Speech-Language Pathology. B.A., University of Toledo; M.A., Ohio State University.

**Fox, Laura** (2000), Assistant Professor of Spanish. B.A., College of Wooster; M.A., Indiana University.

**Fox, Meghan E.** (2017), Assistant Professor of Movement Science. B.S., Lincoln Memorial University; B.S., Athens State University; M.S., Ohio University; Ph.D., Michigan State University.

**Franciosi, Robert** (1988), Professor of English and Faculty in Residence, Frederik Meijer Honors College. B.A., New York University; M.A., Ph.D., University of Iowa.

**Frederick, Chad** (2020), Assistant Professor of Geography and Sustainable Planning.

**Fredricks, Daisy** (2017), Assistant Professor of Education. B.A., Grand Valley State University; M.Ed., Ph.D., Arizona State University.

**Fredericks, Erik** (2020), Assistant Professor of Computing. B.S., Lake Superior State University; M.S., Oakland University; Ph.D., Michigan State University.

**Freudigmann, Megan** (2012), Affiliate Professor of Education. B.A., Hope College; M.S., Walden University.

**Friedlmeier, Mihaela** (2007), Associate Professor of Psychology. M.A., Cuza University; Ph.D., University of Konstanz.

**Friedlmeier, Wolfgang** (2004), Professor of Psychology. M.A., University of Bamberg; Ph.D., University of Konstanz.

**Summers, Jennifer** (2015). Assistant Professor of Occupational Science and Therapy. B.S., Grand Valley State University; M.S., OTD, University of Illinois-Chicago.

**Frigo, Emily** (2007), Senior Librarian. B.A., M.L.I.S., University of Wisconsin-Madison.

**Frobish, Daniel J.** (2006), Professor of Statistics. B.S., University of Illinois, Urbana; M.S., Illinois State University, Normal; Ph.D., Northern Illinois University.

**Frobish, Marcia** (2006) Senior Affiliate Instructor of Mathematics. B.A., Wright State University; M.S., Northern Illinois University.

**Froncek, Timothy** (2002), Affiliate Professor of Music.

**Fulton, Anna** (2020), Assistant Professor of Music, Theatre, and Dance.

**Furton, Douglas** (2002), Professor of Physics. B.E., M.S., Ph.D., University of Toledo.

**Gabrosek, John** (1999), Professor of Statistics. B.A., M.S., University of Akron; Ph.D., Iowa State University.

**Galen, Luke** (1999), Professor of Psychology. B.A., University of Nebraska; M.A., Ph.D., Wayne State University.

**Galvan, Angela Scarlet** (2019) Assistant Librarian. B.S., Southern Oregon University; M.L.I.S., Kent State University.

**Gansen, Elizabeth** (2016), Professor of Spanish. B.A., M.S., University of Illinois, Urbana; M.A., M. Phil., Ph.D., Yale University.

**Garcia, Sheila** (2019), Assistant Librarian. B.A. Grand Valley State University; M.L.I.S., Wayne State University.

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**Gasim, Gamal** (2009), Associate Professor of Middle East Studies and Political Science. B.Sc. (Honors), University of Khartoum, Sudan; M.A., International Institute of Islamic Thought and Civilization, Kuala Lumpur, Malaysia; M.A., Kansas State University; Ph.D., Texas Tech University.

**Gautreau, Abigail** (2017), Assistant Professor of History. B.A., Randolph-Macon Woman's College; M.St., University of Oxford; Ph.D., Middle Tennessee State University.

**Geenen, David L.** (2013) Associate Professor of Physician Assistant Studies. B.S., Calvin College; Ph.D., University of Michigan.

**Geisel, Rick** (2002), Professor of Education. B.S., Liberty University; M.A., Aquinas College; J.D., Ph.D., Regent University.

**Gerkin, Patrick** (2007), Professor of Criminal Justice. Ph.D., Western Michigan University.

**German, Mandy** (2012), Affiliate Faculty, Clinical Coordinator, B.S., Oakland University; M.S., Central Michigan University.

**Gerson, Hope** (2012), Associate Professor of Mathematics. B.A., Whittier College; M.S., University of Iowa; Ph.D., University of New Hampshire.

**Ghiasvand, Noor** (2006), Assistant Professor of Biology. B.S., Tabriz University; Ph.D., University of California-Davis.

**Giardina, Nancy M.** (1999), Professor of Movement Science. B.S., University of Rhode Island; M.A., Montclair State College; Ed.D., Columbia University.

**Gibbons, Teresa** (2002), Senior Affiliate Professor of Writing. B.A., M.A.E., Ball State University.

**Gibbs, Beth** (2009), Associate Professor of Music. B.S., The Pennsylvania State University; M.M., The Hartt School, University of Hartford; Ph.D., The Pennsylvania State University.

**Giedeman, Daniel C.** (2001), Professor of Economics. B.A., M.S., Southern Illinois University; M.A., Ph.D., Washington University in St. Louis.

**Gilles, Roger** (1992), Professor of Writing, and Director of Frederik Meijer Honors College. B.A., Carnegie-Mellon University; M.F.A., Ph.D., University of Arizona.

Refer to the online catalog [gvsu.edu/catalog](https://gvsu.edu/catalog) for the most current catalog information.

**Gipson, Karen** (1999), Associate Dean of Brooks College and Professor of Physics. B.S., North Texas State University; M.S., University of North Texas; Ph.D., Washington State University.

**Glass, Stephen** (2001), Professor of Movement Science. B.S., North Dakota State University; M.A., Ball State University; Ph.D., Southern Illinois University.

**Glupker, Christian G.** (2015), Affiliate Faculty of Practice in Economics. B.B.A., Grand Valley State University; M.B.A., Western Michigan University.

**Goehring, Meri T.** (2010), Associate Professor of Physical Therapy. B.S.P.T., M.H.S., Wichita State University; Ph.D., Nova Southeastern University.

**Goerisch, Denise** (2016), Assistant Professor of Integrative, Religious, and Intercultural Studies. B.A., University of California, Riverside; M.A., San Diego State University; Ph.D., San Diego State University and University of California, Santa Barbara.

**Golden, John** (1998), Professor of Mathematics. B.S., Michigan State University; M.S., University of Pennsylvania; Ph.D., Pennsylvania State University.

**Goldstein, Julie** (2016), Assistant Professor of Visual and Media Arts-Film and Video Production. B.A. University of Wisconsin; M.F.A., The School of the Art Institute Chicago; Wharton Small Business Development Center, Philadelphia, PA.

**Golembeski, Dan** (1999), Associate Professor of Modern Languages. B.S., B.A., Oakland University; M.A., Ph.D., Indiana University.

**Gomez, Natalia** (2000), Associate Professor of Spanish. B.A., Western Michigan University; M.A., Arizona State University; Ph.D., Indiana University.

**Gondhalekar, Vijay** (2003), Professor of Finance. B.S., University of Bombay, India; M.B.A., University of Akron; Ph.D., University of Pittsburgh.

**Gonzalez, Ana** (2016), Assistant Professor of Management. B.S., Universidad de los Andes; M.S., Universidad de los Andes and Tulane University; Ph.D., Tulane University.

**Good, Valerie** (2020), Assistant Professor Marketing. B.S., Millersville University; M.B.A., Alvernia University; Ph.D. Michigan State University.

**Gopal, Yasmin** (2016), Assistant Professor of Communications. B.A., M.A., Patna University, India; M.A., Bowling Green State University; Ph.D., University of Georgia.

**Goss, Margaret** (2020), Affiliate Faculty of Writing. B.A., College of Wooster; M.A., Ph.D., Carnegie Mello University.

**Gottlieb, Gabriele** (2005), Associate Professor of History. B.A. University of Augsburg; M.A., Ph.D., University of Pittsburgh.

**Gracias, Meridell** (2017), Affiliate Faculty of Nursing. B.S.N., University of Michigan; M.Ed., M.S.N., D.N.P., Grand Valley State University.

**Graham, Douglas** (2003), Professor of Biomedical Sciences. B.A., Denison University; M.A., University of Florida; Ph.D., Colorado State University.

**Grant Jr., George** (1996), Associate Professor of Social Work. B.S.W., Marygrove College; M.S.W., Grand Valley State University; Ph.D., Western Michigan University.

**Grapczynski, Cynthia A.** (1995), Professor of Occupational Therapy. B.S., Wayne State University; M.S., University of Wisconsin; Ed.D., Teachers College-Columbia University.

**Graser, Dan** (2014), Associate Professor of Music. B.M., SUNY Potsdam; M.M., D.M.A., The University of Michigan.

**Green, Mary** (1996), Assistant Professor of Physical Therapy. B.A., LeMoyne College; M.S., Beaver College; J.D., Michigan State University, College of Law.

**Green-Smith, Dianne** (2002), Professor of Social Work. B.A., Xavier University; M.S.W., Tulane University; Ph.D., Loyola University-Chicago.

**Greer, Gary** (2003), Professor of Biology and Faculty in Residence, Frederik Meijer Honors College. B.A., University of Northern Colorado; M.A., Humboldt State University; Ph.D., Ohio University.

**Griffin, Carol B.** (1996), Professor of Biology and Natural Resources Management. B.S., North Dakota State University; M.S., Indiana University; M.S., Ph.D., State University of New York.

**Grissom, Scott B.** (1999), Professor of Computing. B.E.D., Texas A&M University; M.S., Ph.D., The Ohio State University.

**Gross, Evan** (2004) Senior Affiliate Instructor of Mathematics. B.S., Alma College; M.S., Western Michigan University.

**Gross, Jennifer** (1998), Professor of Psychology. B.A., Oakland University; M.A., Ph.D., Wayne State University.

**Guevara, Julia A.** (1989), Professor of Social Work. B.S., Grand Valley State University; M.S.W., Western Michigan University; Ph.D., Michigan State University.

**Gu, Wei** (2006), Associate Professor of Education. B.A., Nanjing University; M.A., Ph.D., Pennsylvania State University.

**Gui, Gabriela** (2017), Assistant Professor of Education. B.A., University of Oradea; M.A., Ed.S., Ed.D., Wayne State University.

**Gulgin, Heather** (2008), Professor of Movement Science. B.S., M.A.E., University of Alabama at Birmingham; Ph.D., University of Toledo.

**Haïdar, Salim M.** (1992), Professor of Mathematics. B.S., St. Vincent College; M.S., Ph.D., Carnegie-Mellon University.

**Haley, Kathryn** (2016), Assistant Professor of Biomedical Sciences. B.S., Edinboro University; Ph.D., Vanderbilt University.

**Hall, Julie S.** (2007), Assistant Professor of Medical Laboratory Science. B.S., Ferris State University; M.S., Grand Valley State University.

**Halling, Dan C.** (2011), Professor of Audiology. B.A., Utah State University; M.A., University of Northern Colorado; Ph.D., Indiana University.

**Ham, Charles** (2015), Assistant Professor of Classics. B.A., Grand Valley State University; Ph.D., University of Pennsylvania.

**Hamilton, Erica** (2014), Assistant Professor of Education. B.A., M.A., Ph.D., Michigan State University.

**Hammer, Elisabeth** (2009) Senior Affiliate Instructor of Mathematics. B.A., Calvin College; M.Ed., Grand Valley State University.

**Hammersmith, Anna** (2018), Assistant Professor of Sociology. B.A., Denison University; M.A., Ph.D., Bowling Green State University.

**Hamsher, Sarah** (2018), Assistant Professor of Biology and Water Resources. B.S., Juniata College; M.S., Ohio University; Ph.D., University of New Brunswick.

**Harper, Christopher** (2014), Affiliate Faculty of Practice. B.B.A., Grand Valley State University; M.B.A., Michigan State University.

**Harrington, Susan** (2012), Associate Professor of Nursing. B.S.N., College of St. Teresa; M.S.N., Oakland University; Ph.D., Wayne State University.

**Harris, Monica** (2008), Associate Professor of Education. B.S., M.A., Eastern Michigan University; Ph.D., University of Kansas.

**Harro, Cathy** (2006), Assistant Professor of Physical Therapy. B.S., University of Illinois; M.S., University of North Carolina-Chapel Hill; D.P.T., Arcadia University.

**Hart, Dawn** (2008), Associate Professor of Cell and Molecular Biology. B.S., University of Michigan; Ph.D., Wayne State University.

**Hart, Matthew** (2005), Associate Professor of Chemistry. B.S., Michigan State University; Ph.D., University of California, Irvine.

**Hasenbank, Jon** (2012), Associate Professor of Mathematics. B.S., Michigan Technological University; M.S., Ph.D., Montana State University.

**Harvey, Barbara** (2013), Associate Librarian. B.S., M.A., University of Northern Iowa; M.A., University of Iowa.

**Harvey, Eric** (2015), Assistant Professor of Communications. B.A., M.A., Ph.D., Indiana University.

**Hatzel, Brian** (2002), Professor of Movement Science. B.S., University of Florida; M.S., Ball State University; Ph.D., University of Florida.

**Haven, Chris** (2002), Associate Professor of Writing. B.A., M.A., University of Kansas; M.F.A., Southwest Texas State University; Ph.D., University of Houston.

**Hawk, Laura M.** (2017), Assistant Professor of Chemistry. B.S., University of Wisconsin-Madison; Ph.D., University of Chicago.

**Hedges, Kristin** (2016), Assistant Professor of Anthropology. B.S., West Virginia University; M.A., Oregon State University; Ph.D., University of Arizona.

**Hefferan, Tara** (2015), Affiliate Professor of Anthropology. B.A., Grand Valley State University; M.A., University of Denver; M.A., Ph.D., Michigan State University.

**Heid, Kelly** (2012), Affiliate Professor of Geology. B.A., University of Missouri-Kansas City; M.Ed., Cambridge College; M.S., Mississippi State University.

**Helder, Doreen** (2002), Affiliate Professor of Education. B.A., M.A., Calvin College.

**Henderleiter-Aldrich, Julie** (2002), Associate Professor of Chemistry. B.S., University of Wisconsin-Madison; Ph.D., University of Northern Colorado.

**Henderson-King, Donna H.** (1997), Professor of Psychology. B.A., Simon Fraser University; M.A., Ph.D., University of Michigan.

**Henderson-King, Eaaron I.** (1997), Associate Professor of Psychology. B.A., University of California at Santa Barbara; M.A., Ph.D., University of Michigan.

**Henke, Dellas R.** (1985), Professor of Visual and Media Arts-Printmaking. B.S., State University of New York; M.A., M.F.A., University of Iowa.

**Henshaw, Michael T.** (2007), Associate Professor of Biology. B.S., Grand Valley State University; M.A., Ph.D., Rice University.

**Herlands, Jason** (2013), Associate Professor of Japanese. B.A., Middlebury College; Ph.D., University of Michigan.

**Herrington, Deborah** (2003), Professor of Chemistry. B.Sc., Wilfrid Laurier University; M.S., University of Waterloo; Ph.D., Purdue University.

**Higbea, Raymond** (2014), Associate Professor of Health Administration. B.S., Bob Jones University; M.H.A., University of Florida; Ph.D., Western Michigan University.

**Hillman, Paul** (2019), Affiliate Faculty of Practice in Management. B.A., Michigan State University; M.B.A., Western Michigan University.

**Hindeleh, Firas** (2009), Associate Professor of Mathematics. B.A., The University of Jordan; M.A., Ph.D., The University of Toledo.

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**Hinsch, Andrew Christian** (2011), Associate Professor of Marketing. B.S., M.B.A., University of Missouri-St. Louis; Ph.D., University of Missouri-Columbia.

**Hittepole, Philip** (2017), Affiliate Faculty of Engineering. B.S., Illinois Institute of Technology; M.S., Michigan Technological University; M.S., University of South Florida.

**Hobscheid, Maya** (2018), Assistant Librarian. B.S., Grinnell College; M.S.L.I.S., University of Illinois at Urbana-Champaign.

**Hoffert, Darleen** (2016), Assistant Professor of Nursing. B.S.N., Ferris State University; D.N.P., Grand Valley State University.

**Hoffman, Mark C.** (1999), Associate Professor of Public and Nonprofit Administration. B.A., College of Wooster; M.A., Ph.D., Cleveland State University.

**Holder, Benjamin P.** (2013), Associate Professor of Physics. B.A., Wesleyan University; Ph.D., University of Texas at Austin.

**Hollister, Robert** (2006), Professor of Biology. B.S., M.S., Ph.D., Michigan State University.

**Holohan, Kevin** (2012), Assistant Professor of Education. B.A., DePaul University; Ph.D., Michigan State University.

**Hoogenboom, Barbara** (2000), Professor of Physical Therapy. B.S., Calvin College; M.H.S., Grand Valley State University; Ed.D., Eastern Michigan University.

**Hooper, Barbara L.** (2008), Associate Professor of Nursing. B.S.N., Nazareth College; M.S.N., D.N.P., Grand Valley State University.

**Hoogstra, Eric** (2012), Senior Affiliate Faculty of Practice in Finance. B.S., Aquinas College; M.B.A., Grand Valley State University; Ph.D., Capella University.

**Horrocks, Caitlin** (2008), Professor of Writing. B.A., Kenyon College; M.F.A., Arizona State University.

**Hoss, Brenda** (2013), Affiliate Faculty of Nursing. B.S.N., University of Evansville; M.S.N., University of Cincinnati.

**Hosterman, William** (2001), Associate Professor of Visual and Media Arts-Studio Art. B.F.A., The Pennsylvania State University; M.F.A., Indiana University.

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**Hotaling, Kara A.** (2014), Affiliate Instructor of Audiology. B.S., State University of New York at Plattsburgh; M.A., University of North Carolina at Greensboro; Au.D., University of Florida.

**Houghton-Rahrig, Lori** (2012), Associate Professor of Nursing. B.S.N., M.S.N., Grand Valley State University; Ph.D., Michigan State University.

**Hu, Xiangling** (2008), Associate Professor of Management. B.S., Fudan University; M.A., Tongji University; M.S., Ph.D., Washington State University.

**Huang, Lihua** (2012), Associate Professor of Social Work. B.A., Nanjing University; M.A., Nanjing University; M.S.W., Grand Valley State University; Ph.D., Michigan State University.

**Huey, Amorak** (2011), Associate Professor of Writing. B.A., Birmingham-Southern College; M.F.A., Western Michigan University.

**Hughes Carter, Della** (2017), Assistant Professor of Nursing. B.S.N., D.N.P., University of Southern Indiana.

**Huizen, David L.** (2009), Assistant Professor of Occupational Safety and Health Management. B.A., Hope College; M.P.H.A., University of Michigan; Ph.D., Western Michigan University.

**Hulst, Craig** (2002), Senior Affiliate Professor of Writing. B.A., Grand Valley State University; M.A., Western Michigan University; Ph.D., Indiana University of Pennsylvania.

**Huner, Michael** (2012), Associate Professor of History. B.A., Valparaiso University; M.A., Ph.D., University of North Carolina at Chapel Hill.

**Hunt, Jodee** (1995), Professor of Biology. B.S., University of Arizona; M.S., San Diego State University; Ph.D., University of Kansas.

**Hussain, Azfar** (2010), Associate Professor of Integrative, Religious, and Intercultural Studies. B.A., M.A., Dhaka University; M.A., Ph.D., Washington State University.

**Iadonisi, Rick** (2002), Senior Affiliate Professor of Writing. B.A., Framingham State College; M.A., Boston College; Ph.D., Indiana University.

**Isely, Paul** (1997), Professor of Economics. B.S., University of Wisconsin-Madison; M.S., Ph.D., Purdue University.

**Jack, Kristen** (2003), Assistant Professor of Hospitality and Tourism Management. B.S., M.Ed., CHA, Grand Valley State University; Ph.D., Western Michigan University.

**Jacobsen, Kylie** (2019), Assistant Professor of Writing. B.A., Southwest Minnesota State University; M.A., Iowa State University; Ph.D., Texas Tech University.

**Jacquot, Joseph J.** (1999), Professor of Biology. B.S., M.S., Bowling Green State University; Ph.D., Miami University.

**Jafari, Farid** (2020), Assistant Professor of Engineering. B.s.c., M.S.C., Sharif University; Ph.D., Virginia Tech.

**Jager, Lorie** (2009), Senior Affiliate Professor of Communications. B.A., Central Michigan University; M.A., Western Michigan University.

**James, Jennifer** (2014), Affiliate Professor of Psychology. B.A., Hope College; M.Ed., Ph.D., Loyola University.

**Janes, Patricia** (2012), Professor of Hospitality and Tourism Management. B.A., M.S.A., Central Michigan University; Ph.D., Michigan State University.

**Jaskiewicz, Lara J.** (2012), Associate Professor of Health Administration. B.A., University of Illinois; M.B.A., M.P.H., University of Minnesota; Ph.D., University of Illinois-Chicago.

**Jeffryes, Jon** (2017), Assistant Librarian. B.A., Grinnell College; M.L.I.S., University of Wisconsin-Madison.

**Jelier, Richard W.** (1995), Professor of Public Administration. B.A., B.S., M.A., Ph.D., Michigan State University.

**Jenkins, Virginia** (2008), Professor of Visual and Media Arts-Studio Art. B.F.A., Michigan State University; M.F.A., University of Utah.

**Jiang, Randi** (2020), Assistant Professor of Accounting. B.S., Florida State University; M.A., Florida State University; D.B.A., Louisiana Tech University.

**Jiao, Lihong** (2004), Professor of Engineering. B.S., M.S., Nankai University; Ph.D., Pennsylvania State University.

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**Johnson, Brian** (1994), Professor of Criminal Justice. B.A., University of Wisconsin; M.S., M.L.I.R., Ph.D., Michigan State University.

**Johnson, Ingrid L.** (2009), Professor of Movement Science. B.S., M.Ed., University of Minnesota; Ph.D., University of New Mexico.

**Johnson, Jerry L.** (1997), Associate Professor of Social Work. M.S.W., Grand Valley State University; Ph.D., Western Michigan University.

**Johnson, Paul** (1986), Professor of Engineering. B.A., Houghton College; M.S., Ph.D., University of Notre Dame.

**Johnson, Sherry R.** (2010), Associate Professor of English. B.Ed., B.A., York University; M.A., Ph.D., University of Wisconsin-Madison.

**Jones, John** (2002) Senior Affiliate Instructor of Mathematics. A.B., Albion College; M.A.T., Michigan State University.

**Jones, Tonisha** (2012), Associate Professor of Criminal Justice. B.A., M.A., Ph.D., Washington State University.

**Jones-Ridders, Catherine** (1994), Associate Professor of Management. B.S., M.B.A., Grand Valley State University; J.D., University of Notre Dame Law School.

**Joo, Sunghwan** (2008), Associate Professor of Engineering. B.Eng., Dong-A University; M.S., Ph.D., University of Oklahoma.

**Jordan, Tessa M.** (2015), Assistant Professor of Psychology. B.A., M.S., Ph.D., University of New Mexico.

**José, Laurence** (2010), Associate Professor of Writing. M.A., University Marc Bloch; Ph.D., Michigan Technological University.

**Kalafut, Andrew** (2010), Associate Professor of Computing. B.S., Bradley University; M.S., Ph.D., Indiana University.

**Kanaboshi, Naoki** (2012), Associate Professor of Criminal Justice. B.A., Aoyama Gakuin University; M.A., Waseda University; M.L.I., LL.M., S.J.D., University of Wisconsin.

**Kandalaft, Nabeeh** (2016), Assistant Professor of Engineering, B.A., Iowa State University; M.S., Iowa State University; Ph.D., University of Windsor.

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**Kaneko, Todd** (2009), Associate Professor of Writing. B.A., University of Washington; M.F.A., Arizona State University.

**Kang, Leanne** (2017), Assistant Professor of Education. B.A., M.Ed., M.A., Rutgers University; Ph.D., University of Michigan.

**Kantner, Christopher** (2011), Affiliate Professor of Music. M.M., State University of New York-Stony Brook; B.M., University of Michigan.

**Kapitula, Laura** (2011), Associate Professor of Statistics. B.A., State University of New York at Fredonia; M.S., M.A., Ph.D., University of New Mexico.

**Karabinus, Alisha** (2020), Assistant Professor of Writing. B.A., University of Arkansas; M.F.A., Ph.D., Purdue University.

**Karampagia, Sofia** (2017), Assistant Professor of Physics. MSc, Ph.D., National Technical University of Athens.

**Karabinus, Alisha** (2020), Assistant Professor of Writing. B.A., University of Arkansas at Little Rock; M.F.A., Ph.D., Purdue University.

**Karasinski, Courtney** (2011), Associate Professor of Speech-Language Pathology. B.S., Illinois State University; M.A., Western Michigan University; Ph.D., University of Wisconsin-Madison.

**Karpen, Mary E.** (1995), Professor of Chemistry. B.S., Clarkson University; B.A., State University of New York; M.S., Ph.D., Case Western Reserve University.

**Karsten, Amanda M.** (2021), Assistant Professor of Psychology. B.A., M.A., Ph.D., Western Michigan University.

**Kasmer, Lisa** (2010), Professor of Mathematics. B.A., Michigan State University; M.A., Ph.D., Western Michigan University.

**Kautz, Cheryl** (2014), Affiliate Professor of Computing. B.S., University of Wisconsin-Stout; M.B.A., Cornerstone University.

**Keegan, Cáel** (2014), Assistant Professor of Women, Gender, and Sexuality Studies and Integrative, Religious, and Intercultural Studies. B.A., St. Bonaventure University; M.A., Ph.D., University at Buffalo.

**Keider, R. Charles** (2012), Instructor and Clinical Coordinator of Radiation Therapy. B.S., M.S., Grand Valley State University; R.T. (Certificate), William Beaumont School of Radiation Therapy.

**Keenlance, Paul W.** (2007), Associate Professor of Biology and Natural Resources Management. B.S., M.S., University of Wisconsin-Stevens Point; Ph.D., Michigan State University.

**Keeney, Jeriel T. R.** (2017), Affiliate Professor of Chemistry. B.A., University of Michigan; Ph.D., University of Kentucky.

**Kegley, Anthony** (2009), Associate Professor of Biomedical Sciences. B.A., Arizona State University; M.S., Ph.D., University of the Witwatersrand.

**Kelder, Shaunna** (2013), Assistant Professor of Occupational Therapy. B.S., Eastern Michigan University; OTD, Chatham University.

**Kelley-Lafata, Kim** (2002), Affiliate Professor of Writing. B.A., Hope College; M.A., Western Michigan University.

**Kelly Lowenstein, Jeffrey** (2016), Assistant Professor of Communications. B.A., Stanford University; M.S., Northwestern University.

**Kenyon, Lisa K.** (2010), Associate Professor of Physical Therapy. B.S., University of Vermont; M.H.S., University of Indianapolis; Ph.D., DPT, Nova Southeastern University.

**Keough, Lauren** (2016), Assistant Professor of Mathematics. B.A., Hofstra University; M.S., Ph.D., University of Nebraska-Lincoln

**Kessler, Lara** (2007), Professor of Accounting. B.A., Northern Arizona University; M.S.A., Grand Valley State University; J.D., Vanderbilt University School of Law; C.P.A.

**Khoo, Sok Kean** (2016), Associate Professor of Cell and Molecular Biology. B.Sc., M.Sc., University of Science, Malaysia; Ph.D., Tokyo University of Marine Science and Technology.

**Kierkus, Christopher** (2004), Professor of Criminal Justice. M.A., University of Western Ontario; M.A., Ph.D., SUNY Albany.

**Kierzek, Jennifer** (2008), Senior Affiliate Professor of Writing. B.A., University of Washington; M.F.A., Arizona State University.

**Kilbourne, John** (2004), Professor of Movement Science. B.A., California State University-Long Beach; M.A., UCLA; Ph.D., The Ohio State University.

**Kilburn, Howard W.** (2007), Associate Professor of Political Science. B.A., Grinnell College; M.P.Aff., University of Texas at Austin; Ph.D., University of North Carolina at Chapel Hill.

**Kim, Min-Young** (2018), Assistant Professor of Education. B.A., M.A., Seoul National University; Ph.D., The Ohio State University.

**Kimboko, Priscilla** (2000), Professor of Public and Health Administration. B.A., M.A., Ph.D., Portland State University.

**Kindschi, Douglas P.** (1976), Professor of Mathematics and Philosophy. B.A., Houghton College; M.A., Ph.D., University of Wisconsin.

**King, Caryn M.** (1991), Professor of Education. B.A., Alfred University; M.A., Slippery Rock University; Ph.D., University of Pittsburgh.

**Kinne, Bonni L.** (2010), Associate Professor of Physical Therapy. B.S., M.A., Western Michigan University; M.S., P.T., Grand Valley State University; DHSc., A.T. Still University.

**Kipp, Brian** (2002), Professor of Biomedical Sciences. B.S., Saginaw Valley State University; Ph.D., Wayne State University.

**Klee, Sherie** (2001), Associate Professor of Education. B.S., Eastern Michigan University; M.A., Michigan State University; Ph.D., Western Michigan University.

**Kneeshaw, Tara** (2014), Assistant Professor of Geology. B.A., Albion College; Ph.D., Texas A&M University.

**Koch, Bradley** (2007), Professor of Management. Associate degree, Illinois Central College; B.S., M.B.A., Virginia Commonwealth University; M.A., Ph.D., University of Arizona.

**Kocharian, Ted** (2016), Affiliate Professor of Engineering. B.Sc., Tehran Polytechnic (Amir Kabir) University; M.S.E., University of Toronto.

**Kong, Haiying** (2010), Associate Professor of Communications. B.A., Liaoning Normal University; M.A., Missouri State University; Ph.D., University of Oklahoma.

**Kopacki, Nicholas B.** (2014), Affiliate Professor of Physician Assistant Studies, B.S., M.P.A.S., Grand Valley State University.

**Kosalge, Parag Uma** (2003), Professor of Management. B.E., College of Engineering, Aurangabad, India; Ph.D., Indian Institute of Management, Bangalore, India.

**Koste, Lori** (1999), Associate Professor of Management. B.A., University of Virginia; M.B.A., Clemson University; Ph.D., University of South Carolina.

**Kotman, Larry** (1985), Associate Professor of Computing. A.B., Calvin College; M.S., Ph.D., Purdue University.

**Kovacs, Dalila** (2003), Professor of Chemistry. B.S., Babes-Bolyai University; Ph.D., Michigan State University.

**Krauss, Ryan** (2016), Associate Professor of Engineering. B.S., Michigan Technological University; M.S., Virginia Polytechnic Institute & State University; Ph.D., Georgia Institute of Technology.

**Krcmar, Maja** (2006), Professor of Physics. B.S., University of Belgrade; M.S., Ph.D., Texas A&M University.

**Krug, Brian** (2017), Assistant Professor of Engineering. B.S., University of Michigan; M.S., University Illinois Chicago; Ph.D., Western Michigan University.

**Krull, Heather** (2019), Assistant Professor of Nursing. B.S.E., Hannibal LaGrange College; M.S.N., Ball State University; D.N.P., Ball State University.

**Kubik, Mark** (2017), Affiliate Faculty of Practice, Marketing. B.B.A., Grand Valley State University; M.B.A., University of Michigan.

**Kurby, Christopher** (2010), Associate Professor of Psychology. B.S., M.A., Ph.D., Northern Illinois University.

**Kurjiaka, David** (2009), Professor of Biomedical Sciences. B.S., Lebanon Valley College; M.S., University of Oklahoma; Ph.D., Pennsylvania State University.

**Kurmas, Zachary A.** (2004), Associate Professor of Computing. B.S./B.A., Grand Valley State University; M.S., Ph.D., Georgia Institute of Technology.

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**Kurthen, Hermann** (2004), Professor of Sociology. B.A., M.A., Ph.D., Freie Universitat Berlin.

**LaFreniere, Diane** (2014), James R. Sebastian Chair Assessment, Accreditation, and Cooperative Education, School of Engineering. B.S.E.E., Michigan Technological University.

**LaGuardia-LoBianco, Alycia** (2019), Assistant Professor of Philosophy. B.A., Stony Brook University; M.A., Ph.D., University of Connecticut.

**Laidlaw-McCreery, Susan** (2009), Senior Affiliate Professor of Writing. B.A., Hope College; M.Ed., Aquinas College; M.A., Colorado State University.

**Lakey, Brian** (2005), Professor of Psychology. B.A., Arizona State University; Ph.D., Indiana University.

**Lancaster, Sean J. C.** (2000), Professor of Education. B.S., M.S., Kansas University; Ph.D., University of Kansas.

**Lane, Paul M.** (1998), Professor of Marketing. B.A., Earlham College; M.B.A., Stetson University; Ph.D., Michigan State University.

**Lange, David K.** (2001), Instructor of Computing. B.S., University of Iowa; M.B.A., University of Phoenix.

**Langlois, Jamie J.** (2019), Assistant Professor of Social Work. B.S.W, University of Tennessee; M.S.W., University of Michigan; D.S.W., Saint Catherine University and the University of Saint Thomas.

**Lanier, Jolanta** (2014), Affiliate Professor of Biomedical Sciences. B.S., M.S., Grand Valley State University.

**Larson, Matthew** (2011), Affiliate Faculty of Instruction of Management. B.B.A., M.A., M.B.A., Western Michigan University.

**Lantz, Andrew W.** (2007), Associate Professor of Chemistry. B.A., St. Olaf College; Ph.D., Iowa State University.

**Lawrence, Christopher** (2004), Professor of Chemistry. B.S., University of California-Los Angeles; Ph.D., University of Wisconsin-Madison.

**Lawson, Diana R.** (2014), Professor of Marketing. B.S., State University of New York at Cortland; M.A., M.B.A., Ph.D., Kent State University.

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**Lee, Hoon** (2004), Associate Professor of Visual and Media Arts-Ceramics. B.A., M.A., Seoul National University of Technology; M.F.A., New York State College of Ceramics at Alfred University.

**Lee, Jina** (2017), Assistant Professor of Criminal Justice. B.A., M.A., Kyonggi University-Suwon; Ph.D., Michigan State University.

**Lee, Marcia** (2019) Assistant Librarian. B.A.A., Central Michigan University; M.L.I.S., University of Alabama Online.

**Lee, Yunju** (2018), Assistant Professor School of Engineering and Physical Therapy. B.S., Busan National University; M.S., Korea Advanced Institute of Science and Technology; Ph.D., University of Michigan.

**Lee, Sungchul** (2020), Assistant Professor of Computing. B.S., Konkuk University; M.S., Ph.D., University of Nevada, Las Vegas.

**Lehnert, Kevin** (2010), Associate Professor of Marketing. B.A., Saint Louis University; M.A., Boston College; M.B.A., Loyola University; Ph.D., Saint Louis University.

**Leidig, Jonathan P.** (2012), Associate Professor of Computing. B.S., Grand Valley State University; M.S., Ph.D., Virginia Polytechnic Institute and State University.

**Leidig, Paul M.** (1991), Professor of Computing. B.S., Eastern Mennonite College; M.B.A., James Madison University; Ph.D., Virginia Commonwealth University.

**Lenkey, Laura E.** (2017), Assistant Professor of Speech-Language Pathology. B.S., M.A., Northern Illinois University; Ph.D., Florida State University.

**Lenters, Geoffrey** (2003), Professor of Physics. B.S., Calvin College; M.S., Ph.D., University of Alabama in Huntsville.

**Leon, Paola (Mirta)** (2012), Associate Professor of Social Work. B.S., University of Puerto Rico; M.S.W., Ph.D., University of Illinois Urbana-Champaign.

**Leonard, David A.** (1998), Professor of Chemistry. B.S., Bucknell University; Ph.D., Cornell University.

**Leonard, Susan** (2013), Senior Affiliate Professor of Biomedical Sciences. B.S., Cornell University; M.S., State University of New York College at Cortland.

**Lerma, Nicholas** (2018), Assistant Professor of Movement Science. B.A., Albion College; M.A., Central Michigan University; Ph.D., University of Wisconsin-Milwaukee.

**Lewis, Colleen A.** (2007), Professor of Movement Science. B.S., Denison University; M.S., Wright State University; Ph.D., Indiana University.

**Li, Huafang** (2017). Assistant Professor of Nonprofit Administration. B.A., Zhejiang University; M.P.A., American University; Ph.D., Rutgers University.

**Liang, Yan.** (2009), Associate Professor of Chinese, East Asian Studies, and Chinese Studies. B.A., Nankai University, Tianjin, China; M.A., Peking University, Beijing, China; Ph.D., University of California, Santa Barbara.

**Libman, Karen** (1999), Professor of Theatre. B.F.A., Virginia Commonwealth University; M.F.A., Arizona State University.

**Licari, Gisella** (2007), Affiliate Professor of Italian. M.A., University of Palermo, Italy.

**Lima, Vinicius** (2014), Associate Professor of Visual and Media Arts-Graphic Design. B.Arch., Federal University of Rio de Janeiro; M.A., M.F.A., The University of Iowa.

**Linford, Bret G.** (2015), Assistant Professor of Spanish. B.S., Brigham Young University; M.A. University of Montana; M.A., Ph.D., Indiana University.

**Lingwood, Chad** (2000), Associate Professor of History. B.A., University of Colorado at Boulder; M.A., Washington University in St. Louis; Ph.D., University of Toronto.

**Linn, David** (2004), Associate Professor of Biomedical Sciences. Ph.D., University of Texas.

**Lioubimtseva, Elena** (2000), Professor of Geography and Sustainable Planning. B.S., M.S., Ph.D., Moscow State University.

**Lipford, John** (2011), Affiliate Professor of Hospitality and Tourism Management. B.A., Miami University (OH); J.D., Michigan State University College of Law.

**Little, Joseph** (2010), Associate Professor of Marketing. B.G.S., M.B.A., Indiana University Southeast; Ph.D., Saint Louis University.

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**Liu, Haixia** (2020), Affiliate Faculty of Integrative, Religious, and Intercultural Studies. B.A., Central South University; M.A., Sun Yat-Sen University; M.A., Guangdong Foreign Studies University; Ph.D., Michigan State University.

**Liu, Ruijie** (2016), Assistant Professor of Biomedical Sciences. B.S., Qufu Normal University; M.S., Wuhan University; Ph.D., University of Illinois at Urbana Champaign.

**Locher, Alexandra** (2011), Associate Professor of Biology and Natural Resources Management. B.S., M.S., Ph.D., Michigan State University.

**Loeffler, Ronald** (2004), Associate Professor of Philosophy. M.A., University of London; M.A., Free University Berlin; Ph.D., Northwestern University.

**Lombardo, Michael** (1991), Professor of Biology. B.S., The Ohio State University; M.S., Ph.D., Rutgers University.

**Lopez-Arias, Salvador** (2006), Associate Professor of Social Work. B.S.W., M.S.W., Grand Valley State University; Ph.D., Western Michigan University.

**Lord, Richard** (2012), Associate Professor of Chemistry. B.S., University of Southern Indiana; Ph.D., Indiana University.

**Lorenz, Shannon.** (2013), Affiliate Instructor of Speech-Language Pathology. B.S., M.A., Western Michigan University.

**Losey, Kay** (2004), Professor of Writing. B.A., Michigan State University; M.A., Ph.D., University of California, Berkeley.

**Lou, Leon L.** (2001), Associate Professor of Psychology. B.S., Fudan University; M.A., Institute of Psychology, Chinese Academy of Science; Ph.D., University of California, San Diego.

**Lowell, Rodd** (2014), Affiliate Professor of Computing. B.S., Michigan State University; M.S., Grand Valley State University.

**Lowen, Aaron** (2003), Professor of Economics. B.A., University of Northern Iowa; M.A., Ph.D., University of Iowa.

**Lubic, Barbara** (1999), Associate Professor of Education. B.A., M.A., Michigan State University; Ed.D., University of Cincinnati.

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**Lubic, Tamara** (2002), Senior Affiliate Professor of Writing. B.A., Western Michigan University; M.A., University of Minnesota.

**Ludwig, Denise A.** (2013), Professor of Speech-Language Pathology. B.S., Western Michigan University; M.S. University of Michigan; M.Ed., Grand Valley State University; Ph.D., Western Michigan University.

**Lundskow, George** (1999), Professor of Sociology. B.A., Boston University; M.A., University of New Orleans; Ph.D., University of Kansas.

**Luttenton, Mark** (1989), Professor of Biology and Water Resources. B.S., Central Michigan University; M.S., University of Wisconsin-La Crosse; Ph.D., Bowling Green State University.

**Luttenton-Knoll, Meagan** (2006), Affiliate Faculty of Practice in Management. B.A., Grand Valley State University; M.B.A., Spring Arbor University.

**Ma, Kin** (2003), Associate Professor of Geography and Sustainable Planning. B.A., Williams College; M.S., Ph.D., Michigan State University.

**Macauley, Beth L.** (2010), Associate Professor of Speech-Language Pathology. B.A., M.A., Ph.D., University of Florida.

**Machnik, Kelly** (2014), Assistant Professor of Occupational Science and Therapy. B.S., M.S., Grand Valley State University.

**Mack, Nancy** (2001), Professor of Mathematics. B.S., M.A., University of Texas; Ph.D., University of Wisconsin-Madison.

**MacQuillan, Elizabeth** (2016), Assistant Professor of Clinical Dietetics. B.S., Michigan State University; M.A., Ph.D., Western Michigan University.

**Madden, Gwyn** (2006), Professor of Anthropology. B.A., M.A., Oregon State University; Ph.D., University of Nevada.

**Magal, Simha** (2000), Professor of Management. B.Com., University of Delhi; M.B.A., Valdosta State College; Ph.D., University of Georgia.

**Mahave-Veglia, Pablo** (2003), Professor of Music. B.M., The Eastman School of Music; M.M., Indiana University; D.M.A., University of Wisconsin-Madison.

**Majumdar, Kingshuk** (2007), Professor of Physics. B.S., Presidency College; M.S., University of Calcutta; Ph.D., University of Florida.

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**Malaret, Dennis** (1995), Associate Professor of Sociology. B.S., University of Puerto Rico; M.A., Ph.D., Western Michigan University.

**Manderscheid, Amy** (2015), Assistant Professor of Nursing. B.S.N., M.S.N., Grand Valley State University; D.N.P., Rush University.

**Mangala, Jack**, (2005), Chair and Associate Professor of Area and Global Studies and of Political Science. B.A., University of Kinshasa; M.A., L.L.M., Ph.D., Catholic University of Louvain, Belgium.

**Mannard, Lynne** (2009) Senior Affiliate Instructor of Mathematics. B.S., Michigan Technological University; M.S., Ferris State University.

**Manoharan, Sanjivan** (2017), Assistant Professor of Engineering. B.S., M.S., Embry-Riddle Aeronautical University; Ph.D., University of Cincinnati.

**Mansour, Samah** (2008), Assistant Professor of Computing. B.A., Ain Shams University; M.S., Grand Valley State University; Ph.D., University of Louisville.

**Maodush-Pitzer, Diane** (2003), Senior Affiliate Faculty of Integrative, Religious, and Intercultural Studies. B.S., Northern Illinois University; M.Div. Western Theological Seminary; M.A., University of Notre Dame; Ph.D., Eastern Michigan University.

**Maouene, Josita** (2009), Associate Professor of Psychology. B.A., Ph.D., University of Lausanne.

**Margot, Kelly** (2017), Assistant Professor of Education. B.S., M.S., Texas A&M University; Ph.D., University of North Texas.

**Marini, Daniela** (2020), Assistant Professor of Integrative, Religious, and Intercultural Studies. B.A., Río Cuarto National University, Argentina; M.Sc., Yale University.

**Marlais, Helen** (1998), Professor of Music. B.M., University of Toledo; M.F.A., Carnegie Mellon University; D.M., Northwestern University.

**Marson, Jennifer** (2018), Assistant Professor of Criminal Justice. B.A, Lake Superior State University; M.A., Central Michigan University; Ph.D., Western Michigan University.

**Martin, Barry** (1994), Professor of Music. B.M.E., University of Akron; M.S.M.E., University of Illinois.

**Martin, John T.** (2009), Associate Professor of Music. B.M., M.M., University of Tennessee; D.M.A., University of Southern Mississippi.

**Masko, Amy** (2003), Professor of English. B.S., Eastern Michigan University; M.Ed., Lesley University; Ph.D., University of Denver.

**Mason, Julia** (2007), Associate Professor of Women, Gender, and Sexuality Studies. B.A., William Smith College; M.A., The University of Arizona; Ph.D., Bowling Green State University.

**Mason, Julia R.** (2019), Affiliate Professor of Writing. B.A., Calvin College; M.A., University of Edinburgh.

**Mather, Sarah** (2010), Affiliate Faculty of Spanish. B.S., Florida State University; M.A., University of South Florida.

**Matthews, Amy** (1998), Director of ABA Graduate Program and Professor of Psychology. B.A., University of California at Santa Barbara; M.A., Ph.D., Binghamton University.

**Mattox, Stephen R.** (1998), Professor of Geology. B.S., Indiana University; M.S., Ph.D., Northern Illinois University.

**Mayers, Leifa** (2016), Assistant Professor of Women, Gender, and Sexuality Studies. B.S., University of California, Davis; M.S., Ph.D., University of California, Santa Cruz.

**Mazid, Imran** (2019), Assistant Professor of Communications. M.S.S., University of Dhaka; M.A., Edinboro University; M.Ed., Ph.D., Ohio University.

**Mboko, Swithina** (2018), Assistant Professor of Management. BCom., MBA., Ph.D., University of Zimbabwe.

**McBane, George** (2001), Associate Dean for Facilities, Scheduling, Research, and Analytics and Professor of Chemistry. B.S., North Carolina State University; Ph.D., Cornell University.

**McCann, Dana** (2016), Affiliate Faculty of Practice in Management. B.B.A., Saginaw Valley State University; M.B.A., Central Michigan University; D.B.A., Argosy University; Ph.D. (ABD), Central Michigan University.

**McClure, Hazel** (2009), Associate Librarian. B.S., Central Michigan University; M.F.A., St. Mary's College of California; M.L.S., State University of New York-Buffalo.

**McCrum, Theresa** (2017), Affiliate Faculty of Nursing. M.S.N., University of Arizona.

**McCurren, Cynthia A.** (2007), Dean and Professor of Nursing. B.S.N., M.S.N., University of Missouri; Ph.D., University of Kentucky.

**McFarland, Amy** (2014), Associate Professor of Environmental and Sustainability Studies. B.A., Rice University; M.Ed., Texas State University; Ph.D., Texas A&M University.

**McKay, Anne M.**(2018), Assistant Professor of Nursing. B.S.N., Delaware State University; M.S., University of Virginia; D.N.P., University of Michigan.

**McKee, Kimberly** (2014), Associate Professor of Liberal Integrative, Religious, and Intercultural Studies. B.A., George Washington University; M.Sc., London School of Economics; Ph.D., The Ohio State University.

**McKendall, Marie A.** (1988), Professor of Management. B.B.A., M.B.A., Grand Valley State University; Ph.D., Michigan State University.

**McLeod, Corinna** (2003), Professor of English. B.A., University of Tulsa; M.A., Ph.D., University of South Carolina, Columbia.

**McKnight, Ashley** (2020), Assistant Professor of Occupational Therapy. B.S., Michigan State University; M.S., Grand Valley State University; Dr.O.T., Chatham University.

**McNair, James** (2009), Associate Professor of Water Resources. B.A., Davidson College; Ph.D., University of Pennsylvania.

**Mehall, Christopher** (2014), Affiliate Professor of Education. B.S., Eastern Illinois University; M.Ed., Northern Arizona University.

**Mekik, Figen** (2000), Professor and Chair of Geology. B.S., M.S., Middle East Technical University; Ph.D., Northern Illinois University.

**Metz, Allison** (2010), Associate Professor of Theatre. B.A., Ph.D., University of Wisconsin-Madison; M.F.A., University of Texas at Austin.

**Meyer, Anthony** (2020), Affiliate Faculty of Integrative, Religious, and Intercultural Studies. B.A., Grand Valley State University; M.A., Trinity Western University; Ph.D., McMaster University.

**Meyer, Kristin** (2015), Assistant Librarian. B.S., Grand Valley State University; M.L.I.S., Wayne State University.

**Meyering, Ruth** (2009) Senior Affiliate Instructor of Mathematics. B.A., M.A., Western Michigan University.

**Meyer-Looze, Catherine** (2013), Assistant Professor of Education. B.A., Saginaw Valley State University; M.A., Central Michigan University; Ed.D., Eastern Michigan University.

**Miller, Blair E.** (1990), Professor of Chemistry. B.A., Manchester College; Ph.D., Miami University.

**Miller, Jo** (1991), Associate Professor of English. B.A., University of Oregon; M.A., Colorado State University; Ph.D., University of Utah.

**Miller-Adams, Michelle** (2006), Professor of Political Science. B.A., University of California; M.A., Ph.D., Columbia University.

**Minnis, Samantha** (2019), Assistant Librarian. B.A., Central Michigan University; M.S.L.I.S. Kent State University.

**Moes, Mark M.** (1991), Professor of Philosophy. B.A., University of Notre Dame; M.A., Aquinas Institute School of Theology; Ph.D., University of Notre Dame.

**Mohammadzadeh, Alireza** (1985), Associate Professor of Engineering. B.S., Aryamehr University; M.S., Ph.D., University of Michigan.

**Mohney, Kerry** (2015), Assistant Professor of Allied Health Sciences. B.S., M.A., Western Michigan University.

**Moiles, Roger** (2010), Senior Affiliate Professor of Political Science. B.A., Saginaw Valley State University; M.A., Michigan State University.

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**Mokhtar, Wael** (2009), Professor of Engineering. B.S., M.S., Alexandria University; Ph.D., Old Dominion University.

**Molla, Azizur** (2008), Professor of Public Health. B.S.S., University of Dhaka, Bangladesh; M.P.H., University of North Carolina-Chapel Hill; M.A., Ph.D., Pennsylvania State University.

**Montagna, Douglas** (2003), Associate Professor of History. B.A., Hamilton College; M.A., Northern Illinois University; M.B.A., SUNY Binghamton, Ph.D., Northern Illinois University.

**Montanera, Daniel** (2020), Assistant Professor of Economics. B.A., King's University College at the University of Western Ontario; M.A., Queens University; Ph.D., The University of Western Ontario.

**Moore, Jared** (2016), Associate Professor of Computing. B.S., M.S., Central Michigan University; Ph.D., Michigan State University.

**Moore, Jennifer** (2012), Assistant Professor of Biology and Natural Resources Management. B.S., Northern Michigan University; M.S., Central Michigan University; Ph.D., University of Wellington, New Zealand.

**Moore, Louis** (2008), Associate Professor of History and African/African American Studies. B.A., M.A., California State University, Sacramento; Ph.D., University of California, Davis.

**Moran, Katherine** (2018), Associate Dean for Graduate Programs and Associate Professor. B.S.N., M.S.N., University of Phoenix; D.N.P., Madonna University.

**Morgan, Roderick M.** (1997), Professor of Biology. B.S., M.S., Central Michigan University; Ph.D., Virginia Commonwealth University.

**Morison, Melissa** (2001), Associate Professor of Classics. B.A., University of Virginia; M.A., Indiana University; Ph.D., Boston University.

**Morison, William** (2004), Associate Professor of History. Ph.D., University of California Santa Barbara.

**Morris, Carrie** (2011), Associate Professor of Dance. B.A., Kenyon College; M.F.A., Temple University.

**Morris, Jill** (2008), Senior Affiliate Professor of Chemistry. B.S., Central Michigan University; M.S., Michigan State University.

**Morrow, Debbie** (1991), Senior Librarian. B.A., Earlham College; M.S.L.I.S., University of Illinois at Urbana-Champaign.

**Mothersell, William M.** (2002), Professor of Management. B.S., M.L., Ph.D., Michigan State University.

**Motwani, Jaideep G.** (1990), Professor of Management. B.B.A., Bombay University; M.B.A., Sam Houston State University; Ph.D., University of North Texas.

**Mudde, Paul A.** (2002), Associate Professor of Management. B.S., Calvin College; M.S., Ph.D., Purdue University.

**Mueller, Aiman** (2016), Affiliate Professor of Writing. B.A., M.Ed., Grand Valley State University

**Mukherjee, Oindrila** (2011), Associate Professor of Writing. B.A., Jadavpur University, India; B.A., M.A., University of Cambridge, UK; M.F.A., University of Florida; Ph.D., University of Houston.

**Mulally, Dauvan** (2002), Senior Affiliate Professor of Writing. B.A., M.Ed., Grand Valley State University; Ph.D., Indiana University of Pennsylvania.

**Mulder, Cray** (2005), Professor of Social Work. B.A., Calvin College; M.S.W., Grand Valley State University; Ph.D., University of Illinois at Urbana-Champaign.

**Mullins, Sarah** (2010), Senior Affiliate Faculty of Biomedical Sciences. B.S., Ferris State University; M.A., Wayne State University.

**Muller, Leslie** (2013), Associate Professor of Economics. B.A., Calvin College; Ph.D., Michigan State University.

**Munk, Dana** (2004), Professor of Movement Science. B.S., Grand Valley State University; M.A., Central Michigan University; Ph.D., Michigan State University.

**Mupepi, Sylvia** (2005), Professor of Nursing. B.Ed., M.Ed., University of Zimbabwe; Ph.D., University of Michigan.

**Murphy, Paul** (1999), Professor of History. B.A., Hanover College; M.A., Ph.D., Indiana University.

**Nandamudi, Srihimaja** (2019), B.S., M.S., Osmania University; Ph.D., Bowling Green State University.

**Nandigam, Jagadeesh** (2003), Professor of Computing. B.S., Sri. Venkateswara; B.S., Grambling State University; M.S., Ph.D., University of Louisiana at Lafayette.

**Navarro, Janet** (2010), Affiliate Professor of English. B.A., Ohio Wesleyan University; M.A., Ph.D., Michigan State University.

**Nechuta, Sarah** (2019), Assistant Professor of Public Health. B.S., Michigan State University; M.P.H., University of Michigan; Ph.D., Michigan State University.

**Neitzert, Kevin** (2009), Affiliate Faculty in German. B.A., M.A., Michigan State University.

**Nelson, Lilianne** (2016), Clinical Faculty of Medical Laboratory Science. B.S., Grand Valley State University.

**Nesterenko, Alexander** (1984), Professor of Communications. B.A., M.A., Ph.D., University of Iowa.

**Ngassa, Felix** (2004), Professor of Chemistry. B.S., University of Yaounde I; Ph.D., University of North Dakota.

**Ni, Peimin** (1992), Professor of Philosophy. B.A., M.A., Fudan University; Ph.D., University of Connecticut.

**Nichols, Emily M.** (2017), Assistant Professor of Social Work. B.S., Michigan State University; M.S.W., Michigan State University; Ph.D., Michigan State University.

**Niemchick, Karen** (2017), Assistant Professor of Public Health. B.S., University of Toledo; M.H.S., Grand Valley State University; Ph.D., Walden University.

**Nikitin, Alexey** (2001), Professor of Biology. M.S., Kiev State University; Ph.D., Bowling Green State University.

**Niu-Cooper, Rui** (2017), Associate Professor of Education. B.A., Sichuan University; M.A., Acadia University; Ph.D., Michigan State University.

**Nochera, Carmen L.** (1989), Professor of Biomedical Sciences. B.A., College of Notre Dame; R.D., M.A., Ph.D., University of Rhode Island.

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**Nordman, Erik** (2006), Professor of Biology and Natural Resources Management. B.S., M.S., Ph.D., State University of New York.

**Norkus, Amy** (2013), Senior Affiliate Professor of Writing. B.A., M.F.A., Western Michigan University.

**Norouzi, Mahdi** (2017), Assistant Professor of Engineering. B.S.C., Sharif University of Technology; M.Sc., Iran University of Science and Technology; Ph.D., The University of Toledo.

**Norris, Charles E.** (1998), Professor of Music. B.S., Indiana State University; M.S., Ed.D., University of Illinois.

**Nowak, Brent M.** (2013), Associate Professor of Engineering. B.S., University of Illinois, Urbana; M.S., Illinois Institute of Technology; Ph.D., University of Texas, Austin.

**Nyamai, Priscilla A.** (2015), Assistant Professor of Biology and Natural Resources Management. B.S., Egerton University; M.S., University of Idaho; Ph.D., The Ohio State University.

**Ogura, Laudo** (2005), Associate Professor of Economics. B.A., University of Sao Paulo, Brazil; M.A., University of Brasilia, Brazil; Ph.D., University of Illinois at Urbana-Champaign.

**Ohle, Kathryn** (2019), Associate Professor of Education. B.S., Michigan State University; M.A.T., Tufts University; Ph.D., University of North Carolina at Chapel Hill.

**O'Kelly, Leonard A.** (2015), Associate Professor of Communications. B.E.S., Lewis University; M.S., Grand Valley State University; Ph.D., Michigan State University.

**Oliver, Keith** (2004), Associate Professor of Physics. B.S., Utah State University; Ph.D., The Ohio State University.

**Olsson Jr., Roy H.** (2008), Professor of Therapeutic Recreation. B.S., M.S., Kansas State College of Pittsburgh; Ph.D., University of Oregon.

**O'Neill, Sean** (1991), Professor of History. B.A., University of California, Berkeley; M.S., Ph.D., University of California, Santa Barbara.

**Ortiz-Robinson, Norma** (2018), Associate Professor of Mathematics. B.S., University of Louisiana, Lafayette; M.S., Ph.D. Louisiana State University.

**Oostdyk, Amy** (2018) Affiliate Instructor of Mathematics. B.S., Grand Valley State University; M.A., Western Michigan University.

**Ostrow, Bruce** (2002), Professor of Biology. B.A., Boston University; Ph.D.; Northwestern University.

**Otieno, Sango** (2003), Associate Professor of Statistics. B.S., M.S., Egerton University; Ph.D., Virginia Polytechnic Institute and State University.

**Owen-DeSchryver, Jamie** (2004), Associate Professor of Psychology. B.A., Kalamazoo College; M.S., The Johns Hopkins University; M.A., Ph.D., State University of New York at Stony Brook.

**Ozga, Karen L.** (1990), Assistant Professor of Physical Therapy. B.S., Wayne State University; M.M.Sc., Emory University; D.P.T., Wayne State University.

## Faculty Directory P-Z

**Pacey, Janna** (2016), Assistant Professor of Health Information Management. B.S., Ferris State University; M.S., Ferris State University; D.H.A., Capella University.

**Palmer, Zsuzsanna** (2017), Assistant Professor of Writing. B.A., Grand Valley State University; M.A., Eötvös Lóránd University; M.A., Central Michigan University; Ph.D., Old Dominion University.

**Palmer Jones, LeShell** (2011), Assistant Professor and Program Director of Radiation Therapy. B.S., Virginia Commonwealth University; M.S., Thomas Jefferson University; M.S., Grand Valley State University.

**Pandel, Dirk** (2010), Associate Professor of Physics. B.S., Humboldt University of Berlin; M.S., University of California, Irvine; Ph.D., University of California, Santa Barbara.

**Parikh, Chirag** (2007), Professor of Engineering. B.E., Fr. Agnel College of Engineering, Mumbai, University; M.S., Ph.D., University of Texas at San Antonio.

**Park, Ernest** (2011), Associate Professor of Psychology. B.A., University of Virginia; M.A., University of Oregon; Ph.D., Michigan State University.

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**Parker, Darren** (2009), Associate Professor of Mathematics. B.A., Ph.D., University of Wisconsin.

**Parker, Kelly A.** (1992), Professor of Philosophy and Environmental and Sustainability Studies. B.A., Texas A&M University; M.A., Ph.D., Vanderbilt University.

**Parker, Tonya** (2006), Professor of Movement Science. B.S., Texas Christian University; M.S., Ph.D., University of Oregon.

**Partridge, Charlyn** (2015), Assistant Professor of Water Resources. B.S., Nicholls State University; M.S. University of South Alabama; Ph.D., Texas A&M University.

**Patil, Rajvardhan** (2020), Assistant Professor of Computing. B.E., Walchand College; M.S., Ph.D., University of Nebraska Omaha.

**Patel, Osman** (2008), Associate Professor of Cell and Molecular Biology. B.S., University of Zambia; M.S. University of Glasgow; Ph.D., University of Tokyo.

**Patro, Sukesh K.** (2019), Associate Professor of Finance. BTech., M.B.A., Ph.D., University of Pittsburgh.

**Paulson, Molly** (2011), Associate Professor of Physician Assistant Studies. B.S., MT, University of Wisconsin Superior; B.M., PAC, Western Michigan University; M.P.A.S., University of Nebraska; D.H.Sc., A.T. Still University.

**Pawloski, Janice** (2007), Assistant Professor of Engineering. B.S., Michigan Technological University; M.S., Iowa State University; Ph.D., Iowa State University.

**Pazdernik, Charles F.** (2001), Professor of Classics. B.A., Cornell University; M.Phil., Oxford University; M.A., Ph.D., Princeton University.

**Pearl, Christopher** (2015), Associate Professor of Biomedical Sciences. B.S., Saint Mary's College of California; M.S., University of the Pacific; Ph.D., University of California, Davis.

**Pearson, Christen** (2000), Professor of English. B.M., University of Miami; M.A., Southern Illinois University; Ph.D., Indiana University.

**Pearson, Robert** (2016), Associate Professor of Statistics. B.S., University of Minnesota-Duluth; M.S., Ph.D., University of Northern Colorado.

**Pednekar-Magal, Vandana** (1999), Professor of Communications. M.A., Bombay University; Ph.D., Bowling Green State University.

**Pellathy, Daniel A.** (2016), Assistant Professor of Management. B.A., Cornell University; M.P.I.A., M.B.A., University of Pittsburgh; Ph.D., University of Tennessee-Knoxville.

**Pelon, Sally** (2013), Associate Professor of Social Work. B.A., Hope College; M.S.W., Western Michigan University; Ph.D., Michigan State University.

**Penn, James** (2003), Professor of Geography and Sustainable Planning. B.A., University of Illinois; M.A., Ph.D., University of Florida.

**Penning, Timothy** (2001), Professor of Communications. B.A., Central Michigan University; M.A., Western Michigan University; Ph.D., Michigan State University.

**Pentecost, Thomas** (2009), Associate Professor of Chemistry. B.S., University of Tennessee-Martin; M.S., Louisiana State University; Ph.D., University of Northern Colorado.

**Pentinga-Brown, Lisa** (2016), Affiliate Faculty of Nursing. B.S.N., Grand Valley State University; M.S.N., Aspen University.

**Perhamus, Lisa** (2011), Assistant Professor of Education. B.A., William Smith College; M.A., The New School for Social Research; Ph.D., University of Rochester.

**Pestana, Mark S.** (1990), Professor of Philosophy. B.A., Colby College; M.A., University of Kentucky; Ph.D., University of Chicago.

**Peters, Steven G.** (2012), Affiliate Faculty in Visual and Media Arts. B.F.A., Ball State University; M.F.A., Southern Illinois University at Carbondale.

**Peterson, Bethany** (2014), Associate Professor of Writing. B.A., University of Wisconsin-Eau Claire; M.A., Wheaton College; M.F.A., University of Wyoming; Ph.D., University of Missouri.

**Peterson, Luke J.** (2020), Affiliate Faculty of Chemistry. B.S., Hope College; M.S., Ph.D., University of Michigan.

**Peterson, Rachel** (2008), Associate Professor of Integrative, Religious, and Intercultural Studies. B.A., Southern Illinois University; M.A., Washington State University; Ph.D., University of Michigan.

**Peterson, Valerie** (2004), Professor of Communications. B.A., University of Virginia; M.A., University of Virginia; Ph.D., University of Iowa.

**Peterson, Virginia** (2003), Professor of Geology. B.A., Grand Valley State University; M.S., Ph.D., University of Massachusetts.

**Pettes Guikema, Janel** (2006), Professor of French. B.A., Calvin College; M.A., Bowling Green State University; Ph.D., Pennsylvania State University.

**Pettibone, Justin** (2012), Affiliate Faculty of Integrative, Religious, and Intercultural Studies. B.A., Grand Valley State University; M.A., Miami University, Ohio.

**Phillips, Brian** (2000), Professor of Sociology. B.A., State University of New York, Utica; M.A., Rutgers University; Ph.D., State University of New York, Binghamton.

**Phipps, Danny** (2006), Professor and Chair of Music. B.M., Curtis Institute of Music; M.M., D.M.A., Catholic University of America.

**Picard, Joerg** (2016), Assistant Professor of Finance. M.S.C.E., University of Technology Aachen, Germany; M.B.A., University of California Irvine; Ph.D., Michigan State University.

**Pickett, Linda** (2012), Associate Professor of Education. B.A., M.A., Ph.D., University of New Mexico.

**Place, Mitchell D.** (2006), Affiliate Faculty in German. B.A., Central Michigan University; M.A., The Ohio State University; Ph.D., Michigan State University.

**Plotkowski, Paul D.** (1991), Professor of Engineering. B.S., M.S., Ph.D., Oakland University.

**Plouff, Christopher.** (2008), Associate Professor of Engineering. B.S., M.S., Michigan Technological University; Ed.D., Eastern Michigan University.

**Ponischil, Susan** (2018), Assistant Librarian. B.A., Michigan State University; M.L.I.S., Wayne State University.

**Pope, Jennifer** (2003), Associate Professor of Marketing. B.A., College of Wooster; M.B.A., Ph.D., University of Texas-Pan American.

**Posada, Ana** (2002), Affiliate Faculty of Computing. B.S., Universidad EAFIT; M.S., Western Michigan University.

**Potteiger, Jeffrey** (2010), Dean of Graduate Studies. B.S., Indiana University of Pennsylvania; M.S., McDaniel College; Ph.D., Auburn University.

**Powers, Rachel** (2006), Professor of Chemistry. B.S.T., Michigan State University; Ph.D., Northwestern University Medical School.

**Pozzi, Gabriela** (1994), Professor of Spanish. B.A., McGill University; M.A., Ph.D., University of Pennsylvania.

**Preston, Marilyn** (2013), Associate Assistant Professor of Integrative, Religious, and Intercultural Studies. B.A., Goddard College; M.A., Ph.D., University of Missouri.

**Pszyk, Elizabeth** (2009), Associate Librarian. B.A., Barnard College, Columbia University; M.L.I.S., University of Pittsburgh.

**Pung, Christopher** (2007), Associate Professor of Engineering. B.S., M.S., Michigan State University; Ph.D., Lawrence Technological University.

**Qi, Ji** (2018), Assistant Professor of Marketing. B.S., Dalian Medical University; M.S., Ph.D., University of Alabama.

**Quamme, Joel R.** (2008), Associate Professor of Psychology. B.A., Jamestown College; M.A., Ph.D., University of California.

**Raaymakers, Susan A.** (2005), Associate Professor of Physician Assistant Studies. D.H.Sc., A.T. Stills University; M.P.A.S., Grand Valley State University; B.S.I.B., Aquinas College.

**Rabourn, Karyn** (2016), Assistant Professor of Education. B.A., M.A., Michigan State University; Ph.D., Indiana University.

**Rafiq, Rahat** (2020), Assistant Professor of Computing. B.S., Bangladesh University of Engineering and Technology; Ph.D. University of Colorado Boulder.

**Rahman, M. Azizur** (2002), Professor of Engineering. B.S., M.S., Bangladesh University Engineering and Technology; Ph.D., University of Victoria.

**Rakovic, Milun** (2003), Professor of Physics. B.S., M.S., Ph.D., University of Belgrade.

**Ramey, Emma** (2007), Affiliate Professor of Writing. B.A., Western Washington University; M.F.A., University of Alabama.

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**Ramos, Santos** (2018), Assistant Professor of Integrative, Religious, and Intercultural Studies. B.A., Michigan State University; M.A., Virginia Commonwealth University; Ph.D., Michigan State University.

**Ramsson, Eric** (2011), Associate Professor of Biomedical Sciences. B.S., Bradley University; Ph.D., Illinois State University.

**Ranger, Kim** (1990), Senior Librarian. B.A., Western Michigan University; M.I.L.S., University of Michigan.

**Rankinen, Wil A.** (2015), Assistant Professor of Speech-Language Pathology. B.A., Michigan State University; M.A., Ph.D., Indiana University.

**Reddy, Amanda** (2014), Affiliate Faculty, Clinical Coordinator, B.S., Central Michigan University; M.S., Central Michigan University.

**Rediske, Richard** (1994), Professor of Water Resources. B.S., Bowling Green State University; M.S., Ph.D., University of Michigan.

**Reed, J. Christopher** (2007), Associate Professor of Biomedical Sciences. B.A., Mississippi State University; M.A., University of South Carolina; Ph.D. University of Pittsburgh.

**Reffeor, Wendy** (2012), Professor of Engineering. B.S., Kettering University; M.S., Purdue University; Ph.D., Michigan State University.

**Reidsma, Matthew** (2010), Associate Librarian. B.A., Grand Valley State University; M.T.S., Harvard Divinity School; S.O.I.S., University of Wisconsin-Milwaukee.

**Reinhold, Martina** (2011), Associate Professor of Physician Assistant Studies. B.S., University of Michigan; Ph.D., Washington University.

**Reischman, Diann** (1998), Professor of Statistics. B.S., Clarke College; M.S., University of Iowa; Ph.D., University of Missouri.

**Remlinger, Kathryn A.** (1995), Professor of English. B.A., M.A., Moorehead State University; Ph.D., Michigan Technological University.

**Renner, Christine** (2009), Professor of Chemistry. B.S., Michigan State University; Ph.D., Northwestern University.

**Renkema, Kristin** (2018), Assistant Professor of Biomedical Sciences. B.A., Anderson University; Ph.D., University of Arizona.

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**Reynolds, John** (2002), Associate Professor of Computing. B.R.E., Th.B., A.A., Hannibal-LaGrange College; M.A., Criswell College; Ph.D., University of Northern Texas.

**Reynolds, Ross A.** (1990), Professor of Physics. B.S., Michigan State University; M.S., Ph.D., University of Oregon.

**Rhodes, Samhita** (2008), Professor of Engineering. B.E., Maharashtra Institute of Technology; M.S., Ph.D., Marquette University.

**Richards, Mark J.** (1999), Professor of Political Science. M.S., University of Oregon; B.S., M.A., Ph.D., University of Wisconsin.

**Richards, Suzanne** (2015), Affiliate Professor of Education. B.S., M.Ed., Michigan State University.

**Richardson, Mary** (2002), Professor of Statistics. B.S., Southwest Missouri State University; M.A., Ph.D., University of Missouri.

**Richiart, Dawn** (2006), Associate Professor of Biomedical Sciences. B.S., Oakland University; Ph.D., Wayne State University.

**Richter, Jessalyn** (2012), Senior Affiliate Professor of Writing. B.A., Michigan State University; M.A., Ph.D., University of Wisconsin-Madison.

**Riemersma, Peter E.** (1999), Associate Professor of Geology. B.S., University of Michigan; M.S., University of Utah; Ph.D., University of Wisconsin-Madison.

**Riley-Mukavetz, Andrea** (2017), Assistant Professor of Integrative, Religious, and Intercultural Studies. B.S., Central Michigan University; M.A., Illinois State University; Ph.D., Michigan State University.

**Rinker, Donna** (2015), Affiliate Faculty of Nursing. B.S.N., Saginaw Valley State University; M.S.N., Michigan State University.

**Ripple, Darien** (2020), Assistant Professor of Integrative, Religious, and Intercultural Studies. B.A., Salisbury University; M.A., West Chester University; Ph.D., Prescott College.

**Roberts, Kim** (2000), Professor of Visual and Media Arts-Film and Video Production. B.F.A., Kendall College of Art and Design; M.F.A., The School of the Art Institute of Chicago.

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**Robbins, Donijo** (2001), Professor of Public Administration. B.S., Central Michigan University; M.A., Ph.D., Rutgers University.

**Robideaux, Douglas** (2001), Associate Professor of Marketing. B.A., M.B.A., Northeast Louisiana University; D.B.A., Louisiana Tech University.

**Robins, Robert R.** (2008), Senior Affiliate Professor of Hospitality and Tourism Management. A.A., B.B.A., Northwood University; M.S.A., Central Michigan University.

**Robinson, Jeremy** (2008), Associate Professor of Japanese, East Asian Studies, and Chinese Studies. B.A., M.A., University of Colorado, Boulder; Ph.D., University of Michigan.

**Rohn, Amy** (2010), Affiliate Faculty of Nursing. B.S.N., M.S.N., Michigan State University.

**Rood, A. Scott** (2005), Assistant Professor of Hospitality and Tourism Management. B.S., University of Michigan; M.P.A., Central Michigan University.

**Rose, Jonathan** (2013), Assistant Professor of Physical Therapy. B.A., Boston University; M.S., Eastern Illinois University; Certificate of Study in Physical Therapy, Ohio State University.

**Rosener, Ashley** (2012), Associate Librarian. B.A., Iowa State University; M.L.I.S., University of Illinois, Urbana-Champaign.

**Ross, Sally** (2012), Associate Professor of Sport Management. B.S., M.S., Ph.D., University of Illinois.

**Roth, Patrick** (2010), Associate Librarian. B.S., Grand Valley State University; M.L.I.S., Wayne State University.

**Rothstein, Jeffrey S.** (2007), Professor of Sociology. B.A., University of London; M.A., Ph.D., University of Wisconsin-Madison.

**Rozema, Robert** (2004), Professor of English. B.A., Calvin College; M.A., Michigan State University; Ph.D., Western Michigan University.

**Ruen, Matthew** (2014), Associate Librarian. B.A., Carleton College; M.L.I.S., M.A.S., University of British Columbia.

**Ruetz III, Carl** (2002), Professor of Water Resources. B.S., Lake Superior State University; M.S., University of Georgia; Ph.D., University of Minnesota.

**Rupinski, Leigh** (2017), Assistant Librarian, Archivist for Public Services and Community Engagement. B.A., Grand Valley State University; M.S.I., University of Michigan.

**Russa, Mary E. Bower** (1997), Assistant Chair and Professor of Psychology. B.S., Michigan State University; M.A., Ph.D., University of Iowa.

**Russell, Amy** (2008), Associate Professor of Biology. B.S., M.S., Bowling Green State University; Ph.D., University of Tennessee, Knoxville.

**Rutecki, Dawn M.** (2019), Assistant Professor of Integrative, Religious, and intercultural Studies. B.A., University of Pittsburgh; M.A., SUNY at Buffalo; Ph.D., Indiana University.

**Ryan, Bill** (2005), Professor of Music. B.M. SUNY Potsdam; M.M., D.M.A., University of Illinois at Urbana-Champaign.

**Ryan, Maureen** (1990), Assistant Professor of Nursing. B.S.N., St. Mary's College; M.S.N., Michigan State University; Ed.D., Eastern Michigan University.

**Ryan, Sheila** (2006), Senior Affiliate Faculty of Chemistry. B.S., Purdue University; M.S., Indiana University.

**Rybczynski, Stephen** (2012), Associate Professor of Biology. B.S., M.S., Northern Michigan University; Ph.D., Miami University.

**Ryefield, Misti** (2017), Assistant Professor of Allied Health Sciences. B.A., Siena Heights University; M.S., Capella University.

**Sá, Walter** (1999), Associate Professor of Psychology. B.A., University of Western Ontario; M.A., Ph.D., University of Toronto.

**Salas, Nora** (2014), Associate Professor of History. B.A., University of Michigan; M.S.W., Michigan State University.

**Sanford, James** (1980), Professor of Business Law. B.S., J.D., Indiana University; C.P.A.

**Santana, Michael** (2016), Assistant Professor of Mathematics. A.A., Palomar Community College; B.S., M.S., California State University; Ph.D., University of Illinois at Urbana-Champaign.

**Sass, Georgette** (2008), Associate Professor of Biology. B.S., Kent State University; Ph.D., University of North Carolina, Chapel Hill.

**Scantlebury, Michael** (2010), Associate Professor of Hospitality and Tourism Management. B.A., M.Phil., University of the West Indies Mona; Ph.D., University of Waterloo.

**Schaertel, Stephanie** (1994), Associate Professor of Chemistry. B.A., Swarthmore College; M.S., Ph.D., Cornell University.

**Schaub, Gayle** (2013), Associate Librarian. B.A., Lakeland College; M.A., American University in Cairo; M.L.I.S., University of Wisconsin-Milwaukee.

**Schaub, Mark F.** (1999), Dean of Brooks College and Professor of Writing. B.A., Lakeland College; M.F.A., Wichita State University; Ph.D., Purdue University.

**Schelling, Amy** (2007), Associate Professor of Education. B.S., M.Ed., Grand Valley State University; Ed.D., Western Michigan University.

**Schendel, Ellen** (2000), Professor of Writing. B.A., Birmingham Southern College; M.A., Florida State University; Ph.D., University of Louisville.

**Schiller, Ellen** (2001), Professor of Education. B.S., M.Ed., Grand Valley State University; Ph.D., Michigan State University.

**Schlewitz, Andrew** (2008), Assistant Professor of Latin American and Latino/a Studies and Political Science. B.A., Oregon State University; M.A., Ph.D., New School University.

**Schlicker, Steven** (1991), Professor of Mathematics. B.A., Michigan State University; M.A., Ph.D., Northwestern University.

**Schmit, John**, (2002) Associate Professor of Visual and Media Arts-Film and Video Production. B.A., Prescott College; M.A., The University of Iowa; M.F.A., The University of Iowa.

**Schneider, Laura** (2008), Associate Professor of Political Science, B.A., Skidmore College; M.A., Ph.D., Purdue University.

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**Schnyders, Harold S.** (2004), Professor of Physics. B.S., Calvin College; Ph.D., Michigan State University.

**Schrauben, Kristen S.** (2014), Director of School Psychology Graduate Program and Associate Professor of Psychology. B.A., Fairfield University; M.A., Ph.D., Michigan State University.

**Schriemer, Dale** (1988), Professor of Music. B.M., North Carolina School of the Arts; B.A., Michigan State University.

**Schuurman, Shelley D.** (2008), Associate Professor of Social Work. B.A., Calvin College; M.S.W., Western Michigan University; Ph.D., Michigan State University.

**Schwartz, Mark** (2004), Professor of Anthropology. B.A., Swarthmore College; M.A., Ph.D., Northwestern University.

**Schymik, Gregory B.** (2012), Associate Professor of Computing. B.S.E., University of Michigan; M.S., University of Detroit-Mercy; Ph.D., Arizona State University.

**Sciarini, Michael** (2011), Professor of Hospitality and Tourism Management. B.S., MA., Ph.D., Michigan State University.

**Scott-Tunstall, Crystal** (2020), Affiliate Professor of Environmental and Sustainability Studies. B.S., M.S., Southern Illinois University.

**Scripps, Jerry** (2001), Associate Professor of Computing. B.A, Taylor University; M.B.A., Boston College; M.S., Ph.D., Michigan State University.

**Seidel, Hannah** (2015), Associate Professor of Dance. B.A., Pomona College; M.F.A., The College of Brockport, SUNY.

**Sergeant, Anne** (2008), Associate Professor of Accounting. B.S., State University of New York, Buffalo; M.B.A., University of Washington; Ph.D., University of Arizona.

**Serrata, Médar** (2009), Associate Professor of Spanish. B.A., Florida International University; M.A., Ph.D., University of Texas at Austin.

**Shabani, Shkelzen** (2018), Assistant Professor of Biomedical Sciences. B.S., Oklahoma State University; Ph.D., Georgia State University.

**Shaffer, Christopher** (2014), Assistant Professor of Anthropology. B.S., Emory University; M.A., Ph.D., Washington University-St. Louis.

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**Shah, Anal** (2014), Associate Professor of Visual and Media Arts-Film and Video Production. B.F.A., Maharaja Sayajirao University, India; B.A., M.F.A., California Institute of the Arts.

**Shan, Patrick Fuliang**, (2003), Professor of History. B.A., Henan University; M.A., Liaoning University; M.A., Ph.D., McMaster University.

**Shang, Geling** (2001), Associate Professor of Philosophy. B.A., Fudan University; M.A., Old Dominion University; Ph.D., Temple University.

**Shannon, Ashley** (2005), Associate Professor of English. B.A., M.A., University of Notre Dame; Ph.D., University of Texas.

**Shapiro-Shapin, Carolyn G.** (1993), Professor of History. B.A., Adelphi University; M.A., Ph.D., Yale University.

**Shaw, Luanne, M.** (2003), Affiliate Faculty of Nursing. B.S.N., Calvin College; M.A., Trinity Theological Seminary; M.S.N., Indiana State University; D.N.P., Grand Valley State University.

**Sheffer, Joshua** (2016), Assistant Professor of Criminal Justice. B.A., Calvin College; J.D., Notre Dame Law School.

**Sheffield, Alfred** (1997), Associate Professor of Theatre. B.F.A., Illinois Wesleyan University; M.F.A., Northwestern University.

**Shell-Weiss, Melanie** (2011), Associate Professor and Chair of Integrative, Religious, and Intercultural Studies. B.A., University of Michigan; M.A., Ph.D., Michigan State University.

**Sherman, Ross** (2008), Associate Professor of Movement Science. B.Sc., University of Sunderland; M.Sc. Loughborough University; Ph.D., University of Bath.

**Shoemaker, Michael J.** (2006), Associate Professor of Physical Therapy. B.S., Calvin College; D.P.T., Slippery Rock University; Ph.D., Western Michigan University.

**Short, Taylor** (2017), Assistant Professor of Mathematics. B.S., College of William and Mary; M.S., Virginia Commonwealth University; Ph.D., University of South Carolina.

**Shoultz, Gerald** (2005), Associate Professor of Statistics. B.S., University of Alabama; M.S., Texas Tech University; M.S., Florida State University; Ph.D., University of South Carolina.

**Shreiner, Tamara** (2015), Associate Dean for Curriculum and Instruction and Associate of History. B.S., Eastern Michigan University; M.A., Ph.D., University of Michigan.

**Shupe, Ellen** (1997), Professor of Psychology. B.S., Eckerd College; M.A., Ph.D., University of Illinois at Urbana-Champaign.

**Sicilian, Paul** (1987), Professor of Economics. B.A., Tulane University; M.S., Ph.D., University of Illinois.

**Simons, Gerald** (1995), Professor of Economics. B.Soc.Sci., University of Birmingham, England; M.A., Ph.D., University of Kansas.

**Simpson, Thuy H.** (2012), Associate Professor of Finance. B.S., B.A., Ph.D., University of Nebraska-Lincoln.

**Singer, Cara M.** (2019), Assistant Professor of Speech-Language Pathology. B.A., University of Michigan; M.A., University of Iowa; Ph.D., Vanderbilt University.

**Slager, Dianne** (2015), Assistant Professor of Nursing. B.S.N., University of Michigan; M.S.N., Grand Valley State University; D.N.P., University of Michigan-Flint.

**Slater, Angela L.** (2014), Affiliate Faculty of Integrated Science. B.S., Hope College; M.Ed., Grand Valley State University.

**Smart, Robert** (1996), Professor of Chemistry. B.A., Albion College; Ph.D., Michigan State University.

**Smith, Brent A.** (2012), Associate Professor of Integrative, Religious, and Intercultural Studies. B.A., Hanover College; M.A., Divinity School of the University of Chicago; D. Min., Meadville Lombard Theological School.

**Smith, Brian A.** (2019), Assistant Professor of Chemistry. B.S., Grand Valley State University; Ph.D., Ohio State University.

**Smith, Christine** (1995), Assistant Chair and Professor of Psychology. B.A., Indiana University; M.A., Ph.D., Loyola University.

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**Smith, Cynthia** (2008), Associate Professor of Education. B.S., Grand Valley State University; M.A., Ph.D., Michigan State University.

**Smith, Regina M.** (2002), Associate Professor of German. B.A., Washington University in St. Louis; M.A., Ph.D., University of Wisconsin-Madison.

**Smith, Robert** (1996), Professor of Chemistry. B.A., Albion College; Ph.D., Michigan State University.

**Smith, Shelly** (2004), Professor of Mathematics. B.A., Willamette University; B.A., Portland State University; M.A., Ph.D., Arizona State University.

**Smith, Stafford Hiroshi** (2008), Associate Professor of Visual and Media Arts - Photography. B.A., Wesleyan University; M.F.A., Cornell University.

**Smith, Steven** (2005), Professor of Social Work. B.A., Indiana University; M.S.W., Ph.D., Western Michigan University.

**Smith-Colton, Robin L.** (2000), Professor of Social Work. B.S., M.S.W., Grand Valley State University; Ph.D., Loyola University-Chicago.

**Smith Kelly, Claudia** (2006), Associate Professor of Economics. B.A., M.S., University of the West Indies, Jamaica; Ph.D., Syracuse University.

**Smither, James** (1990), Professor of History. B.A., University of Chicago; M.A., Ph.D., Brown University.

**Snedeker, Jonathan** (2018), Affiliate Faculty of Communications. B.A., Michigan State University; M.S. Grand Valley State University.

**Snyder, Eric** (2002), Professor of Biology. B.S., Manchester College; M.S., Central Michigan University; Ph.D., Idaho State University.

**Sobeck, Corey M.** (2008), Assistant Professor of Physical Therapy. B.S., M.S., Grand Valley State University; O.M.P.T., D.Sc.P.T., Oakland University.

**Soman, Sherril** (2000), Dean, College of Education and Professor of Chemistry. B.Sc., Prairie View A&M University; Ph.D., Purdue University.

**Sozen, Mehmet** (2007), Professor of Engineering. B.S., Middle East Technical University; M.S., University of Petroleum and Minerals; Ph.D., The Ohio State University.

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**Spear, Andrew** (2008), Associate Professor of Philosophy. B.A., University of Wisconsin-Green Bay; M.A., State University of New York; Ph.D., State University of Buffalo.

**Spencer, Anthony** (2020), Assistant Professor of Communication. B.J., University of Texas; M.J., University of North Texas; Ph.D., University of Oklahoma.

**Spring, Robin** (2014), Associate Professor of Communications. B.A., M.S., Grand Valley State University.

**Spoelstra, Sandra** (2015), Associate Professor of Nursing. B.S.N., Northern Michigan University; M.S.N., Northern Michigan University; Ph.D., Michigan State University.

**Srinivasan, Sailakshmi** (2004) Senior Affiliate Instructor of Mathematics. B.S., M.S., Madras University.

**Stabler, Scott** (2004), Professor of History. M.A., University of Houston; Ph.D., Arizona State University.

**Stansbie, Paul** (2003), Associate Dean and Professor of Hospitality and Tourism Management. B.S., Southern New Hampshire University; M.B.A., University of Nottingham; Ph.D., The University of Plymouth.

**Stark, David** (2001), Professor of History and Coordinator for Latin American and Latino/a Studies. B.A., M.A., Ph.D., Indiana University.

**Staves, Mark P.** (1996), Professor of Biology and Cell and Molecular Biology. B.S., M.S., Ph.D., University of Texas at Austin.

**Steinman, Alan D.** (2001), Professor of Water Resources. B.S., University of Vermont; M.S., University of Rhode Island; Ph.D., Oregon State University.

**Stephens, Ronald** (2003), Associate Professor of African/American Studies. B.A., M.A., Wayne State University; M.A., Ph.D., Temple University.

**Stephenson, Paul** (1995), Professor of Statistics. B.S., Bob Jones University; M.S., Ph.D., Clemson University.

**Stevens, Terry** (2016), Affiliate Professor of Engineering. B.S.E.E., University of Michigan.

**Stevenson, John** (2000), Professor of Physical Therapy. B.A., Vassar College; M.S., The Pennsylvania State University; M.S., Central Michigan University; Ph.D., Indiana University.

**Stewart, Jennifer** (2001), Associate Professor of Sociology. B.A., Michigan State University; M.A., Ph.D., University of South Carolina.

**Stickler, Laurie G.** (2009), Associate Professor of Physical Therapy. B.S., M.S., Grand Valley State University; D.H.S., University of Indianapolis.

**Stieler, Kathryn** (2003), Professor of Music. B.M., Western Michigan University; M.M., Bowling Green State University; D.M.A., Cincinnati College-Conservatory of Music.

**Stillerman, Joel P.** (2002), Professor of Sociology and Faculty in Residence, Frederik Meijer Honors College. B.A., Bennington College; M.A., Ph.D., New School for Social Research.

**Stinnett, Jerry** (2018), Assistant Professor of Writing. B.A., M.A., Northeastern State University; Ph.D., University of Oklahoma.

**Stockdale, Sally S.** (2007), Affiliate Faculty of Nursing. B.S.N., M.S.N., Grand Valley State University.

**Stockton, Terry** (2009), Affiliate Professor of Education. B.S., Grand Valley State University; M.Ed., Aquinas College.

**Stolle, Elizabeth** (2007), Associate Professor of Education. B.A., University of Michigan; M.Ed., Arizona State University; Ph.D., Arizona State University.

**Stolley, Amy Ferdinandt** (2016), Associate Professor of Writing. B.A., St. Norbert College; M.A., Marquette University; Ph.D., Purdue University.

**Stolze-Rybczynski, Jessica** (2020), Affiliate Professor of Biomedical Sciences. B.S., Michigan Technological University; M.S., Northern Michigan University; Ph.D., Miami University.

**Stone, Amy** (2002) Senior Affiliate Instructor of Mathematics. B.S., Michigan Technological University; M.A., Western Michigan University.

**Storey, Elizabeth** (1987), Assistant Professor of Education. B.A., M.Ed., Arizona State University.

**Stroik, Laura** (2014), Associate Professor of Biomedical Sciences. B.S., University of San Diego; M.A., Ph.D., Arizona State University.

**Strom, Kirsten** (2000), Professor of Visual and Media Arts - Art History. B.A., University of Illinois; M.A., School of the Art Institute of Chicago; Ph.D., University of Iowa.

**Strouse, Susan** (2013), Associate Professor of Nursing. B.S.N., Michigan State University; M.S.N., Saginaw Valley State University; Ph.D., Duquesne University School of Nursing.

**Strychar, Kevin** (2012), Professor of Water Resources. B.S., M.S., University of New Brunswick; Ph.D., Central Queensland University.

**Suh, Jiyeon** (2008), Associate Professor of Mathematics. M.S., Ph.D., University of Illinois.

**Sultana, Rahat** (2016), Affiliate Professor of Engineering. M.S.E., Grand Valley State University.

**Sun, Wei** (2005), Professor of Economics. B.A., Beijing Foreign Studies University, China; M.S., Ph.D., University of Kentucky.

**Sun, Wanxiao** (2006), Professor of Geography and Sustainable Planning. B.S., Nanjing University; M.S., Chinese Academy of Sciences; Ph.D., Johannes Gutenberg University of Mainz.

**Sunden, Susan** (2012), Assistant Professor of Therapeutic Recreation. B.S., M.Ed., Grand Valley State University.

**Swantek, Paul** (2008), Senior Affiliate Professor of Music. B.M., Boston University; M.M., The Catholic University of America.

**Swets, Benjamin** (2008), Professor of Psychology. B.A., Hope College; M.A., Ph.D., Michigan State University.

**Swieringa, Robert** (2005), Assistant Professor of Communications. B.A., M.A., Ph.D., University of Illinois.

**Swift, Maris** (2000), Associate Professor of Business Law. B.S.W., Nazareth College; M.L.I.R., Michigan State University; J.D., Cooley Law School.

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**Syfert, Timothy J.** (2006), Affiliate Faculty of Practice in Management. B.S., Oklahoma State University; M.B.A., Rensselaer Polytechnic Institute; Ph.D., Capella University.

**Sylvester, Frank** (2004), Professor of Biomedical Sciences. B.S., Cornell University; M.A., Drake University; Ph.D., Medical College of Wisconsin.

**Szarecka, Agnieszka** (2009), Associate Professor of Cell and Molecular Biology. M.Sc., Ph.D., Adam Mickiewicz University.

**Tafel, Heather Leigh** (2004), Associate Professor of Political Science. B.A., Eckerd College; A.M., Ph.D., University of Illinois at Urbana-Champaign.

**Talbert, Robert** (2011), Professor of Mathematics. B.S., Tennessee Technological University; M.S., Ph.D., Vanderbilt University.

**Tallman, Melissa** (2012), Associate Professor of Biomedical Sciences. B.A., George Washington University; Ph.D., City University of New York.

**Talon, Durwin** (2015), Associate Professor of Visual and Media Arts - Illustration. B.F.A., Savannah College of Art and Design; M.A., Syracuse University; M.F.A., University of Hartford.

**Tao, Yonglei** (1990), Professor of Computing. B.S., Beijing University; M.S., North China Institute of Computing Technology; M.S., Ph.D., University of Iowa.

**Tate, Sarah** (2016), Affiliate Professor of History. B.A., Western Michigan University; M.A., Central Michigan University.

**Tefera, Akalu** (2000), Professor of Mathematics. B.Sc., M.Sc., Addis Ababa University; Ph.D., Temple University.

**Terry, Geraldine** (2012), Associate Professor of Nursing. B.S.N., Southern Illinois University at Edwardsville; M.S.N., University of Michigan; M.D., Michigan State University.

**Thomas, Derek** (2010), Associate Professor of Biomedical Sciences. B.Sc., Ph.D., University of Wales, Swansea.

**Thomas, Tricia**(2017), Associate Dean for Practice and Associate Professor. B.S.N, M.S.N, University of Michigan; PhD, Waldon University.

**Thompson, Anthony W.** (1997), Professor of Visual and Media Arts - Photography. B.S., University of Dallas; M.F.A., Washington University Saint Louis.

**Thompson, Cynthia** (2013), Associate Professor of Biomedical Sciences. B.S., University of California Davis; M.A., Ph.D., Kent State University.

**Thompson, Elizabeth Guinevere** (2014), Associate Professor of Visual and Media Arts - Illustration. B.A., Indiana University; M.F.A., University of Hartford.

**Thorgaard, Scott N.** (2014), Associate Professor of Chemistry. B.S., University of Wisconsin-Eau Claire; Ph.D., University of Minnesota.

**Thorpe, Patrick A.** (1988), Professor of Biology and Cell and Molecular Biology. B.S., Texas Lutheran College; M.S., Ph.D., University of Texas.

**Thull, Greg** (2002), Senior Affiliate Instructor of Mathematics. B.S., M.Ed. Aquinas College; M.S., Michigan State University.

**Tian, Lin** (2009), Senior Affiliate Professor of Communications. B.A., Nankai University; M.A., Indiana University.

**Tiernan, Chelsea** (2020), Affiliate Professor of Biomedical Sciences. B.A., Western State College; Ph.D., Michigan State University.

**Topper, Andrew** (1999), Associate Professor of Education. B.S., Grand Valley State University; Ph.D., Michigan State University.

**Toth, Christopher** (2009), Associate Professor of Writing. B.A., Hiram College; M.A., Ph.D., Iowa State University.

**Towse, Theodore** (2017), Associate Professor of Biomedical Sciences. B.S., University of Massachusetts Amherst; M.S., University of Massachusetts Amherst; Ph.D., Michigan State University.

**Trefftz, Christian** (2002), Professor of Computing. B.S., Universidad; M.S., Western Michigan University; Ph.D., Michigan State University.

**Tripp, Steven** (1990), Professor of History. B.A., University of California, Berkeley; M.A., University of California, Davis; Ph.D., Carnegie Mellon.

**Truskowski, Scott** (2009), Associate Professor of Occupational Science and Therapy. B.S., M.S., Grand Valley State University; Ph.D., Nova Southeastern University.

**Tsou, Pei-Lan** (2006), Associate Professor of Cell and Molecular Biology. B.S., National Taiwan University; Ph.D., North Carolina State University.

**Tunstall, Dwayne** (2008), Associate Professor of Philosophy. A.A.S., Rappahannock Community College; B.A., Christopher Newport University; M.A., Ph.D., Southern Illinois University at Carbondale.

**Tusch, Guenter** (2001), Professor of Computing. M.S., University of Hanover, Germany; Ph.D., Medical School Hanover.

**Tutt, Kevin** (2003), Professor of Music. B.S., M.M., Ph.D., Pennsylvania State University.

**Tuma, Lorie** (2014), Assistant Professor of Hospitality and Tourism Management. B.S., M.S., Central Michigan University; Ed.D., Walden University.

**Tynes, Jennifer** (2015), Affiliate Professor of Writing. B.A., Knox College; M.F.A., Brown University; Ph.D., University of Denver.

**Uglietta, John** (2004), Professor and Chair of Philosophy. B.A., University of Chicago; J.D., University of Michigan Law School; M.A., Ph.D., The Johns Hopkins University.

**Valdez, Glenn** (2006), Professor of Psychology. B.A., Tufts University; M.A., Ph.D., University of California.

**Vallery, Richard** (2008), Associate Professor of Physics. B.A., Gustavus Adolphus College; M.S., Ph.D., University of Michigan.

**VandenBerg, Neal** (2016), Assistant Professor of Accounting. B.B.A., M.B.A., Grand Valley State University; Ph.D., Temple University.

**VandenPlas, Jessica** (2011), Associate Professor of Chemistry. B.S., University of Wisconsin-Madison; M.S., The George Washington University; Ph.D., The Catholic University of America.

**VanderKooi, Marie** (2015), Assistant Professor of Nursing. B.S.N., University of Michigan; M.S.N., D.N.P., Grand Valley State University.

**VanderMolen, Julia** (2013), Associate Professor of Public Health. B.S., Western Michigan University; M.S., Clemson University; M.A., University of Alabama; M.Ed., Grand Valley State University; Ph.D., Western Michigan University.

**Vandermolen, Rick** (2016), Assistant Professor of Education. B.A., University of Western Ontario; M.A., Michigan State University; Ed.D., Eastern Michigan University.

**VanderPoel, Jennifer** (2006), Instructor of Radiologic and Imaging Sciences. B.S., Grand Valley State University.

**Van Wormer, Heather** (2006), Associate Professor of Anthropology. B.A., University of Nevada; Ph.D., Michigan State University.

**Vaughan, Dana** (2018), Clinical Faculty of Medical Laboratory Science. B.S., Northern Michigan University.

**Vavrikova, Marlen** (2005), Professor of Music. Diploma, Janacek Conservatory of Music, Ostrava; M.M., Eastman School of Music; D.M.A., University of Illinois at Urbana-Champaign.

**Veasy, Joshua** (2014), Assistant Professor of Physics. B.S., University of Rochester; M.S., and Ph.D., Michigan State University.

**Veenstra, Victoria** (2000), Associate Professor of Visual and Media Arts - Photography. B.F.A., M.F.A., University of Michigan.

**Vèlez Ortiz, Melba** (2009), Associate Professor of Communications. B.A., M.A., Purdue University-Calumet; Ph.D., University of Illinois at Urbana-Champaign.

**Vessey, David** (2008), Professor of Philosophy. B.A., St. Olaf College; M.A., Ph.D., University of Notre Dame.

**Vigna, Janet** (2002), Professor of Biology. B.S., University of Michigan; Ph.D., University of Iowa.

**Villarreal, Melissa** (2015), Assistant Professor of Social Work. B.A., Hope College; M.S.W., Ph.D., Western Michigan University.

**Villatoro, Daphne** (2010), Affiliate Faculty in Spanish. B.A., Grand Valley State University; M.A., Western Michigan University.

**Viviano, Norwood** (2005), Associate Professor of Visual and Media Arts-Sculpture. B.F.A., New York State College of Ceramics at Alfred University; M.F.A., Cranbrook Academy of Art.

**Vlietstra, Sheryl** (2012), Affiliate Professor of Education. B.S., Central Michigan University; M.Ed., Grand Valley State University.

**Vogelzang, Jody** (2011), Associate Professor of Clinical Dietetics. B.S., Michigan State University; M.S., Grand Valley State University; M.A.T., Miami University; Ph.D., Waldon University.

**Vrooman, Michael** (2003), Associate Professor of Spanish. B.A., University of Toledo; M.A., Bowling Green State University; Ph.D., University of Massachusetts-Amherst.

**Vu, Kristen** (2015), Assistant Professor and Program Director of Medical/Dosimetry Educational Coordinator and RT Faculty. B.S., M.S., Grand Valley State University; M.S., Dosimetry Certificate, The University of Texas MD Anderson Cancer Center School of Health Professions.

**Wagendorp, Jeroen** (2004), Associate Professor of Geography and Sustainable Planning. B.S., Aquinas College; M.A., Western Michigan University; Ph.D., University of Oklahoma; AICP, GISP.

**Walhof, Darren R.** (2003), Professor of Political Science. B.A., Calvin College; Ph.D., University of Minnesota.

**Walker, Thomas** (2010), Associate Professor of Political Science. M.A., University of Michigan; M.A., University of Kent at Canterbury; Ph.D., Rutgers University.

**Wallace, Adrienne** (2016), Assistant Professor of Communications. B.S., M.S., Grand Valley State University; Ph.D., Western Michigan University.

**Wallace, Heather** (2011), Associate Professor of Public Health. B.A., Indiana University-Purdue University, IUPUI; M.P.H., Ph.D., University of Kentucky, Lexington.

**Wallace, Kody** (2019), Assistant Professor of Music. B.M.E., University of Florida; M.M.E., Florida State University; Ph.D., Florida State University.

**Wallar, Brad** (2003), Professor of Chemistry. B.S., University of Michigan-Flint; Ph.D., University of Minnesota.

**Walsh, Benjamin** (2020), Assistant Professor of Management. B.A., Augustana College; M.A., University of Northern Iowa; M.A., Ph.D., University of Connecticut.

**Walsh, John** (2010), Associate Professor of Criminal Justice. B.A., M.A., Southern Illinois University at Carbondale; Ph.D., Indiana University, Bloomington.

**Walz, Anna** (2009), Associate Professor of Marketing. B.S., M.B.A., University of Southern Indiana; Ph.D., Louisiana State University.

**Wampler, Peter** (2004), Professor of Geology, Frederik Meijer Honors College. B.S., Western Washington State University; M.S., Oregon State University; Ph.D., Oregon State University.

**Wang, Xinli** (2017), Assistant Professor of Computing. B.S., Nanjing Institute of Meteorology; M.S., Ph.D., Michigan Technological University.

**Wangdi, Yosay** (2003), Professor of History. B.A., Loreto College; M.A., Jadavpur University; M.S., Ph.D., University of Nevada, Reno.

**Ward, Jeffrey** (2013), Professor of Engineering. B.S., Brigham Young University; M.S., Ph.D., Utah State University.

**Ward, Séverine** (2011), Affiliate Faculty of French. Maîtrise en L.E.A., La Sorbonne Paris IV; M.A., Ph.D., Michigan State University.

**Warkoczeski, Larry** (2019), Affiliate Faculty of Health Administration. B.S., Western Michigan University; J.D., Valparaiso University; M.H.S.A., University of Michigan, Ann Arbor.

**Warsen, Gregory** (2017), Assistant Professor of Education. B.A., Calvin College; M.Ed., Ph.D., Western Michigan University.

**Watts, Keith E.** (1996), Associate Professor of Spanish. B.A., Eastern Mennonite College; M.A., University of Virginia; Ph.D., University of New Mexico.

**Weber, John C.** (1995), Professor of Geology. B.S., M.S., Southern Illinois University; Ph.D., Northwestern University.

**Weekley, Ayana K.** (2010), Associate Professor of Women, Gender, and Sexuality Studies. B.A., Truman State University; Ph.D., University of Minnesota.

**Weibel, Deana** (2003), Professor of Anthropology and Integrative, Religious, and Intercultural Studies. B.A., University of California, Irvine; M.A., Ph.D., University of California, San Diego.

**Weis, Richard** (1991), Associate Professor of Art and Design. B.F.A., Kansas City Art Institute; M.F.A., Indiana University.

**Welling, Bethany** (2008), Affiliate Instructor of Mathematics. B.S., Indiana Wesleyan University.

**Wells, Clark** (1997), Associate Professor of Mathematics. B.S., University of Kentucky; M.S., Purdue University; Ph.D., University of Kentucky.

**Wells, Pamela** (1995), Professor of Mathematics. B.S., University of Wisconsin-Oshkosh; M.S., Purdue University; Ph.D., University of Kentucky.

**Wendland-Liu, Joel** (2013), Associate Professor of Integrative, Religious, and Intercultural Studies. B.A., The Evergreen State College; M.A., University of Texas at El Paso; Ph.D., Washington State University.

**Werner, R. Marshall** (2020), Affiliate Faculty of Chemistry. B.S., Cornell University; Ph.D., University of Maryland College Park.

**Westbrook, Laurel** (2009), Associate Professor of Sociology. B.A., M.A., Ph.D., University of California, Berkeley.

**White, Anna** (2018), Assistant Librarian; B.A., Grand Valley State University; M.S., University of Illinois at Urbana-Champaign.

**White, Brian** (1990), Professor of English. B.A., M.A., Ph.D., University of Wisconsin-Madison.

**White, Julie** (2002), Senior Affiliate Professor of Writing. B.A., M.A., University of Toledo.

**Whitman, Heather** (2015), Affiliate Faculty of Biology. B.S., Grand Valley State University; M.S., Ohio State University.

**Willey, Mikhila N.** (2015), Assistant Professor of Psychology. B.S., M.A., Ph.D., Michigan State University.

**Wiljanen, Dan** (2016), Affiliate Faculty of Practice in Management. B.A., M.A., University of West Florida; Ph.D., Capella University.

**Willey, Kristin** (2016), Assistant Professor of Occupational Science and Therapy. B.S., Western Michigan University; M.S., University of Indianapolis.

**Willey, Thomas** (1999), Associate Professor of Finance. B.S.B.A., University of Kansas; M.B.A., University of Houston; D.B.A., Mississippi State University.

**Williams, Elizabeth** (Betsy) (2014), Assistant Librarian. B.S., Texas A&M; M.L.I.S., University of Illinois, Urbana-Champaign.

**Williams, Judy** (2017), Affiliate Faculty in Education. M.S., East Texas State University.

**Williams, Mark** (2008), Professor and Associate Chair of Music. B.M., Michigan State University; M.M., D.M.A., The University of Texas at Austin.

**Williams, Olivia** (2005), Associate Professor of Education. B.A., M.A., Oakland University; Ph.D., Michigan State University.

**Williams, Todd J.** (2008), Associate Professor of Psychology. B.A., Ph.D., University of Alberta.

**Wilson, Alex** (2017), Assistant Professor of Music. B.M., Grand Valley State University; M.M., Arizona State University.

**Wilson, Carol** (2008), Affiliate Faculty in French. B.A., M.A., University of Northern Iowa.

**Winchester, Randy** (2002), Associate Professor of Chemistry. B.A., New College; Ph.D., University of Florida.

**Winter, Janet** (2012), Associate Dean of Undergraduate Programs and Associate Professor of Nursing. B.S.N., University of Michigan; M.P.A., Grand Valley State University; D.N.P., Rush University.

**Winther, Jennifer** (2011), Associate Professor of Biology. B.A., University of Chicago; Ph.D., University of Colorado, Boulder.

**Wittenbraker, Paul** (1997), Professor of Visual and Media Arts-Visual Studies. B.A., Wabash College; M.F.A., Cranbrook Academy of Art.

**Witucki, Laurie** (2000), Professor of Chemistry. B.S., Cedar Crest College; M.A., Ph.D., Princeton University.

**Wolf, Michael** (2000), Chair and Professor of Psychology. B.A., University of California; M.A., Ph.D., University of Colorado.

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**Wolffe, Gregory S.** (1998), Professor of Computing. B.S., Michigan State University; M.S., Ph.D., University of Wisconsin.

**Woller-Skar, M. Megan** (2009), Associate Professor of Biology. B.S., Miami University; M.S., Central Michigan University; Ph.D., Bowling Green State University.

**Wolverton, Maureen** (2001), Senior Affiliate Faculty of Integrative, Religious, and Intercultural Studies. B.A., Michigan State University; M.A., Pacifica Graduate Institute.

**Wooddell, Michelle** (2014), Assistant Professor of Nonprofit Management. B.A., University of Michigan; M.P.A., New York University; Ph.D., Wayne State University.

**Woodman, Alisha** (2016), Affiliate Faculty of Computing. B.S., M.S., Grand Valley State University.

**Woodring, Ira** (2016), Affiliate Faculty of Computing. B.S., M.S., Grand Valley State University.

**Woznicki, Sean** (2019), Assistant Professor of Water Resources. B.S., M.S., Ph.D., Michigan State University.

**Wright, Diane** (1992), Professor of Spanish. B.A., Aquinas College; M.A., Ph.D., Michigan State University.

**Wroblewski, Michael** (2012), Associate Professor of Anthropology. B.A., Middlebury College; M.A., Ph.D., University of Arizona.

**Wu, Mingyu** (2009), Associate Professor of Occupational Safety and Health Management. B.S., China University of Geosciences; M.S., Indiana University; Ph.D., West Virginia University.

**Wu, Shinian** (1998), Professor of English. B.A., Xi'an Institute of Foreign Languages; M.A., Ph.D., Northern Arizona University.

**Wyble, J. Randy** (2008), Associate Professor of Therapeutic Recreation and Department Chair of Diagnostic and Treatment Sciences. B.S., M.S., Michigan State University; D.H.Ed., A.T. Still.

**Xu, Gang** (2006), Associate Professor of Geography and Sustainable Planning. B.S., Nanjing University; M.S., Chinese Academy of Sciences; Ph.D., Johannes Gutenberg University of Mainz.

**Xu, Xiaojuan (Xandra)** (1994), Professor of Psychology. B.S., Beijing University; M.S., Ph.D., University of Michigan.

**Yalda, Christine** (2004), Associate Professor of Criminal Justice. B.A., University of Michigan; J.D., Boston University Law School; M.S., Ph.D., Arizona State University.

**Yancey, Jason E.** (2009), Associate Professor of Spanish. B.A., M.A., Brigham Young University; Ph.D., University of Arizona.

**Yang, Fang** (2016). Associate Professor of Communications. B.A., Sichuan University, China; M.A., University of Alabama; Ph.D., Michigan State University.

**Yen, Huei Lan** (2012), Associate Professor of Spanish. B.A., Jinan University; M.A., Ph.D., University of Oklahoma.

**Yidana, Richard** (2006), Associate Professor of Sociology and African/African American Studies. B.A., Clark University; M.A., Ph.D., Binghamton University.

**Youker, Brandon W.** (2012), Assistant Professor of Social Work. B.A.S.W., Michigan State University; M.S.S.W., Columbia University; Ph.D., Western Michigan University.

**Ysasi, Raul** (2013), Affiliate Professor of Education. B.A., M.A., Grand Valley State University; M.A., Michigan State University; Ed.D., Wayne State University.

**Yu, Yan** (1998), Professor of Sociology. B.A., M.A., Beijing University; Ph.D., Florida State University.

**Yu, Paul Woo Dong** (2003), Professor of Mathematics. B.S., University of Illinois at Urbana; M.S., Ph.D., Illinois State University.

**Yuhas, Michael** (1985), Professor of Accounting and Taxation. B.A., University of Notre Dame; J.D., Indiana University; LL.M., Georgetown University; LL.M., University of Miami; C.P.A.

**Zack, Suzanne** (2014), Affiliate Professor of Visual and Media Arts, Film and Video Production. B.S. William James College; M.F.A., Temple University.

**Zaszlavik, Katalin** (2003), Associate Professor of Visual and Media Arts-Art Education. Diploma, Hungarian College of Applied Arts; M.A., Ph.D., University of Illinois.

**Zemmel, Gail** (2008), Affiliate Professor of Hospitality and Tourism Management. M.A., Michigan State University.

**Zettle-Sterling, Renee** (2000), Professor of Visual and Media Arts - Metals and Jewelry. B.F.A., Indiana University of Pennsylvania; M.A., M.F.A., Edinboro University of Pennsylvania.

**Zhang, Xianguang (Peter)** (2008), Professor of Communications. B.A., Xi'an Jiaotong University; M.A., Nankai University; Ph.D., Indiana University.

**Zhao, Yi** (2006), Associate Professor of Political Science. B.A., Peking University; M.A., Graduate School of the Chinese Academy of Social Sciences; M.S.L., Yale Law School; Ph.D., Yale University.

**Zinman, Donald** (2006), Professor of Political Science. B.A., Brandeis; M.A., Ph.D., University of Texas at Austin.

**Zivi, Karen** (2011), Professor of Political Science. B.A., University of Virginia; M.A., Ph.D., Rutgers University.

**Zuber, Duane** (2018), Affiliate Professor of Hospitality and Tourism Management. B.S., M.A., Grand Valley State University.

**Zuidema, Scott** (2017), Affiliate Faculty of Engineering. B.S.E., Grand Valley State University.

**Zondervan, Angela** (2014), Affiliate Faculty of Practice in Finance. B.A., Calvin College; M.B.A., Cornerstone University; D.B.A., Capella University.

**Zwart, David** (2012), Associate Professor of History. B.A., Dordt College; M.A., California State University, Fresno; Ph.D., Western Michigan University.

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