



BOISE STATE UNIVERSITY

2017 - 2018
GRADUATE
C A T A L O G

Graduate Catalog

2017-2018



BOISE STATE UNIVERSITY

The graduate catalog describes the graduate programs offered by Boise State University and the policies, procedures, and requirements that govern those programs. Other pertinent university publications are the *Boise State University Student Handbook*, and the *Boise State University Policy Manual*. All of these publications are available online at www.boisestate.edu along with the online schedule of classes. Prospective students are also encouraged to contact the graduate program coordinator of the program of interest for additional information.

Policy Statement Concerning Catalog Contents

The purpose of the Boise State Catalog is to provide current, articulate and accurate information about Boise State University for guidance of prospective students, for faculty and administrative officers, for students currently enrolled, and for other education or allied agencies.

Catalogs, bulletins, course and fee schedules, etc., are not to be considered as binding contracts between Boise State University and students. The university and its divisions reserve the right at any time, without advance notice, to: (a) withdraw or cancel classes, courses, and programs; (b) change fee schedules; (c) change the academic calendar; (d) change admission and registration requirements; (e) change the regulations and requirements governing instruction in, and graduation from, the university and its various divisions; and (f) change any other regulations affecting students. Changes shall go into force whenever the proper authorities so determine, and shall apply not only to prospective students but also to those who are degree-seeking at the time in the university. When economic and other conditions permit, the university tries to provide advance notice of such changes. In particular, when an instructional program is to be withdrawn, the university will make every reasonable effort to ensure that students who are within two years of completing the graduation requirements, and who are making normal progress toward the completion of those requirements, will have the opportunity to complete the program which is to be withdrawn.

Note: The courses contained in this catalog do not preclude or limit the university in its offerings for any semester or session nor do they restrict the university to the time block (semester) represented by the approved academic calendar.

Boise State University attempts to respond to the educational needs and wants of any and all students when expressed. Requests for courses to be offered whenever they are desired will be favorably received providing that a minimum of 12 qualified students enrolls in the class and a competent faculty member is available to teach the course.

Boise State Notice of Non-Discrimination

It is the policy of Boise State University to comply with all federal, state and local authorities requiring nondiscrimination, including but not limited to Title VI of the Civil Rights Act of 1964, the Civil Rights Restoration Act of 1987, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1990 (ADA), the Age Discrimination Act of 1975, and Executive Orders 12898 (Environmental Justice) and 13166 (Limited English Proficiency). Boise State is an equal opportunity employer.

The University does not exclude from participation in, deny the benefits of, or subject any individual to discrimination on the basis of race, color, national origin, sex, sexual orientation, gender identity, disability, income, protected veteran status, limited English proficiency, or any other status protected under applicable federal, state or local law.

For more information or if you believe you have been subject to discrimination on the basis of sex, sexual orientation, gender identity, or disability, please contact Boise State's Title IX Coordinator:

Office of Institutional Compliance and Ethics
Title IX Coordinator
Riverfront Hall, Suite 306
1910 University Drive, Boise, ID 83725-1215
(208) 426-1258
reportdiscrimination@boisestate.edu

For more information or if you believe you have been subject to discrimination on any other basis, please contact:

Office of Institutional Compliance and Ethics
Title VI Coordinator
Riverfront Hall, Suite 306
1910 University Dr, Boise, ID 83725-1215
(208) 426-1258
titlevicoordinator@boisestate.edu

You may also file a complaint with:

U.S. Department of Education
Office of Civil Rights (OCR)
810 3rd Avenue #750 Seattle, WA 98104
(206) 607-1600
ocr.seattle.ed.gov

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Academic Calendar — 2017-2018

FALL SEMESTER 2017

Deadlines by Session—Fall 2017								
Session	Fee Payment Deadline	Start Date*	Last Date to Waitlist or Add Without Permission Number	Drop Fee Begins	Last Date for Refund & Last Date to Register/ Add or Drop Without a W**	Last Date to Drop or Completely Withdraw With a W. No Refund.	Last Date of Classroom Instruction	Grades Due***
Regular	August 17	August 21	August 25	August 27	September 1	October 27	December 8 ****	December 19
1st 5 week	August 17	August 21	August 22	August 25	August 23	September 12	September 22	September 26
2nd 5 week	August 17	September 25	September 26	September 29	Sept 27	October 17	October 27	October 31
3rd 5 week	August 17	October 30	October 31	November 3	November 1	November 27	December 8	December 19
1st 8 week	August 17	August 21	August 23	August 26	August 25	September 26	October 13	October 17
2nd 8 week*****	August 17	October 16	October 18	October 21	October 20	November 27	December 8	December 19
1st 10 week	August 17	August 21	August 23	August 26	August 29	October 5	October 27	October 31
2nd 10 week	August 17	September 25	September 27	September 30	October 3	November 9	December 8	December 19

Special Session 1 and Special Session 2 deadlines are available on the Registrar's Office website.

*Complete withdrawals on or after this date are subject to a \$40.00 processing fee.

**Last date to add with permission number, last date to drop or completely withdraw without a W and receive a refund (less a \$40.00 processing fee), last date to change from credit-to-audit or audit-to-credit.

***Grades will not be considered official until the end-of-term processing has been completed.

****The final exams for this session are December 14-18. See Final Examination Schedule listed on the Registrar's Office website for exact dates and times.

*****This session is eight calendar weeks long with seven weeks of in-class instruction due to the Thanksgiving Week Break.

2016

- October 1, Sat..... The 2017-2018 Free Application for Federal Student Aid (FAFSA) can be submitted beginning today.
- December 5, Mon..... 2017-2018 academic year on-campus housing application available at noon for residence halls, suites, and townhomes.
- 15, Thu Priority date for nonresident scholarships, all admission materials for new and transfer students must be received in Admissions.

2017

- February 15, Wed..... 2017-2018 FAFSA filing priority date for continuing students, new freshmen, and transfer students. Eligible students must apply by this date to maximize the amount of aid you receive. The priority filing date is not a deadline, so you may still submit the FAFSA even if the priority filing date has passed.
- 15, Wed..... Scholarship Priority Date to have all admission materials received in Admissions for new freshman and transfer students to be considered for scholarships for the 2017-2018 year. Last day for the *Boise State Scholarship Application* (online) to be submitted to the Financial Aid Office. The Boise State Scholarship website contains a list of additional scholarships that require a separate application.
- March 27, Mon..... Registration for continuing students begins for Fall 2017 (by appointment)
- May 15, Mon..... Priority date for undergraduate, degree-seeking applicants to have all admission materials received by Admissions. Applicants who miss this priority date will be considered for degree-seeking status on a space-available basis. Students who are not eligible for degree-seeking admission may be considered for nondegree-seeking status and are ineligible for financial aid.
- 15, Mon..... Priority date for international student application materials to be received by Admissions for fall semester consideration.
- June 1, Thu Priority date to submit all financial aid documents to maintain 2017-2018 work-study, supplemental grants (SEOG) and Perkins loans. Funding for these programs is limited; these awards may be cancelled if documents are not submitted by this date.
- 30, Fri..... Last day to submit *Application for Admission to Candidacy* form to the Graduate College for graduate degrees to be awarded in December 2017.
- July 1, Sat..... First day students can begin using 2017-2018 work-study awards.
- 25, Tue..... First installment of payment plan due for residence halls, suites, and townhomes residents (on-campus housing only).

Fall Semester 2017 continued

August	7, Mon.....	Recommended date to finalize student course schedules for Fall 2017 for financial aid purposes.
	14, Mon.....	University, college, and department activities for faculty begin this week.
	18, Fri.....	Residence halls, suites, and townhomes resident check-in begins at 8:00 a.m. (in 1.5 hour shifts).
	18, Fri.....	Convocation
	21, Mon.....	Course instruction begins.
	25, Fri.....	Weekend courses begin.
	25, Fri.....	Last day faculty may submit drops for nonattendance during the first week of the semester to the Registrar's Office.
	25, Fri.....	Last day to apply for graduation for graduate and undergraduate degrees and certificates to be awarded in December 2017. Late applications will be accepted but a late fee will be assessed. Students apply for graduation on myBoiseState (https://my.boisestate.edu/).
September	1, Fri.....	Last day to submit <i>Idaho Residency Determination Worksheet</i> with documentation to Registrar's Office to declare Idaho residency for Fall 2017 consideration.
	1, Fri.....	Fall financial aid census date. Eligibility for financial aid determined by number of credits registered on this date.
	1, Fri.....	Last day for students living on campus to change residential meal plans.
	1, Fri.....	Last day to add graduate dissertation, thesis, project, or portfolio credit.
	4, Mon.....	Labor Day (No classes. University offices closed.)
	29, Fri.....	Last day to add undergraduate internship and independent study.
	29, Fri.....	Last day to add graduate assessment (master's preliminary examination, doctoral preliminary examination, thesis proposal, dissertation proposal, master's comprehensive examination, doctoral comprehensive examination), directed research, independent study, internship, practicum, or reading and conference.
October	9, Mon.....	Columbus Day (Classes in session. University offices open.)
	13, Fri.....	Recommended last day for final oral dissertation, thesis, or project defense for graduate degrees to be awarded in December 2017.
November	3, Fri.....	Last day to submit advisor-approved version of dissertation or thesis with signed <i>Final Reading Approval and Access Agreement</i> for a Thesis or Dissertation to the Graduate College for degrees to be awarded in December 2017.
	11, Sat.....	Veterans Day
	20–26, M–Su.....	Thanksgiving holiday (No classes. University offices closed November 23–24.)
December	8, Fri.....	Last day to submit final version of dissertation or thesis to the Graduate College for graduate degrees to be awarded in December 2017.
	8, Fri.....	Course instruction ends.
	10, Sun.....	Weekend courses end.
	11–15, M–F.....	Final semester examinations for the Regular session. Exam schedule listed on Registrar's Office website.
	16, Sat.....	Commencement
	16, Sat.....	Winter break on-campus housing begins for residents with current housing assignment.
	19, Tue.....	Grade reports due on myBoiseState (https://my.boisestate.edu/).
	25–29, M–F.....	Holiday Break (University offices closed).
January	1, Mon.....	New Year's Day (Observed. University offices closed.)

SPRING SEMESTER 2018

Deadlines by Session—Spring 2018								
Session	Fee Payment Deadline	Start Date*	Last Date to Waitlist or Add Without Permission Number	Drop Fee Begins	Last Date for Refund & Last Date to Register/ Add or Drop Without a W**	Last Date to Drop or Completely Withdraw With a W, No Refund.	Last Date of Classroom Instruction	Grades Due***
Regular	January 4	January 8	January 12	January 14	January 19	March 16	April 27 ****	May 8
1st 5 week	January 4	January 8	January 9	January 12	January 10	January 30	February 9	February 13
2nd 5 week	January 4	February 12	February 13	February 16	February 14	March 6	March 16	March 20
3rd 5 week	January 4	April 2	April 3	April 6	April 4	April 24	May 4	May 8
1st 8 week	January 4	January 8	January 10	January 13	January 12	February 13	March 2	March 6
2nd 8 week*****	January 4	March 5	March 7	March 10	March 9	April 10	April 27	May 8
1st 10 week	January 4	January 8	January 10	January 13	January 16	February 22	March 16	March 20
2nd 10 week	January 4	February 12	February 14	February 17	February 20	April 2	April 27	May 8

Special Session 1 and Special Session 2 deadlines are available on the Registrar's Office website.

*Complete withdrawals on or after this date are subject to a \$40.00 processing fee.

**Last date to add with permission number, last date to drop or completely withdraw without a W and receive a refund (less a \$40.00 processing fee), last date to change from credit-to-audit or audit-to-credit.

***Grades will not be considered official until the end-of-term processing has been completed.

****The final exams for this session are May 2-6. See Final Examination Schedule listed on the Registrar's Office website for exact dates and times.

*****This session is eight calendar weeks long with seven weeks of in-class instruction due to the weeklong Spring Break.

2017

- October
- 1, Sun Recommended last day to submit 2017-2018 FAFSA/FAFSA renewal for Spring 2018 financial aid (if you have not already done so) in order to have aid available to pay spring semester fees.
 - 1, Sun Spring scholarship deadline. Last day to have all admission materials received in Admissions for new freshman and transfer students who want to be considered for scholarships for Spring 2018. The 2017-2018 FAFSA must be filed by this date to be considered for need-based scholarships.
 - 2, Mon..... Spring 2018 on-campus housing application available at noon for residence halls, suites and townhomes.
 - 6, Fri..... Last day to submit Application for Admission to Candidacy form to the Graduate College for graduate degrees to be awarded in May 2018.
 - 15, Sun Priority date for international student application materials to be received by Admissions for spring semester consideration.
 - 30, Mon..... Registration for continuing students begins for Spring 2018 (by appointment).
- November
- 15, Wed Priority date for undergraduate, degree-seeking applicants to have all admission materials received by Admissions. Applicants who miss this priority date will be considered for degree-seeking status on a space-available basis. Students who are not eligible for degree-seeking admission may be considered for nondegree-seeking status and are ineligible for financial aid.
- December
- 26, Tue..... Recommended date to finalize student course schedules for Spring 2018 for financial aid purposes.

2018

- January
- 2, Tue..... University, college, and department activities for faculty begin this week.
 - 6, Sat..... Residence halls, suites, and townhomes check-in for new residents begins at noon.
 - 8, Mon..... Course instruction begins.
 - 12, Fri..... Weekend courses begin.
 - 12, Fri..... Last day faculty may submit drops for nonattendance during the first week of the semester to the Registrar's Office.

Spring Semester 2018 continued

	12, Fri.....	Last day to apply for graduation for graduate and undergraduate degrees and certificates to be awarded in May 2018. Late applications will be accepted but a late fee will be assessed. Students apply for graduation on myBoiseState (https://my.boisestate.edu/).
	15, Mon.....	Dr. Martin Luther King, Jr./Idaho Human Rights Day (No classes. University offices closed).
	22, Mon.....	Last day for students living on campus to change residential meal plans.
	22, Mon.....	Spring financial aid census date. Eligibility for financial aid determined by number of credits registered on this date.
	22, Mon.....	Last day to add graduate dissertation, thesis, project, or portfolio credit.
	22, Mon.....	Last day to submit <i>Idaho Residency Determination Worksheet</i> with documentation to Registrar's Office to declare Idaho residency for Spring 2018 consideration.
February	16, Fri.....	Last day to add undergraduate internship and independent study.
	16, Fri.....	Last day to add graduate assessment (master's preliminary examination, doctoral preliminary examination, thesis proposal, dissertation proposal, master's comprehensive examination, doctoral comprehensive examination), directed research, independent study, internship, practicum, or reading and conference.
	19, Mon.....	Presidents' Day (No classes. University offices closed).
March	2, Fri.....	Recommended last day for final oral dissertation, thesis, or project defense for graduate degrees to be awarded in May 2018.
	16, Fri.....	Last day to submit advisor-approved version of dissertation or thesis with signed <i>Final Reading Approval and Access Agreement</i> for a Thesis or Dissertation to the Graduate College for degrees to be awarded in May 2018.
	26–30, M–F	Spring Break (No Classes. University offices open March 26–30.)
April	27, Fri.....	Course instruction ends.
	27, Fri.....	Last day to submit final version of dissertation or thesis to the Graduate College for graduate degrees to be awarded in May 2018.
	29, Sun	Weekend courses end.
April-May	30–4, M–F	Final semester examinations for the Regular session. Exam schedule listed on the Registrar's Office website.
May	5, Sat.....	Residence halls, suites, and townhomes close at noon.
	5, Sat.....	Commencement
	8, Tue.....	Grade reports due on myBoiseState (https://my.boisestate.edu/).

SUMMER SESSION 2018

Deadlines by Session—Summer 2018								
Session	Fee Payment Deadline	Start Date*	Last Date to Waitlist or Add Without Permission Number	Drop Fee Begins	Last Date for Refund & Last Date to Register/ Add or Drop Without a W**	Last Date to Drop or Completely Withdraw With a W. No Refund.	Last Date of Classroom Instruction	Grades Due***
1st 3 week	May 3	May 7	May 7	May 11	May 8	May 18	May 27	May 29
2nd 3 week	July 19	July 23	July 23	July 27	July 24	August 3	August 12	August 14
1st 5 week	May 24	May 29	May 30	June 2	May 31	June 20	July 1	July 5
2nd 5 week	June 28	July 2	July 3	July 7	July 5	July 24	August 5	August 7
1st 7 week	May 3	May 7	May 9	May 11	May 10	June 6	June 24	June 26
2nd 7 week	June 21	June 25	June 27	June 29	June 28	July 25	August 12	August 14
10 week	May 24	May 29	May 31	June 3	June 6	July 13	August 5	August 7
14 week	May 3	May 7	May 11	May 13	May 17	July 10	August 12	August 14
Special Session 1 and Special Session 2 deadlines are available on the Registrar's Office website.								
*Complete withdrawals on or after this date are subject to a \$40.00 processing fee.								
**Last date to add with permission number, last date to drop or completely withdraw without a W and receive a refund (less a \$40.00 processing fee), last date to change from credit-to-audit or audit-to-credit.								
***Grades will not be considered official until the end-of-term processing has been completed.								

February	16, Fri.....	Last day to submit Application for Admission to Candidacy form to the Graduate College for graduate degrees to be awarded in August 2018.
	20, Tue.....	Registration begins for Summer 2018.
March	5, Mon.....	Summer 2018 on-campus housing application available at noon.
	9, Fri.....	Recommended last day to submit 2018-2019 Free Application for Federal Student Aid (FAFSA) for consideration for financial aid for Summer 2018.
May	15, Tue.....	Priority date for undergraduate, degree-seeking applicants to have all admission materials received by Admissions. Applicants who miss this priority date will be considered for degree-seeking status on a space available basis. Students who are not eligible for degree-seeking admission may be considered for nondegree-seeking status and are ineligible for financial aid.
	28, Mon.....	Memorial Day (No classes. University offices closed.)
June	1, Fri.....	Last day to apply for graduation for graduate and undergraduate degrees and certificates to be awarded in August 2018. Late applications will be accepted but a late fee will be assessed. Students apply for graduation on myBoiseState (https://my.boisestate.edu/).
	6, Wed.....	Summer financial aid census date. Eligibility for financial aid determined by number of credits registered on this date.
	15, Fri.....	Recommended last day for final oral dissertation, thesis, or project defense for graduate degrees to be awarded in August 2018.
	16, Sat.....	Last day for students to work using 2017-2018 work-study awards.
	25, Mon.....	Last day to add undergraduate independent study and internship.
	25, Mon.....	Last day to add graduate assessment (master's preliminary examination, doctoral preliminary examination, thesis proposal, dissertation proposal, master's comprehensive examination, doctoral comprehensive examination), directed research, independent study, internship, practicum, or reading and conference.
July	4, Wed.....	Independence Day (No classes. University offices closed.)
	6, Fri.....	Last day to submit advisor-approved version of dissertation or thesis with signed Final Reading Approval and Access Agreement for a Thesis or Dissertation to the Graduate College for graduate degrees to be awarded in August 2018.
August	3, Fri.....	Last day to submit final copies of dissertation or thesis to the Graduate College for graduate degrees to be awarded in August 2018.
	12, Sun.....	Summer housing ends. Residents transition to fall housing assignments.
	14, Tue.....	Grade reports due on myBoiseState (https://my.boisestate.edu/).

An Introduction to Boise State University

The City of Boise

Located along the Boise River in the shadows of the beautiful Rocky Mountain foothills, Boise State University is a vital component of Idaho's capital city, a hub of business, the arts, health care, industry, technology and the power and politics of the Statehouse.

A 10-minute stroll from campus puts you downtown, where businesses cater to the college crowd, making it easy to take advantage of coffeehouses, restaurants, dance clubs and the city's thriving cultural and entertainment scene. Even with big city amenities, Boise offers a safe, small-town feel and has repeatedly been named in the Top 10 for business, lifestyle and great outdoor recreation.

The City of Trees offers many unique attractions, including the Basque Museum and Cultural Center, Idaho Anne Frank Human Rights Memorial, the Idaho Shakespeare Festival, the World Center for Birds of Prey and a new whitewater park on the Boise River.

The Boise Greenbelt, a more than 20-mile network of city parks and riverside paths, skirts the edge of campus. A footbridge spans the Boise River, linking Boise State to Julia Davis Park, home of the Boise Art Museum, Idaho State Historical Museum, Idaho Black History Museum and Zoo Boise.

Beyond the city is a land of great variety. To the south are rich farmlands, a rugged, high-mountain desert, North America's tallest sand dunes and the famous Snake River Birds of Prey National Conservation Area. To the north, forests, whitewater rivers and mountain lakes provide opportunities for fishing, hiking, hunting and kayaking. Bogus Basin ski resort is just 16 miles from campus and world-famous Sun Valley is less than three hours away.

Campus entertainment includes Idaho Dance Theatre, Opera Idaho, Ballet Idaho, the Gene Harris Jazz Festival, Boise Philharmonic and a variety of other university and civic performing arts groups. Nationally renowned artists and touring companies like Elton John, Jimmy Buffet, Cirque du Soleil and *Wicked* frequently perform in the Morrison Center for the Performing Arts and Taco Bell Arena on campus. In addition, Taco Bell Arena hosts a number of campus and national sporting events.

The University's Environment

Long heralded as an institution devoted to excellence in classroom teaching, the university is stretching beyond its regional roots and extending its academic and athletic influence to a national level. It also is deepening partnerships and relationships close to home, where it serves as an urban university dedicated to the research and student experiences that drive economic development and contribute to a vibrant and healthy community.

Boise State has a dynamic graduate and nontraditional student population. Master's and doctoral programs are offered in disciplines ranging from anthropology and geophysics to nursing and social work, with much more in between. These programs include everything from practice-oriented master's programs that prepare students for leadership roles to research-focused Ph.D. programs that develop the next generation of scholars.

Today the breadth of programs and services Boise State offers, combined with its unique location, make it one of the nation's best places to live and learn. The university has academic programs in eight colleges—Arts and Sciences, Business and Economics, Education, Engineering, Health Sciences, Social Sciences and Public Affairs, and Graduate Studies—with a full-time faculty of more than 600.

Mission and Core Themes

Boise State University is a public, metropolitan research university offering an array of undergraduate and graduate degrees and experiences that foster student success, lifelong learning, community engagement, innovation and creativity. Research and creative activity advance new knowledge and benefit students, the community, the state and the nation. As an integral part of its metropolitan environment, the university is engaged in professional and continuing education programming, policy issues, and promoting the region's economic vitality and cultural enrichment.

Our mission is further elaborated by our Core Themes: Undergraduate Education, Graduate Education, Research and Creative Activity, and Community Commitment. Each Core Theme is further expanded upon by four Core Objectives focused on (i) Access and Completion, (ii) Relevance, (iii) Quality, and (iv) Culture (See <http://academics.boisestate.edu/strategic-plan/core-themes/>). Our Core Themes are as follows:

Undergraduate Education: Our university provides access to high quality undergraduate education that cultivates the personal and professional growth of our students and meets the educational needs of our community, state, and nation. We engage our students and focus on their success.

Graduate Education: Our university provides access to graduate education that addresses the needs of our region, is meaningful in a global context, is respected for its high quality, and is delivered within a supportive graduate culture.

Research and Creative Activity: Through our endeavors in basic and applied research and in creative activity, our researchers, artists, and students create knowledge and understanding of our world and of ourselves, and transfer that knowledge to provide societal, economic, and cultural benefits. Students are integral to our faculty research and creative activity.

Community Commitment: The university is a vital part of the community, and our commitment to the community extends beyond our educational programs, research, and creative activity. We collaborate in the development of partnerships that address community and university issues. The community and university share knowledge and expertise with each other. We look to the community to inform our goals, actions, and measures of success. We work with the community to create a rich mix of culture, learning experiences, and entertainment that educates and enriches the lives of our citizens. Our campus culture and climate promote civility, inclusivity and collegiality.

Vision and Strategic Plan

Boise State University strives to be known not only for the region's finest undergraduate education, but also for outstanding research and graduate programs. With its exceptional faculty, staff, students and location, Boise State is an engine that drives the Idaho economy, providing significant return on public investment.

To achieve this vision, the university developed the goals and strategies of our strategic plan, Focus on Effectiveness 2012-2017. The goals and strategies are:

Goal 1 Create a signature, high-quality educational experience for all students.

Strategies:

- Develop the Foundational Studies Program into a memorable centerpiece of the undergraduate experience.
- Provide bountiful opportunities within and across disciplines for experiential learning.
- Facilitate respect for the diversity of human cultures, institutions, and experiences in curricular and co-curricular education.
- Cultivate intellectual community among students and faculty.
- Invest in faculty development, innovative pedagogies, and an engaging environment for learning.

Goal 2 Facilitate the timely attainment of educational goals of our diverse student population.

Strategies:

- Identify and remove barriers to graduation.
- Bring classes to students using advanced technologies and multiple delivery formats.
- Design and implement innovative policies and processes that facilitate student success.
- Connect students with university services that address their individual needs.
- Ensure that faculty and staff understand their roles and responsibilities in facilitating student success.

Goal 3 Gain distinction as a doctoral research university.

Strategies:

- Recruit, retain, and support highly qualified faculty, staff, and students from diverse backgrounds.
- Identify and invest in select areas of excellence with the greatest potential for economic, societal, and cultural benefit.
- Build select doctoral programs with a priority in professional and STEM disciplines.
- Build infrastructure to keep pace with growing research and creative activity.
- Design systems to support and reward interdisciplinary collaboration.

Goal 4 Align university programs and activities with community needs.

Strategies:

- Include community impact in the creation and assessment of university programs and activities.
- Leverage knowledge and expertise within the community to develop mutually beneficial partnerships.
- Collaborate with external partners to increase Idaho students'

readiness for and enrollment in higher education.

- Increase student recruitment, retention, and graduation in STEM disciplines.
- Evaluate our institutional impact and effectiveness on a regular basis and publicize results.

Goal 5 Transform our operations to serve the contemporary mission of the university.

Strategies:

- Reinvent our academic and business practices to improve service and efficiency.
- Simplify or eliminate policies and regulations that waste effort and resources.
- Invest in faculty and staff to develop key competencies and motivate top performance.
- Break down silos that inhibit communication, collaboration and creativity.
- Provide widespread and timely access to reliable and understandable data, and use it to drive decision-making across the university.
- Build an infrastructure to encourage and accommodate external funding, philanthropic support, private-sector relationships, and a diversity of funding models.
- Develop and implement a model for resource allocation that supports strategic goals and promotes innovation, effectiveness, and responsible risk-taking.

Our strategic plan is built around four solid pillars of growth and responsibility:

Local and Global Impact: Boise State fuels a robust regional economy and contributes to a vibrant and healthy community by focusing on societal and economic needs. Graduates can rely on skills, knowledge and experience that are relevant and valuable locally, regionally, nationally and globally.

Student Success and Engagement: The University reflects a rich and diverse culture that is student centered, enabling them to focus on success and the achievement of educational goals. Graduates are prepared to meet the challenges and pursue the opportunities of today and tomorrow, while developing an enduring bond with the university.

Visionary Relationships: Strong campus/community relationships create synergistic opportunities that enable the university to explore new possibilities, address complex problems, break down barriers, and create learning experiences that synthesize ideas and practices across multiple perspectives.

Organizational Effectiveness: Boise State pursues innovative, broad-based funding models to ensure sustainable acquisition of resources and garner support from stakeholders by explicitly demonstrating return on investment.

The University's History

In 1932, the Episcopal Church founded Boise Junior College, the first post-secondary school in Idaho's capital city. When the Episcopal Church discontinued its sponsorship in 1934, Boise Junior College became a nonprofit, private corporation sponsored by the Boise Chamber of Commerce and the community. In 1939, the State Legislature created a junior-college taxing district to fund the quickly growing institution.

By the end of the 1930s, Boise Junior College boasted an enrollment of 600 students. Originally located at St. Margaret's Hall near the present site of St. Luke's Regional Medical Center, the college was moved in 1940 to its present location alongside the Boise River. In 1965, Boise Junior College became a four-year institution and was renamed Boise College. In 1969, the college was brought into the state system of higher education as Boise State College. The Graduate College was established in 1971 and the creation of new graduate programs in 1974 led to the designation of the institution as Boise State University.

Boise State is the largest public institution of higher education in Idaho with more than 22,000 students. The school is in the midst of a transformation that nurtures its traditional strengths, while expanding its capabilities in research and scholarly activity. This is not a revolution, but instead an evolution that reflects the integral part Boise State plays in contributing to the quality of life in the Treasure Valley and beyond.

During its history, Boise State University has operated under the leadership of six presidents: Bishop Middleton Barnwell (1932-1934), Dr. Eugene B. Chaffee (1936-1967), Dr. John B. Barnes (1967-1977), Dr. John H. Keiser (1978-1991), Dr. Charles P. Ruch (1993-2003) and Dr. Robert W. Kustra (2003-present).

Accreditation

Boise State University is accredited by the Northwest Commission on Colleges and Universities (NWCCU).

Accreditation of an institution of higher education by the Northwest Commission on Colleges and Universities indicates that it meets or exceeds criteria for the assessment of institutional quality evaluated through a peer review process. An accredited college or university is one which has available the necessary resources to achieve its stated purposes through appropriate educational programs, is substantially doing so, and gives reasonable evidence that it will continue to do so in the foreseeable future. Institutional integrity is also addressed through accreditation.

Accreditation by the Northwest Commission on Colleges and Universities is not partial but applies to the institution as a whole. As such, it is not a guarantee of every course or program offered, or the competence of individual graduates. Rather, it provides reasonable assurance about the quality of opportunities available to students who attend the institution.

Inquiries regarding an institution's accredited status by the Northwest Commission on Colleges and Universities should be directed to the administrative staff of the Office of the Provost. Individuals may also contact: Northwest Commission on Colleges and Universities, 8060 165th Avenue N.E., Suite 100, Redmond, WA 98052, (425) 558-4224, www.nwccu.org.

Many of Boise State University's academic programs have special accreditation or endorsement from one or more of the following organizations:

- ABET, Inc.
- American Bar Association
- American Chemical Society
- American Council for Construction Education
- American Health Information Management Association

- Association to Advance Collegiate Schools of Business — International
- Commission on Accreditation of Allied Health Education Programs
- Committee on Accreditation of Athletic Training Education
- Committee on Accreditation Respiratory Care
- Council for Accreditation of Counseling and Related Educational Programs
- Council on Social Work Education
- Joint Review Committee on Education in Radiologic Technology
- National Association of Schools of Art and Design
- National Association of Schools of Music
- National Association of Schools of Public Affairs and Administration
- National Association of Schools of Theatre
- National Association of State Directors of Teacher Education and Certification
- National Council for Accreditation of Teacher Education
- National Environmental Health Science and Protection Accreditation Council
- National League for Nursing Accrediting Commission

State Authorization and Distance Education Beyond Idaho

Boise State University delivers online education programs and courses throughout the United States and internationally and its online offerings continue to expand. Idaho's State Board of Education has approved all programs.

Due in part to the increased popularity of distance education, many states have prescribed an "authorization" process for out-of-state institutions delivering online programs to its state residents. Through such proactive processes, states are striving to ensure quality post-secondary education to preserve the integrity of an academic degree and to instill greater consumer protection for its citizens.

Authorization (sometimes referred to as "registration," "licensure," "approval," etc.) indicates that the institution has met certain minimum standards under the laws and regulations of that state. Authorization does not constitute an endorsement of any institution, course or degree program. Credits earned at an institution may not transfer to all other institutions.

Individuals considering a course or program in preparation for professional licensing or certification outside Idaho are encouraged to seek guidance from the pertinent licensing agency in that state and contact the academic department in advance of application and periodically thereafter.

Boise State has taken steps to protect its students and operations through nationwide compliance and participates in a voluntary State Authorization Reciprocity Agreement (SARA) encompassing virtually all states. Elsewhere, Boise State has been granted authorization or exemption or can operate without such authorization because the state's laws do not pertain to a public institution, to an accredited institution or to the university's activities in that state.

Some online programs may not be available in some states. Please contact the academic department before submitting an application.

An Introduction to Boise State University

More specific information about state authorization and program availability can be found at: <http://ecampus.boisestate.edu/>.

Students and Faculty

Each semester, Boise State University enrolls approximately 20,000 students in its academic programs. Students come to Boise State University from every county in Idaho, from nearly every state in the nation, and from numerous foreign countries. The university's urban setting both attracts and complements this diverse student body, which includes many nontraditional students as well as traditional students enrolling directly from high school.

Because Boise is the commercial, financial, health care, and governmental center of Idaho, there are experiences and opportunities reaching beyond the classroom afforded to you that are unavailable elsewhere in the state. For instance, you can enhance classroom learning and gain valuable work experience by serving as an intern with the State Legislature, government agencies, or one of the many private businesses and industries in the area. In addition, you can attend a wide variety of civic, cultural, and social events hosted by Boise State University.

You will find that the university attracts faculty who are dedicated to excellence in teaching, creative in generating new knowledge, and generous in using their expertise to solve society's problems. Moreover, the faculty members at Boise State University recognize that high-quality teaching is their primary goal, giving you the opportunity to work with some of the West's most respected scientists, artists, researchers, and educators. In addition to helping students learn, faculty members assist business, industry, educational institutions, government agencies, and professional groups with educational programs and research and development efforts. The faculty also assists organizations in upgrading the knowledge and skills of employees.

A Tour of the Campus

Boise State University's 216-acre main campus is bordered to the north by the Boise River, to the east by Broadway Avenue, to the west by Capitol Boulevard and to the south by Beacon Street with University Drive as the primary artery. Step across the footbridge spanning the Boise River, and you are in the open green space of Julia Davis Park.

On campus, the Administration Building contains the offices of several student services, including Financial Aid and the Registrar. University Health Services—including all medical, counseling, and wellness—are integrated under one roof in the Norco Nursing and Health Sciences Building. The Office of Advising and Academic Enhancement, the Career Center and the Testing Center are located together in the Academic and Career Services Building.

Classes are held in a number of buildings, including the Bronco Gym and Department of Kinesiology Building, Micron Business and Economics Building (which houses a financial trading room and a student commons area), Campus School, Education Building, Engineering Building, Fine Arts Building, Liberal Arts Building, Mathematics Building, Micron Engineering Center, Morrison Civil Engineering Building, Multipurpose Classroom Building. The Interactive Learning Center supports the latest in technology with 12 general use classrooms, multi-media labs, and a classroom for research and innovation. It also is home to the Center for Teaching and Learning.

Other notable campus features include the Albertsons Library, as well as the Centennial Amphitheatre—an outdoor venue for lectures, concerts and plays. The Velma V. Morrison Center for the Performing Arts houses the Department of Music, the Department of Theatre Arts, a 2,000-seat performance hall, a 200-seat recital hall and a 200-seat theater. The Student Recreation Center houses informal recreation, intramural sports, outdoor programs, fitness opportunities, a wellness center and athletic training facilities. The facility's 17,000-square-foot Aquatics Center is a hub for water activities.

Boise State University students also enjoy the Student Union, which provides facilities for social, recreational and cultural activities. In addition to a quick-copy center and dining areas, the Student Union contains a bowling alley and games center, several lounges, the Boise State University Bookstore and the Bronco Shop. While at the Student Union, you can stop by the Information Desk to pick up tickets for campus programs and community events, or visit the offices of more than 200 recognized student organizations. Admissions is located on the first floor. The west entrance and Transit Center is a spacious and furnished entry to the Student Union where patrons can wait inside or outside for shuttles and public transportation that stop in front of the open sidewalk area.

Taco Bell Arena is Idaho's largest multi-purpose arena. When not filled with fans of Bronco basketball or gymnastics, Taco Bell Arena is the site of concerts, professional sporting events and family entertainment. Nearby is Bronco Stadium, with a seating capacity of 37,000 and the university's iconic blue playing field.

The Albertsons Library

Albertsons Library is a vibrant hub of academic activity in the center of campus, providing access to an extensive array of online journals, databases, newspapers, books, e-books, and resources for research and learning, including numerous discipline-specific and specialty databases, U.S. government documents and maps. The library's website, <http://library.boisestate.edu/>, is mobile friendly and students have access to all library online resources both on and off campus. If the library does not have what students need, it will be borrowed quickly for them from other libraries, a service called Interlibrary Loan.

Study spaces for individuals and groups are available throughout the library. As the largest computer lab on campus with the longest hours, there are over 120 desktop computers for use along with laptops and iPads. Albertsons Library offers a host of other materials for checkout including cables, adaptors, calculators, AV equipment and mics, video and still cameras, and technology such as Raspberry PI, Arduinos and Makey Makeys. If a student's mobile device battery is running low, the library has an array of cords and cables for charging devices.

Through the library's MakerLab students can use 3D printers, green screen technology, a vinyl cutter, edit video audio and images, and use a sound recording room. Workshops are offered regularly to teach students how to get started in 3D modeling and other technologies. The MakerLab is a hangout for students interested in technology and home to the student Creative Technology Association.

Special Collections and Archives (SCA) contains manuscripts, rare books, Basque studies material, and the university archives, and continues to grow with additions every year. Selected unique

resources from these collections are being digitized and made available online. SCA houses the papers of Senator Len B. Jordan, Senator Frank Church, and Interior Secretary/Governor Cecil D. Andrus, and the Cecil D. Andrus and Frank Church rooms. Nearby, the Warren McCain Reading Room contains a growing collection of books and materials about the literature, anthropology and history of the American West and the Westward Movement. Found online at <http://archives.boisestate.edu/>.

Librarians are subject experts and provide on demand assistance and research guidance in person, and online via text, chat and e-mail. Individual research consultations are available to help guide the discovery of materials to support class assignments and research. Librarians teach information research skills through the University Foundations and subject related courses. Watch for announcements of exhibits, special events, and workshops offered by the library and open to everyone.

Computer Resources

Computer labs, kiosks and print stations are located throughout most campus locations where students attend classes and congregate, and provide access to a wide variety of software on Windows and Mac computers.

In addition, computer laptops and tablets are available for students to check out from the Zone locations in the Interactive Learning Center, the Micron Business and Economics Building, Multipurpose Building and Student Union building.

General-use computer labs are located in the Zone locations. See <https://oit.boisestate.edu/publiccomputing/> for more information.

Boise State University provides Google Apps accounts for all students, including BroncoMail Gmail accounts.

As a Boise State student, you will have the opportunity to learn to use computers in ways appropriate to your discipline.

Athletics

The purpose of the intercollegiate athletic program at Boise State University is twofold. First, to provide opportunities for a meaningful academic and athletic experience for as many students as possible. Second, to develop and maintain a competitive Division

I athletic program that competes on a regional and national basis and strives for excellence in both men's and women's athletics within the boundaries of integrity and honesty.

The athletic program is an integral part of the university and its total educational purpose. The objectives of the athletic program are in harmony with the mission and role of the university.

The university adheres to the principles of fair play and amateur athletic competition as defined by the NCAA. The university is concerned with the welfare of the student-athlete and strives to ensure that every student-athlete has the opportunity to succeed academically and obtain a degree.

The university competes as a member of the Mountain West Conference (MWC) in football, men's and women's basketball, golf, tennis, indoor and outdoor track and field and cross country, soccer, softball, swimming and diving, and volleyball. The university competes in the PAC-12 in wrestling and in the Mountain Rim Gymnastics Conference in women's gymnastics. Students who wish to participate in intercollegiate athletics should contact the head coach of the sport for which they wish to participate. A listing of head coaches is provided by calling the Athletic Department at (208) 426-1288, or on the website at <http://www.broncosports.com/>.

The *Equity in Athletics Disclosure Report* for Boise State University is available online at <http://ope.ed.gov/athletics/>. The report provides participation rates, financial support, and other information on men's and women's intercollegiate athletic programs.



Questions About Boise State?

- 1-800-632-6586 (toll-free in Idaho)
- 1-800-824-7017 (toll-free nationwide)

College of Arts and Sciences

Dean: Tony Roark, Ph.D.
Education Building, 6th Floor, Room 601
Phone: (208) 426-1414
Fax: (208) 426-3006

Associate Dean: Leslie Durham, Ph.D.
Phone: (208) 426-1414

Associate Dean: Clyde J. Northrup, Ph.D.
Phone: (208) 426-1414

Associate Dean: Doug Bullock, Ph.D.
Phone: (208) 426-1414

General Information

The College of Arts and Sciences offers graduate programs leading to doctoral and master's degrees and graduate certificates in more than thirty fields.

Across these rich and diverse programs, the College is committed to providing students with an outstanding graduate education. Through classroom experiences; research, performance, and exhibition opportunities; community outreach and engagement; and close collaboration with internationally recognized experts in their fields, our students hone their burgeoning abilities to seek knowledge, express ideas, and create work that will impact their academic disciplines, their professions, and the communities with which they are connected for generations to come.

Students receive individual mentorship from a faculty advisor and gain additional guidance and broader perspective through interactions with their supervisory committee. Furthermore, students are enhanced both personally and professionally through immersion in the strong graduate culture of the College of Arts and Sciences and by sharing valuable experiences with their graduate student colleagues.

Detailed information about each program, including its admission requirements and procedures, may be obtained directly from its managing academic department (as listed in this catalog).

Graduate Programs

The College of Arts and Sciences offers graduate programs leading to doctoral and master degrees, and graduate certificates in the following fields:

- Anthropology
- Art Education
- Biology
- Biomolecular Sciences
- Chemistry
- Communication
- Creative Writing
- Earth Science
- Ecology, Evolution, and Behavior
- English
- Geographic Information Analysis
- Geophysics

- Geosciences
 - History
 - Interdisciplinary Studies
 - Mathematics
 - Music
 - Raptor Biology
 - Technical Communication
 - Visual Arts
-

College of Business and Economics

Dean: Kenneth Petersen, Ph.D.
Micron Business and Economics Building, Room 3131
Phone: (208) 426-1125
<https://cobe.boisestate.edu/graduate-programs-overview/>

Associate Dean for Faculty and Administration:
Diane Schooley-Pettis, Ph.D.
Phone: (208) 426-3110

Associate Dean for Graduate Studies and Executive Education:
Zeynep Hansen, Ph.D.
Phone: (208) 426-3314

Director: COBE Student Services Center:
Ashley Mehaffie
Phone: (208) 426-3859

General Information

The College of Business and Economics at Boise State University offers graduate programs in business administration, accountancy, and accountancy in taxation through its five academic departments:

- Accountancy
- Economics
- Information Technology and Supply Chain Management
- Management
- Marketing and Finance

All of our graduate programs are accredited by AACSB International — The gold standard for business schools. Only one-quarter of the 1,200 institutions in the U.S. that grant business degrees have achieved that level of recognition. Our accountancy programs are independently accredited by AACSB International and one of only about 14% of U.S. accounting programs to achieve this recognition.

Graduate Degrees Offered

- Master of Science in Accountancy
- Master of Science in Accountancy, Taxation
- Master of Business Administration
- Executive Master of Business Administration
- Executive Master of Business Operational Excellence
- Master of Economics
- Master of Science in Economics

College of Education

Dean: Richard Osguthorpe, Ph.D.
Education Building, Room 704
Phone: (208) 426-1611
Fax: (208) 426-4365
<https://education.boisestate.edu>

Associate Deans:
Keith Thiede, Ph.D.
Phone: (208) 426-1278

Jennifer Snow, Ph.D.
Phone: (208) 426-1991

General Information

The College of Education is composed of five academic departments offering 2 doctoral degrees, 2 education specialist degrees, 12 masters degrees and 11 graduate certificates.

Graduate Degrees Offered

- Doctor of Education in Curriculum and Instruction
- Doctor of Education in Educational Technology
- Education Specialist in Executive Educational Leadership
- Education Specialist in Educational Technology
- Master of Education in Bilingual Education
- Master in Teaching in Early Childhood Intervention
- Master of Education in Early and Special Education
- Master of Arts in Counseling
 - Addiction Counseling Cognate
 - School Counseling Cognate
- Master of Arts in Education, Curriculum and Instruction
- Master of Education in Educational Leadership
- Master of Educational Technology
- Master of Science in Educational Technology
- Master of Education in English as a New Language
- Master of Arts in Education, Literacy
- Master in Teaching in Special Education
- Master of Science in STEM Education
- Graduate Certificate in Behavioral Interventions and Supports
- Graduate Certificate in Early Childhood Intervention Services and Supports
- Graduate Certificate in Early Childhood Special Education
- Graduate Certificate in Educational Games and Simulations
- Graduate Certificate in Habilitative Services and Supports
- Graduate Certificate in Mathematical Teaching for Instruction
- Graduate Certificate in Online Teaching
- Graduate Certificate in School Technology Coordination
- Graduate Certificate in Special Education Services and Supports
- Graduate Certificate in Teaching
- Graduate Certificate in Technology Integration Specialist

Application and Admission Requirements

Prospective students may apply for admission at any time. However, in order to qualify for degree-seeking status, application materials must be received by June 30 for fall semester, or December 1 for the spring semester. An applicant must satisfy the minimum admission requirements of the Graduate College (see *Graduate Admission Regulations*).

Advisors

The name of a faculty member who will serve as temporary advisor will be indicated in the letter of acceptance to the applicant. Candidates should contact this faculty member as soon as possible to plan a program of study and complete the *Program Development* form. Credits taken prior to such planning are subject to the review and approval of the advisor and the Program Coordinator for that particular program or program emphasis.

Graduate Assistantships

Graduate Assistantships are available in each department in the College of Education. Awards may consist of a stipend and a tuition and fee waiver. In addition, non-resident tuition is waived for any non-resident student receiving an assistantship award. Applications must be received in the department by March 1st of each year. Typical assignments include research assistants, teaching assistants, or assignments related to specific areas. Graduate assistantships are awarded for one year and may be renewed for one additional year

College of Engineering

Dean: JoAnn S. Lighty, Ph.D.
1015 Grant Avenue Annex, 2nd Floor
Phone: (208) 426-4844
Fax: (208) 426-4466
<https://coen.boisestate.edu>

Assistant Dean for Research and Infrastructure:
Rex Oxford
Phone: (208) 426-5744

General Information

There are six departments that grant graduate degrees in the College of Engineering at Boise State University: Civil Engineering, Computer Science, Electrical and Computer Engineering, Mechanical and Biomedical Engineering, Micron School of Materials Science and Engineering, and Organizational Performance and Workplace Learning. These departments serve the mission of the College of Engineering by providing accessible, high-quality, nationally recognized programs of instruction, research, and service that prepare students for engineering and other high technology careers, and that support individuals and organizations in Idaho, the Northwest region, and the nation.

The graduate programs in the College of Engineering are offered in a variety of degree options and delivery methods to accommodate student interests and career needs. The Doctor of Philosophy degrees in Computing, Electrical and Computer Engineering, and Materials Science and Engineering provide students an opportunity

to advance their scientific knowledge, make significant technical contributions to the field and promote their career opportunities within academia or industry/governmental research and development facilities.

The Master of Science degrees in Civil Engineering, Electrical and Computer Engineering, Mechanical Engineering and Materials Science and Engineering, are thesis-based programs designed to prepare students for careers that involve a research component in their field. The Master of Engineering degrees are non-thesis programs that may be satisfied by an approved selection of coursework and culminating activities. A number of graduate level courses are available in an online delivery format. The Master of Science in Computer Science offers both a thesis and project option. The Master of Science in Organizational Performance and Workplace Learning offers both thesis and portfolio options and is delivered entirely online.

The graduate faculty members in the College of Engineering are active in their academic and research fields, in their professional societies, and are dedicated to providing the highest quality instruction possible. The research facilities available to graduate students pursuing a degree include a variety of equipment housed in a number of different facilities such as the Center for Materials Characterization, the Idaho Microfabrication Laboratory, the Center for Advanced Energy Studies, the Supercomputing, Visualization and Big Data Facility, Harry Morrison Civil Engineering Laboratory, Nanoscale Materials and Device Laboratory, Northwest Tissue Mechanics Laboratory, the iPerform Laboratory, the Beowulf Cluster Laboratory, and others.

Graduate Degrees Offered

- Doctor of Philosophy in Computing
- Doctor of Philosophy in Electrical and Computer Engineering
- Doctor of Philosophy in Materials Science and Engineering
- Master of Engineering in Civil Engineering
- Master of Science in Civil Engineering
- Master of Science in Computer Science
- Graduate Certificate in Computer Science Teacher Endorsement
- Master of Engineering in Electrical and Computer Engineering
- Master of Science in Electrical and Computer Engineering
- Master of Science in Hydrologic Sciences
- Master of Science in Organizational Performance and Workplace Learning
- Master of Engineering in Mechanical Engineering
- Master of Science in Mechanical Engineering
- Master of Engineering in Materials Science and Engineering
- Master of Science in Materials Science and Engineering
- Graduate Certificate in Workplace E-Learning and Performance Support
- Graduate Certificate in Workplace Instructional Design
- Graduate Certificate in Workplace Performance Improvement

College of Health Sciences

Dean: Tim Dunnagan, Ed.D.

Norco Building, Room 408, Mail Stop 1800

Phone: (208) 426-4141

Fax: (208) 426-3469

<https://hs.boisestate.edu>

Associate Dean: Joelle Powers, Ph.D.

Norco Building, Room 408F, Mail Stop 1800

Phone: (208) 426-3600

Fax: (208) 426-3469

Director, School of Allied Health Sciences: Dale Stephenson, Ph.D.

Health Sciences Riverside, Room 112, Mail Stop 1835

Phone: (208) 426-3795

Fax: (208) 426-3929

Director, School of Nursing: Ann Hubbert, Ph.D.

Norco Building, Room 433B, Mail Stop 1840

Phone: (208) 426-3404

Fax: (208) 426-1370

Director, School of Social Work: Randy Magen, Ph.D.

Education Building, Room 717, Mail Stop 1940

Phone: (208) 426-1568

Fax: (208) 426-4291

General Information

As the university's academic unit dedicated to producing leaders in health innovation and discovery, the College of Health Sciences actively engages in its mission to foster partnerships that promote health and quality of life through teaching, research, and service. In teaching and research, the College of Health Sciences offers a graduate curriculum that prepares students to become researchers and leaders who will develop and apply innovative solutions to promote health and quality of life. In service, the College actively engages in developing dynamic community partnerships that enrich and enhance health-related research, teaching and learning, advocacy, and outreach.

To create synergies in the College and across campus, the College of Health Sciences is configured into three Schools; Allied Health Sciences, Nursing, and Social Work. University Health Services is also housed in the College and complements the schools, by providing integrated care, teaching, and research to the campus community. While the Schools of Nursing and Social Work provide graduate programs related to their respective disciplines, the School of Allied Health Sciences is characterized by its diversity as it houses four departments; Community and Environmental Health, Kinesiology, Radiologic Sciences, and Respiratory Care. Graduate programs are offered in two of these departments, Community and Environmental Health and Kinesiology.

Graduate Degrees Offered

- Doctor of Nursing Practice
- Master of Nursing, Adult-Gerontology Nurse Practitioner, Acute Care Option
- Master of Nursing, Adult-Gerontology Nurse Practitioner, Primary Care Option
- Master of Athletic Leadership
- Master of Health Science, Health Policy
- Master of Health Science, Health Promotion
- Master of Health Science, Health Services Leadership
- Master of Kinesiology in Behavioral Studies
- Master of Kinesiology in Biophysical Studies
- Master of Kinesiology in Socio-historical Studies
- Master of Science in Kinesiology Behavioral Studies
- Master of Science in Kinesiology Biophysical Studies
- Master of Science in Kinesiology Socio-historical Studies
- Master of Social Work
- Master of Social Work, Advanced Standing
- Graduate Certificate in Adult-Gerontology Nurse Practitioner—Acute Care
- Graduate Certificate in Adult-Gerontology Nurse Practitioner—Primary Care
- Graduate Certificate in Healthcare Simulation
- Graduate Certificate in Health Services Leadership

College of Innovation and Design

Dean: Gordon Jones, Ph.D.

Associate Dean: William Hughes, Ph.D.

Albertsons Library, Room 201

Phone: (208) 426-2975

<https://cid.boisestate.edu>

General Information

The College of Innovation and Design (CI+D) is a university-wide hub focused on transforming teaching, learning, and research at Boise State. Leveraging the speed, collaboration, and risk-taking of a start-up, the college inspires and supports faculty, students and community members from diverse disciplines to create new pathways of learning that anticipate the demands and opportunities of our ever-changing world and workplace.

Approach to Learning

The College of Innovation and Design serves as an academic laboratory where faculty and students from across the university can share ideas for redesigning learning strategies, research methods, and degrees. Our structure is multifaceted. We offer a framework of learning that allows for divergent thinking. CI+D features a learning platform focused on both finding problems and then creating solutions, and it utilizes new methodologies to increase the analytic capacity of its students. Our goal is to produce graduates who have an interdisciplinary command of the world and who are not constrained in their ability to learn beyond one field of expertise.

Community Partnership

The College of Innovation and Design also plays an important role in how Boise State serves university partners in the community. Because requests for the research expertise of Boise State faculty, students, and staff seldom fall neatly in the jurisdiction of one department or college, we facilitate interdisciplinary collaboration to meet the needs of our community partners. Our focus is placed on opportunity-finding, idea creation, and problem-solving that focuses on the change management process in organizations.

Graduate Programs

The College of Innovation and Design offers a variety of graduate programs from interdisciplinary academic research teams to venture incubators:

HBX CORE Immersion at Boise State An immersive 9-credit certificate where students learn financial accounting, business analytics, and economics for managers and earn the HBX Credential of Readiness from Harvard Business School.

Human Environment Systems Group A research community emphasizing the application of quantitative approaches that answer complex social, scientific, and engineering questions about systems in which humans and the natural environment interact.

Venture College A co-curricular learning environment that provides students access to expertise, workshops, and a full business incubator so students can take their own ideas and projects and turn them into ventures.

Vertically Integrated Projects A program offering large-scale research projects that are both multidisciplinary and multi-year, focusing on challenging, real-world problems and enabling undergraduate teams to work together with faculty and graduate students in a way that benefits everyone.

School of Public Service

Dean: Corey Cook, Ph.D.

Education Building, Room 707, Mail Stop 1900

Phone: (208) 426-1368

Fax: (208) 426-4318

<https://sps.boisestate.edu>

General Information

Boise State University's School of Public Service is dedicated to excellence in innovative teaching, cutting edge scholarship and meaningful community outreach, serving the State of Idaho, region, nation and global communities.

The School is comprised of rich and diverse academic programs, including Criminal Justice (M.A.), Political Science (M.A.), and Public Policy and Administration (M.P.A., Ph.D.), as well as talented affiliated faculty from departments and programs across the university. The mission of the School also is supported by a variety of centers and institutes that facilitate research and public engagement, including the Andrus Center, the Center for Dispute Resolution, Center for Idaho History and Politics, Energy Policy Institute, Frank Church Institute, and the Public Policy Research Center.

Together, these complementary academic programs, centers and institutes strive to achieve local relevance with theoretical and applied research, as well as outreach provided to communities, local governments and businesses. National recognition is achieved with innovative and relevant scholarship that enriches our society.

The school prepares students, public servants, and leaders to think both regionally and globally in an interdependent world. As such, it serves as a centralized resource for policy makers—to assist them in making informed decisions—and for faculty and students to actively connect and engage with the community and participate in policy decisions.

The bridging of disciplines across the university and the larger community enhances the education of students, allowing them to apply their knowledge and skills to the critical challenges facing the public, private and nonprofit sectors.

Empirical and applied research and the production of new knowledge are central to the mission. Faculty, staff and students make important contributions that balance theory and practice across diverse areas of contemporary scholarship, including the following:

- Democratic and Collaborative Governance in the New American West
- Policy Analysis
- System of Law and Justice
- Sustainability
- Regional Planning and Development

The School uses analytical methods to create and disseminate knowledge highly valued by a variety of consumers of research,

including policy makers and leaders in the public, nonprofit and business worlds.

Finally, the School of Public Service's transdisciplinary approach to knowledge seeks to provide professional expertise and promote public discourse and engagement across groups to produce innovative solutions to pressing and complex political, governmental, social, economic and environmental concerns.

Graduate Degrees Offered

The School of Public Service offers graduate programs leading to doctoral and master degrees and graduate certificates in the following fields:

- Doctor of Philosophy in Public Policy and Administration
- Master of Arts in Criminal Justice
- Master of Arts in Political Science
- Master of Public Administration
- Graduate Certificate in Conflict Management
- Graduate Certificate in Nonprofit Administration

Graduate College

Dean: Tammi Vacha-Haase, Ph.D.

Associate Dean: Scott Lowe, Ph.D.

Riverfront Hall, Room 307

Phone: (208) 426-3903

Fax: (208) 426-2789

<https://graduatecollege.boisestate.edu>

General Information

The Graduate College is the only academic unit at Boise State University whose sole concern and primary advocacy is graduate education. The Graduate College provides institutional oversight for more than 70 graduate curricula established across five academic colleges and one school, with approximately 2,000 registered graduate students each semester. These programs span the breadth of graduate education, from master's programs that prepare students for leadership roles in a wide variety of professional settings, to doctoral programs that develop the next generation of scholars. The Graduate College works closely with the Graduate Council, the deans and graduate faculties of the five academic colleges, one school, and external accrediting organizations to ensure excellence in all aspects of the graduate experience. The scope of activities embraced by the Graduate College is very broad, including strategic development of graduate programming, problem resolution for individual faculty members and graduate students, and attendance at regional and national forums on graduate education. The Graduate College also helps the university maintain a culture of collegiality and ethical behavior through its dedication to fairness and integrity.

Division of Extended Studies

Dean: Mark Wheeler
 Associate Dean: Peter Risse
 220 E. Parkcenter Boulevard, Mail Stop 1120
 Phone: (208) 426-1709
 Fax: (208) 426-3467
 E-mail: extendedstudies@boisestate.edu
<https://extendedstudies.boisestate.edu>

General Information

Extended Studies extends higher education beyond traditional boundaries to provide college access and lifelong learning opportunities to people of varying ages and circumstances.

A partner to the academic colleges of the university, Extended Studies champions and serves as an expert resource for the alternative programs, delivery methods and services that address the diverse academic, professional development, and personal enrichment needs of the metropolitan area, Idaho and beyond.

eCampus Programs

The eCampus Center, a leader in creativity and innovation, is enthusiastic about helping the university and academic departments provide intentionally selected and carefully designed online degree and certificate programs for adult learners. With an emphasis on access and success, the eCampus Center's full-support program development model results in high-quality online programs and service. Boise State has over 35 academic degree and certificate programs that are offered fully online for students choosing to attend Boise State fully online. In addition, over 500 unique course titles are available in online course sections for students who are unable to attend in-person classes or need the flexibility of fitting classes into their life. Boise State University offers the following graduate degree and certificate programs online. For more information, visit <https://online.boisestate.edu>.

Doctoral and Post-Master's

- Doctor of Education in Educational Technology
- Doctor of Nursing Practice
- Educational Specialist in Educational Technology

Master's

- Master of Business Administration
- Master of Education in Early and Special Education
- Master of Nursing in Adult Gerontology Nurse Practitioner, Acute Care Option
- Master of Nursing in Adult Gerontology Nurse Practitioner, Primary Care Option
- Master of Science in Accountancy
- Master of Science in Educational Technology
- Master of Science in Organizational Performance and Workplace Learning
- Master of Social Work
- Master in Teaching in Early Childhood Intervention
- Master in Teaching in Special Education

Graduate Certificates

- Graduate Certificate in Adult Gerontology Nursing Practitioner, Acute Care
- Graduate Certificate in Adult Gerontology Nursing Practitioner, Primary Care
- Graduate Certificate in Early Childhood Intervention Services and Supports
- Graduate Certificate in Educational Games and Simulation
- Graduate Certificate in Healthcare Simulation
- Graduate Certificate in Online Teaching
- Graduate Certificate in Positive Behavioral Interventions and Supports
- Graduate Certificate in School Technology Coordination
- Graduate Certificate in Technology Integration Specialist
- Graduate Certificate in Workplace E-Learning and Performance Support
- Graduate Certificate in Workplace Instructional Design
- Graduate Certificate in Workplace Performance Improvement

Online classes at Boise State are similar to traditional classes in regard to schedule and workload. They require the same time commitment as in-person classes, but offer flexibility for those with busy schedules and commitments outside of school. Although the classes are virtual, there are numerous opportunities for interaction with instructors and classmates. In online classes, students access course content through Boise State's secure online course management system, Blackboard. It is important that students plan their time effectively to be successful in online classes and have regular access to a computer with an internet connection. For more details about online learning at Boise State, and more information about online degrees and certificates, visit <https://online.boisestate.edu>.

Evening/Weekend Regional Programs

Boise State University offers the following graduate degree and certificate programs, primarily at sites away from the Boise main campus. For more information, call (208) 426-1709.

Education Specialist in Executive Educational Leadership This program is designed to develop effective leaders in educational settings. The interdisciplinary course work provides students with the basis for a thorough understanding of leadership, management, and reform within educational systems. Students will have collaborative opportunities to effectively influence current education reform and student learning. For more information, call (208) 426-3758 or visit <https://education.boisestate.edu/cifs/executive-educational-leadership-program/>.

Master of Athletic Leadership This program is designed to enhance the leadership skills of current and future athletic leaders for service in intercollegiate, interscholastic, and/or youth sport athletic programs. The program is practitioner-oriented with a strong emphasis on participant development of essential leadership competencies for creating and maintaining athlete-centered athletic programs. For more information, visit <https://hs.boisestate.edu/mal/>.

Master of Education in Bilingual Education This degree prepares teachers to teach in all content areas in two languages, Spanish and English. Classes meet in Nampa, in a condensed format, Friday evening and all day Saturday over 3 weekends or in an online format.

An Introduction to Boise State University

The program is designed to be completed in two years, including summer. For more information, call (208) 426-2243 or visit <https://education.boisestate.edu/literacy/>.

Master of Education in English as a New Language This program is designed for teachers who work with or are preparing to work with English language learners. Classes meet in Nampa, in a condensed format, Friday evening and all day Saturday over 3 weekends or in an online format. The program is designed to be completed in two years, including summer. For more information, call (208) 426-2243 or visit <https://education.boisestate.edu/literacy/>.

Master of Arts in Education, Literacy This degree, intended for educators who want to be literacy/reading specialists, is offered either in a three-weekend, condensed format on Friday evening and Saturday, or on week nights. Our classes meet in Boise or in Nampa. The program is designed to be completed in two years, including summer. For more information, call (208) 426-3206 or visit <https://education.boisestate.edu/literacy/>.

Master of Social Work—Advanced Standing This program is designed for students who have earned a Bachelor of Social Work degree. Cohorts meet in Lewiston, Coeur d'Alene and Twin Falls, evenings and weekends to fit the needs of working professionals. For more information, call (208) 426-1568 or visit <https://hs.boisestate.edu/socialwork/graduate/>.

Conflict Management—Graduate Certificate This program provides both knowledge and skills for people who wish to deal more effectively with interpersonal, group and intercultural conflict; and to develop their abilities to mediate disputes and negotiate agreements. Courses are appropriate for:

- Leaders and managers at all levels
- Professionals who need high-level people skills
- Anyone interested in effectively managing conflict

Conflict Management faculty members possess abundant professional experience as university teachers, organizational trainers and conflict management practitioners. For more information, call (208) 426-2513 or visit <https://sps.boisestate.edu/publicpolicy/conflict/>.

Mathematical Teaching for Instruction—Graduate Certificate This program is offered through the Department of Curriculum, Instruction, and Foundational Studies (CIFS). The program is focused on preparing and building the skills of individuals who are interested in improving their mathematical skills and understanding related to K-8 classroom instruction, coaching other teachers, or becoming mathematics teacher leaders. For more information, call (208) 426-4650 or visit <https://mti.boisestate.edu>.

Boise State University Writing Project The Boise State Writing Project (BSWP), a member of the National Writing Project network, began on the Boise State campus in the summer of 2005. The network consists of over 250 international sites and includes an international corps of teachers and teacher leaders. The BSWP is working to bring high quality professional development programs to the teachers in Southern Idaho. "For more information contact Dr Jim Fredricksen, (208) 426-7084, jimfredricksen@boisestate.edu.

Boise State Regional Sites

The Division of Extended Studies provides administrative support for graduate programs at locations away from the Boise main campus. Advising and registration assistance are available at most

sites. Customer service for Boise State textbook sales and library services is available via the web. The regional sites are:

Coeur d'Alene
Boise State MSW Program
Lewis-Clark State College, Coeur d'Alene
1031 Academic Way, Coeur d'Alene, ID 83814
(208) 292-2679

Boise State Center at College of Western Idaho (CWI)
M.Ed. in Bilingual/ENL Education
M.A. in Education, Literacy
Nampa Campus Aspen Classroom Bldg.
6002 Birch Ln., Nampa, ID 83687
(208) 562-3423

Twin Falls
Boise State MSW Program
Hepworth Building, Room 144D
College of Southern Idaho Campus
P.O. Box 1238, Twin Falls, ID 83303
(208) 933-2305

For more information about these sites, courses, or the programs offered call the site coordinator or visit <https://extendedstudies.boisestate.edu/regional/sites/>.

Other Programs

Test Preparation

Assisting students to prepare for graduate admission exams; Graduate Record Examination (GRE), Graduate Management Admission Test (GMAT), and Law School Admissions Test (LSAT) courses are offered by the Division of Extended Studies' Center for Professional Development. For more information visit <https://extendedstudies.boisestate.edu/cpd/test-preparation/courses/>

K-12 Teacher Professional Development

Working closely with local school districts, the Idaho State Department of Education, campus Academic Departments and the Boise State College of Education, the K-12 Professional Development Program enables teachers, and professional employees of school districts to earn credit required for re-certification and salary increases. The graduate credits earned through the Professional Development Program are offered at a reduced rate and cannot be used to satisfy degree requirements. For more information, call (208) 426-1709 or visit <https://extendedstudies.boisestate.edu/educatorsdevelopment/>.

Summer Sessions

Academic programs, courses, and services are offered during the summer, including graduate and undergraduate courses in 3-week, 5-week, 7-week, 10-week, and 14-week sessions. A variety of workshops is also offered each summer. The *Boise State University Summer Schedule of Classes* is available to students each spring at <https://my.boisestate.edu/>. For more information, call (208) 426-1709 or visit <https://summer.boisestate.edu>.

Center for Professional Development

The Center for Professional Development brings Boise State University's expertise to your organization. We provide experiential learning opportunities to improve employee performance in

leadership and other professional areas. Our consulting services assist clients in needs assessment, supporting organizational development and problem solving.

The Boise State Center for Professional Development provides professional development opportunities on-campus, on-site, and online. Our programs are designed for professionals who are seeking knowledge and skills to address work challenges to make Idaho and the surrounding area a great place to live, work and do business. For more information, call (208) 426-1709 or go to <https://extendedstudies.boisestate.edu/cpd/>.

Continuing Education Units (CEU)

A Continuing Education Unit (CEU) is a nationally standardized unit documenting participation in noncredit programs and courses. The Division of Extended Studies approves and distributes CEUs, which can be provided to employers as verification that you have completed a course in which CEUs were granted. CEUs cannot be

converted to academic credit. For more information, call (208) 426- 2166.

Osher Lifelong Learning Institute

The Osher Lifelong Learning Institute is a membership-based program that offers a wide variety of college-level, non-credit lectures, short courses and special events for adult learners. Membership is open to adults over age 50 who enjoy the challenge of learning without the stress of tests and grades. No prerequisites are required for this program in which members share the common bond of intellectual curiosity. For a catalog and additional information, call (208) 426-1709 or visit <https://osher.boisestate.edu>.



Questions About Extended Studies?

If you have questions about these programs contact the Division of Extended Studies, 220 E. Parkcenter Blvd., (208) 426-1709 or online at <https://extendedstudies.boisestate.edu>.

General Policies

Your Rights and Responsibilities

Boise State University challenges its students to reach their highest levels of performance, encourages them to excel in academics and sports, and invites them to participate in the many cultural and social activities available at the university. At the same time, Boise State University expects students to conduct themselves in a manner compatible with the university's function as an institution of higher learning. Therefore, we have published this catalog and the Boise State University Student Handbook to acquaint you with your rights and responsibilities as a student.

Confidentiality and Privacy

Students' Rights The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. These rights include:

1. The right to inspect and review the student's education records within 45 days from the day the university receives a request for access.

A student should submit to the registrar, dean, head of the academic department, or other appropriate official, a written request that identifies the record(s) the student wishes to inspect. The university official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the university official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.

2. The right to request the amendment of the student's education records that the student believes are inaccurate, misleading, or otherwise in violation of the student's privacy rights under FERPA.

A student who wishes to ask the university to amend a record should write the university official responsible for the record, clearly identify the part of the record the student wants changed, and specify why it should be changed.

If the university decides not to amend the record as requested, the university will notify the student in writing of the decision and the student's right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

3. The right to provide written consent before the university discloses personally identifiable information from the student's education records, except to the extent that FERPA authorizes disclosure without consent.

The university can disclose education records without a student's prior written consent under the FERPA exception for disclosure to school officials with legitimate educational interests. A school official is a person employed by the university in an administrative, supervisory, academic or research, or support staff position (including law enforcement unit personnel and health staff); a person or company with whom the university has contracted as its agent to provide a

service instead of using university employees or officials (such as an attorney, auditor, or collection agent); a person serving on the Board of Trustees; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks.

A school official has a legitimate educational interest if the official needs to review an education record to fulfill his or her professional responsibilities for the university.

4. The right to file a complaint with the U.S. Department of Education concerning alleged failures by the university to comply with the requirements of FERPA. The name and address of the office that administers FERPA is: Family Policy Compliance Office, U.S. Department of Education, 400 Maryland Avenue, SW, Washington, DC 20202-8520.

The information listed below is considered directory information:

- your name
- your date of birth
- your local address
- your e-mail address
- your local telephone number
- your major field of study
- the dates you attended Boise State
- your student classification (freshman, sophomore, junior, senior, or graduate)
- your enrollment status (e.g., full-time or part-time)
- the type of degree you have earned from Boise State and the date on which it was awarded
- the dean's list and other honors released to the newspapers

According to *BSU Policy# 2250*, Boise State University reserves the right to withhold information when, in its judgment, the interests and welfare of the individual, university, or both are not served by the release of information. In other words, while we have the option to release directory information (except where students have requested privacy), we reserve the right to not release.

Authorized Disclosure Without Consent As of January 3, 2012, the U.S. Department of Education's FERPA regulations expanded the circumstances under which your education records and personally identifiable information (PII) contained in such records — including your Social Security Number, grades, or other private information — may be accessed without your consent. First, the U.S. Comptroller General, the U.S. Attorney General, the U.S. Secretary of Education, or state and local education authorities ("Federal and State Authorities") may allow access to your records and PII without your consent to any third party designated by a Federal or State Authority to evaluate a federal- or state-supported education program. The evaluation may relate to any program that is "principally engaged in the provision of education," such as early childhood education and job training, as well as any program that is administered by an education agency or institution. Second, Federal and State Authorities may allow access to your education records and PII without your consent to researchers performing certain types of studies, in certain cases even when we object to or do not request such research. Federal and State Authorities must obtain

certain use-restriction and data security promises from the entities that they authorize to receive your PII, but the authorities need not maintain direct control over such entities. In addition, in connection with Statewide Longitudinal Data Systems, State Authorities may collect, compile, permanently retain, and share without your consent PII from your education records, and they may track your participation in education and other programs by linking such PII to other personal information about you that they obtain from other Federal or State data sources, including workforce development, unemployment insurance, child welfare, juvenile justice, military service, and migrant student records systems.

If you wish to limit access to this information, log on to myBoiseState and click on the FERPA Directory Restrictions link.

In discharging their official duties, Boise State employees may read, review, photocopy, and distribute to appropriate persons within the university any information contained in your student record. However, before distributing confidential information outside the university—even to members of your family—Boise State faculty and staff must first secure your written permission to do so.

You must complete a *Release of Information* form to allow individuals other than yourself to access your educational or financial records. The form can be located at <https://registrar.boisestate.edu/forms/student-forms/>.

Disclosure Recordkeeping Requirements Each office of the university that maintains educational records must maintain, within each student's file, for as long as the file is maintained: (1) a record of all third parties who have requested or received personally identifiable information from a student's educational record in accordance with FERPA requirements; and (2) the legitimate interest of the party in requesting or obtaining the information. If personally identifiable information from a student's education record is disclosed pursuant to the health or safety exception, the record must indicate the articulable and significant threat to the health and safety of the student or other individuals that formed the basis for the disclosure and the parties to whom the information was disclosed.

If the third party recipient may disclose personally identifiable information to additional parties on behalf of Boise State, this information must also be included in the record, as well as the additional parties' legitimate interest in requesting or obtaining the information.

When a qualifying disclosure of personally identifiable information is warranted, a *Record of Disclosure of FERPA Information* should be used to document the requirements listed above.

Health and Safety Exemption Requirement Boise State University adheres to all requirements pertaining to the protection of personally identifiable information and other protected information in a student's education record. However, pursuant to 34 CFR 99.36, the university is permitted to disclose, without student consent, information in a student's education record including but not limited to personally identifiable, non-directory information in connection with a health or safety emergency.

The situation must present imminent danger to a student or other or member of the university community in order to qualify for this exemption. The VP for Student Affairs or other authorized university personnel must approve such an exemption request.

Academic Integrity

The university's goal is to foster an intellectual atmosphere that produces educated, literate people. Because cheating and plagiarism are at odds with this goal, these actions shall not be tolerated in any form. Students are expected to adhere to the rules and regulations as set forth in the Student Code of Conduct. Therefore, all work submitted by a student must represent that student's own ideas and effort; when the work does not, the student has engaged in academic dishonesty.

Plagiarism occurs when a person tries to represent another person's work as his or her own or borrows directly from another person's work without proper documentation. For example, academic dishonesty occurs whenever a student:

- buys a paper or other project, then seeks to receive credit for the paper or project
- copies from another student's exam, either before, during, or after the exam
- uses "crib notes" while taking an exam or uses information stored in a computer or calculator (if prohibited from doing so)
- allows another person to take an exam in his or her place or takes an exam for another person
- collaborates on take-home exams when such collaboration is forbidden
- copies the work of another person and attempts to receive credit for that work
- fails to properly document source material in a paper or project
- receives editorial assistance that falls outside the scope of acceptable assistance

Note: The list above is intended only to provide general guidelines for recognizing and avoiding common types of academic dishonesty. It is in no way an exhaustive or comprehensive list of all the types of academic dishonesty.

Except in cases of major offenses, responding to academic dishonesty is the responsibility of the instructor of the course in which the dishonesty occurs. If a student is responsible of academic dishonesty, the student may be dismissed from the class and may receive a failing grade. Other penalties may include suspension or expulsion from school.

For more information about academic honesty, see the following online publications:

- *Boise State University Policy Manual*
- *Boise State University Student Handbook*
- *Student Code of Conduct*

Providing Equal Access to Students with Disabilities

Boise State University is committed to creating a diverse and inclusive campus environment by abiding by the letter and spirit of the Americans with Disabilities Act and Section 504 of the Rehabilitation Act. Accordingly, the University does not discriminate against persons with disabilities and strives to provide an exceptional academic experience for students with disabilities by providing reasonable and appropriate accommodations for equal access.

Boise State University's Educational Access Center (EAC) coordinates services to meet the educational needs of students with documented disabilities. The EAC works with students and faculty to arrange reasonable accommodations and promote an environment that is free of both physical and attitudinal barriers.

Students with disabilities needing accommodations to fully participate academic programming should contact the EAC. All accommodations must be approved through the EAC prior to being implemented. To learn more about the accommodation process, visit the EAC's website at <https://eac.boisestate.edu/students/>.

Student Records

The Graduate College maintains a permanent file for each student who has applied for admission to the Graduate College; your file will contain your application for admission, official transcripts, test scores, and any correspondence related to that application. Another file at the Registrar's Office contains your permanent transcript record and all materials that document that transcript record. And, your faculty advisor will maintain a file of advising records, grade sheets, and correspondence.

In general, you have the right to review the documents that constitute your official record, and you have the right to request copies of those documents. If you request copies, Boise State University will provide them in a timely and efficient manner.

Transcript Records

You may order official transcripts online through myBoiseState at <https://my.boisestate.edu/>. The Registrar's Office makes every effort to ensure that your transcript records are up-to-date and accurate. If you believe there is an error or an omission on your transcript, please contact the Registrar's Office, Administration Building, Room 110, (208) 426-4249.

Verification of Your Enrollment Status

Your enrollment status is public information unless you have notified the university that you want it to be treated as confidential (see *Confidentiality and Privacy*). In responding to inquiries from outside the university, Boise State University calculates your enrollment status according to Table 1. Requests for verification of enrollment status often come from such businesses as employment agencies, insurance companies, and lending agencies.

Table 1
Schedule Used to Determine
Graduate Enrollment Status
(in Response to Outside Inquiries)

Number of Credits (currently enrolled)	Enrollment Status
9 or more	Full-Time
6-8	Three-Quarter Time
5	Half-Time
4 or fewer	Less Than Half-Time

Note: If you are receiving financial aid, please read the Financial Aid for Graduate Students section for additional enrollment requirements to maintain your financial aid eligibility.
Note: If you are receiving benefits under the G.I. Bill, you should contact the Veteran Services Office, Alumni Center, located in the Lincoln Garage, on the corner of Lincoln Ave. and University Dr. 1173, (208) 426-3744, to determine your enrollment status.

Address Changes

Whenever Boise State University policies or procedures call for a university office to send written notification to a student, that obligation is fulfilled when that office mails the notification to the student's last address on record. If you are a past student, and do not have access to a myBoiseState account, submit a *Student Information Update* form (located at <https://registrar.boisestate.edu/forms/student-forms/>) form to the Registrar's Office, Administration Building, Room 110. Currently enrolled students must update address information on to myBoiseState (<https://my.boisestate.edu/>) under the Student Center. Under personal information section, select Addresses.

Name Changes

You should promptly report a name change. You may do so by going to <https://registrar.boisestate.edu/forms/student-forms/>, completing an *Information Update* form and returning the form to the Registrar's Office, Administration Building, Room 110. You must provide evidence showing that your name has officially changed, such as a certified copy of a court order, a marriage certificate, or a dissolution decree reflecting the new name in full.

Note: If you are, or were at anytime, employed by the university (even as a student employee), you must report your name change to the Department of Human Resource Services, Campus School, Room 120, (208) 426-1616 (documentation requirements may differ).

Last Week of Classes and Final Exams

No classes provided by Boise State University will give any test or examination during the last seven calendar days preceding the first day of the officially scheduled final examination period of the fall or spring semester (traditionally referred to as "Dead Week"), except in those particular courses that are offered in an accelerated time frame less than 15 weeks and/or wherein it is deemed necessary by departmental policy (e.g., lab, artistic performance, project presentation, team analysis, etc.). Online courses are expected to adhere to the policy whenever possible, but they are allowed to make exceptions when the course schedule differs from the regular semester schedule.

- In-class final or take home final exams will be given and/or due during the officially scheduled final examination periods.
- No take home test or exam may be made due during the last

week of classes.

- Test or exam dates during the last week of classes are not subject to personal preferences (e.g., faculty preference, class vote, or other means of general consensus).
- Exceptions may be allowed for extenuating circumstances, on an individual student basis, to be arranged at a time agreeable to the faculty member.
- Thesis and dissertation defenses (oral examinations) may be held during this week.
- Faculty will provide a clear statement in the course syllabus as to what is expected of students during the last week of class.

Each semester, a schedule for final examinations is published on the Registrar's Office website at <https://registrar.boisestate.edu/boise-state-academic-calendars/final-exam-schedules/>. This schedule defines the dates and times during which all final examinations must be scheduled.

Right of Appeal

You have the right to appeal any academic policy or requirement if either of the following conditions is present:

- Extenuating circumstances make it impossible for you to comply with the policy or requirement.

- An undue hardship would result from a strict application or interpretation of the policy or requirement.

Please note, however, that extenuating circumstances must be beyond your control and that undue hardship must be a condition far more serious than simple inconvenience. Documentation will be required and the timeliness of the appeal will be taken into consideration.

If you appeal an academic policy or requirement, that appeal will be reviewed by the Dean of the Graduate College and/or by the University Academic Appeals Committee as appropriate. Appeals for current semester **complete withdrawals** should be directed to the Dean of Students Office. For more information about appeals and grievances, see the *Boise State University Policy Manual* (<https://policy.boisestate.edu/>) and the *Boise State University Student Handbook* (<https://vpsa.boisestate.edu/>).



Questions About These Policies?

If you have questions about these policies, contact the Registrar's Office, Administration Building, Room 110, (208) 426-4249.

Graduate Admission Regulations

Admission Requirements

Minimum Admission Requirements of the Graduate College

The minimum requirements for admission to the Graduate College are:

- At least a baccalaureate degree from a regionally accredited U.S. college or university or a degree from a non-U.S. institution of higher education that is judged equivalent to a U.S. baccalaureate degree by the International Admissions office. Applicants can request an exception to this requirement. Refer to request for an exception to the regionally accredited institution requirement for admission.
- An undergraduate grade point average (GPA) of 3.00 (based on a 4-point scale) computed for all undergraduate credits.

Finally, applicants who are applying as graduate degree-seeking students and were graduate degree-seeking students elsewhere but did not complete the program must demonstrate that they departed that program in good academic standing.

Admission Requirements for a Graduate Degree or Certificate Program

Each graduate program has its own admission criteria, in addition to the minimum admission requirements of the Graduate College. To ensure the best opportunity for admission, applicants are encouraged to review the specific admission requirements and application procedures provided by the program. Admission is competitive and otherwise qualified applicants may be denied admission based on factors established by each program. In addition to academic merit (as reflected by GPA, test scores, and other information), a program's recommendation may be based on factors including but not limited to:

- program capacity or space limitations
- the perceived strength of the candidate's application in relation to other applicants
- the availability of faculty with expertise in an area of study
- the candidate's demonstrated ability to write well, work collaboratively, communicate respectfully and effectively, take constructive feedback, work under pressure, and/or otherwise prepare and conduct themselves in a manner consistent with program expectations, professional ethical and/or licensure requirements, and University policies and procedures, including its *Student Code of Conduct* and *Statement of Shared Values*.

Graduate programs may use information submitted as part of the application, as well as additional sources, in the process of evaluating and recommending applicants for admission.

To Apply to a Degree or Certificate Program

Graduate programs may set one or more standard application deadlines appropriate for management of the program. Prospective students are, therefore, encouraged to consult the application procedures provided by the program. If the program is not specific about its application deadlines, then the Graduate College

recommends submitting all application materials by the following priority dates:

- January 15 for summer and fall admission
- October 1 for spring admission

To apply for admission to a degree or certificate program, complete the following steps before the program deadline:

1. Submit an online application for admission to the Graduate College, along with the nonrefundable application fee.
2. Request official transcripts from each educational institution (excluding Boise State) attended beyond high school. Transcripts should be sent directly from the institution to the Graduate College and can be sent electronically, mailed or faxed directly. Please use the following address if transcripts are mailed: Graduate College, Room 307, Riverfront Hall, Boise State University, 1910 University Drive, Boise, ID 83725-1110. Please use the following e-mail address if the transcripts are electronically sent: gradcoll@boisestate.edu. Faxed transcripts can be sent to (208) 426-2789.
3. Complete any standardized exams required by the graduate program. Check the list of Degree Programs available on the Graduate College website to see if a specific program requires exams. Make sure the exam results are forwarded to the Graduate College. The institutional code for Boise State University for all exams administered by the Educational Testing Service (ETS) is 4018.
4. Submit all required letters of recommendation and other materials required by the graduate program.

Review of an application cannot begin until each of these steps is completed and the Graduate College has received all materials, including materials that are specific to a particular graduate program. Applicants can monitor the status of their application using the "To Do" list found in myBoiseState.

Once these steps have been completed, an applicant is eligible for admission to the Graduate College but has not yet been admitted to a degree or certificate program. At this point, applicants may enroll in courses for which they are eligible, but are not permitted to work toward a graduate degree or certificate and are not eligible for federal financial aid. For applicants who complete courses and are later admitted to a graduate program, the program may recommend to the Graduate College that some of those courses be applied to the credit requirements of the program. The program may define a maximum number of these credits but the maximum cannot exceed one-third (1/3) of the total credit requirement and all final decisions on the applicability of these credits rest with the Graduate Dean.

Once all application materials have been received, the application is reviewed by the graduate program. Once this review is complete, the program forwards an admission recommendation to the Graduate Dean using a Program Admission Recommendation (PAR) form. The Graduate Dean then makes the final determination and notifies the program and the student. Applicants are admitted in one of the following categories:

Regular Admission This category is typically used when the undergraduate GPA is 3.00 or higher. In the event that an applicant's undergraduate GPA is below 3.00 a program may still support a recommendation for regular admission using the applicant's GPA calculated for the last 2 years of undergraduate credits or subsequent graduate credits, relevant work experience, or other factors to support the recommendation. Regular admission indicates full graduate standing in an academic program with no special stipulations.

Conditional Admission This category is used when a student has not yet completed the undergraduate degree or the Graduate College has not yet received a final undergraduate transcript with the undergraduate degree posted. The student's status is changed to regular once the Graduate College has received verification of the undergraduate degree.

Provisional Admission This category is typically used when the undergraduate GPA is below 3.00. In the event that an applicant's undergraduate GPA is 3.00 or above a program may still support a recommendation for provisional admission using the applicant's limited relevant undergraduate coursework, demonstrated writing or computational skills, or other factors to support the recommendation. Provisional admission establishes special stipulations such as a probationary period and/or other specific stipulations that must be satisfied by the student within a reasonable time. The student's status is changed to "regular" once the specified stipulations have been met.

At this point, the applicant has been officially admitted to the graduate program. All degree-seeking students admitted as regular, conditional, and provisional are eligible for financial aid.

For Students with Provisional Admission

When a student is admitted with provisional status, the stipulations and timeline are filed by the graduate program with the Graduate College. At the end of each enrolled semester (including summers), the Graduate College and the graduate program, working in collaboration, review the student's progress and take one of the following actions:

1. Promote the student to "regular" status if the program determines that the stipulations of the provisional admission have been met.
2. Continue the student on provisional status if the stipulations of provisional admission have not been met and the program recommends continuation.
3. Dismiss the student from the program and Boise State University if the stipulations of provisional admission have not been met and the program recommends dismissal. Students who are dismissed are administratively withdrawn from their courses and cannot register for classes until they are either reinstated to the graduate program or readmitted to the Graduate College. Students who request reinstatement (following *Boise State Policy #3090*) and are granted reinstatement to the program within 30 calendar days are not required to reapply to the Graduate College. After 30 days, students must submit a new online application and application fee.

In each case, the Graduate College informs the graduate program and the student via e-mail (using the student's Boise State e-mail address, according to *Boise State University Policy #2280*).

If a student submits an *Application for Admission to Candidacy* (AAC) form while on provisional status, approval by the Graduate

College will be delayed until the provisions have been met and the student has been promoted to regular status.

To Apply as a Nondegree-Seeking Student

Individuals who submit an application but do not specify a degree or certificate program are said to be applying as nondegree-seeking students. Applications from nondegree-seeking students are accepted at any time, but prospective students are advised to submit all application materials well in advance of the desired semester or summer session.

Applicants may apply for admission as a nondegree-seeking student if they have earned a baccalaureate degree or a higher degree from a regionally accredited institution. Students who subsequently decide to apply to a degree or certificate program student will be required to meet the GPA and all other requirements of the program to which they apply. To apply for admission as a nondegree-seeking student, complete the following steps before the deadline specified in the current academic calendar:

1. Submit an online application for admission to the Graduate College, along with the nonrefundable application fee.
2. Request official transcripts from each educational institution (excluding Boise State) attended beyond high school. Transcripts should be sent directly from the institution to the Graduate College and can be sent electronically, mailed or faxed directly. Please use the following address if transcripts are mailed: Graduate College, Room 307, Riverfront Hall, Boise State University, 1910 University Drive, Boise, ID 83725-1110. Please use the following e-mail address if the transcripts are electronically sent: gradcoll@boisestate.edu. Faxed transcripts can be sent to (208) 426-2789.

Admission Status for Nondegree-Seeking Students

Students who are admitted to the Graduate College as nondegree-seeking students may register for courses of interest for which they are eligible as long as they have met the necessary prerequisites and the courses are not restricted. However, they may not work toward a graduate degree or certificate and are not eligible for federal financial aid. If a student completes courses as a nondegree-seeking student and later applies and is admitted to a graduate program, the program may recommend to the Graduate College that courses completed while in non-degree status be applied to the credit requirements of the program. The graduate program may define a maximum number of applicable credits of this type, but the maximum cannot exceed one-third (1/3) of the total credit requirement, and all final decisions on the applicability of such credit rests with the Graduate Dean.

Application Deadlines for Degree-Seeking Students

Students who are admitted to the Graduate College as nondegree-seeking students may register for courses of interest for which they are eligible as long as they have met the necessary prerequisites and the courses are not restricted. However, they may not work toward a graduate degree or certificate and are not eligible for federal financial aid. If a student completes courses as a nondegree-seeking student and later applies and is admitted to a graduate program, the program may recommend to the Graduate College that courses completed while in non-degree status be applied to the credit requirements of the program. The graduate program may define a maximum number of applicable credits of this type, but the maximum cannot exceed

Graduate Admission Regulations

one-third (1/3) of the total credit requirement, and all final decisions on the applicability of such credit rests with the Graduate Dean.

Applying for Admission as an International Graduate Student

Boise State University welcomes applications from qualified students from around the world. The requirements described below apply to applicants in the United States with a visa or applicants who require a student visa to study in the United States.

International applicants may apply for admission as graduate students if they have earned, from an accredited institution, the equivalent of a U.S. four-year baccalaureate degree or a higher degree. To apply for admission to Boise State, international applicants must complete the following steps before:

- January 15 for Summer and Fall semester admission
 - October 15 for Spring semester admission
 - or the deadline set by the graduate program if that deadline is earlier.
1. Submit a completed International Student Graduate Application along with the nonrefundable application fee.
 2. Submit official transcripts and proof of degree from each educational institution you have attended beyond high school or the equivalent of high school. Instruct the educational institutions to send the transcripts directly to:

International Admissions Office
Center for Global Education
Boise State University
1910 University Drive
Boise, ID 83725-1145

If written in a language other than English, these documents must be accompanied by an official English translation. If the institutions cannot submit these documents directly to the Boise State University International Admissions Office, certified or attested copies of official academic records and proof of four-year degree may be substituted. The certified copies must be issued or attested by an official of the institution and sent to Boise State University in the sealed official envelope of the institution, with the institution's stamp across the seal of the envelope. Boise State University reserves the right to request that applicants submit a professional credential evaluation completed by an independent credential evaluation service in addition to official transcripts. Boise State University accepts evaluations completed by World Education Services (www.wes.org), Education Credential Evaluators (www.ece.org), and Educational Perspectives (www.edperspective.org).

International applicants may appeal this requirement in situations that meet all of the following requirements:

- The transcript is for a degree or certificate that was not completed.
- The application is for a Boise State graduate program at the same academic level (doctoral, master's, certificate) as the previous incomplete graduate work.
- The applicant is not transferring any credits from the incomplete degree or certificate.
- The applicant submits to the Graduate College sufficient documentation showing that application of this requirement would result in an "undue hardship." This must be a condition

that is far more serious than simple inconvenience.

The documentation will be carefully reviewed by the Graduate College in consultation with the International Admissions Office and the timeliness of the appeal will be important. Applicants should submit their application and appeal at least 3 weeks before the application deadline for the specific graduate program. Appeals received after this date will still be reviewed but the review may not be completed in time to meet the specified deadline.

International applicants who appeal this requirement and are admitted to a graduate program will be admitted with "conditional" status pending submission of the official transcript(s).

Guidelines for how to send official transcripts can be found on the International Admissions website: <https://admissions.boisestate.edu/international/how-to-apply/undergraduate/official-international-transcripts/>.

3. Submit evidence of English proficiency that meets the minimum requirements for the Graduate College and the graduate program. The English Language Proficiency Requirement can be met by submitting official TOEFL or IELTS scores. Scores must be submitted directly from the testing agency and are valid if scored within two years of application to Boise State. The minimum score required for admission is:

- TOEFL score of 550 (paper-based) or 80 (internet-based)
- IELTS overall score of 6.0 or better

Some graduate programs may require higher TOEFL or IELTS scores. Prospective students should review the requirements of the specific program they are interested in.

Additional options for demonstrating English language proficiency exist. Please refer to the full list of proficiency options at <https://admissions.boisestate.edu/international/language-requirements>.

Meeting score requirements does not guarantee admission. Boise State may request additional supporting documentation and/or an interview to validate English proficiency if deemed necessary during application review.

4. Take the Graduate Management Admission Test (GMAT), Graduate Record Examination (GRE), or any other predictive exam required by the program to which you are applying. Ensure that the results of these exams are forwarded to:

Graduate College
Riverfront Hall, Room 307
Boise State University
Boise, ID 83725-1110

The institution code number for Boise State University for all examinations administered by the Educational Testing Service (ETS) including the TOEFL and GRE is 4018. For information about specific program requirements, see the Graduate College website at: <https://graduatecollege.boisestate.edu/>.

5. Submit all letters of recommendation and other materials required by the program.
6. Submit documentation sufficient to show sufficient financial resources to cover one calendar year of living expenses, tuition, and fees. Send the documentation to the International Admissions Office after meeting all other requirements for admission and being accepted to a graduate program. This item

Table 2

How to Apply for Admission to the Graduate College at Boise State University

To apply for admission to Boise State University as a graduate student, submit to the Graduate College all materials indicated in the checklist below. All admission materials must be received by the posted deadline. (See Academic Calendar.)

New Degree-Seeking Graduate Applicants

- *Graduate Admission Application*
 - Nonrefundable application fee. (Current fee online at <http://graduatecollege.boisestate.edu/howtoapply/>.)
 - Official* transcripts from all postsecondary institutions (excluding Boise State) showing all courses completed and degrees earned.
 - Official GRE or GMAT scores, if required.
 - Letters of recommendation and/or other materials that may be required by the program to which you are applying.
- Note:** If you have never attended Boise State University as a graduate student, admission materials are retained for two years after your last date of application. Please submit new materials if you have not attended Boise State within the last two years.

Returning Applicants Previously Admitted to a Graduate Degree Program

Boise State graduate students will remain active for 6 consecutive semesters (including summer) before a new Graduate Admission Application is required.

- *Graduate Admission Application*
 - Official* transcripts from all other colleges attended, if not previously submitted.
 - Official* GRE or GMAT scores, if required and not previously submitted.
- Note:** Boise State University retains admission materials for five years after your last term of enrollment. Please submit new materials if you have not attended Boise State within the last five years.

Nondegree-Seeking Applicants

- *Graduate Admission Application*
- Nonrefundable application fee. (Current fee online at <http://graduatecollege.boisestate.edu/howtoapply/>.)
- Official* transcript from institution (excluding Boise State) which granted your highest degree.

Applicants Seeking a Second Undergraduate Degree

- Apply for admission through undergraduate admissions office.
- Admission status is Senior.

Applicants from Other Countries

- *International Student Graduate Application*
- Nonrefundable application fee. (Current fee online at <http://graduatecollege.boisestate.edu/howtoapply/>.)
- Official* proof of four-year degree and transcripts from each educational institution attended beyond high school.**
- Official TOEFL or IELTS results.
- Official GRE, GMAT scores, if required.
- Letters of recommendation and other materials required by the program to which you are applying.
- Documentation to demonstrate adequate financial resources to cover one year living expenses, tuition, and fees.

* To be official, transcripts must be sent by the issuing institution directly to Boise State University, Graduate College.

** If written in a language other than English, these documents must be accompanied by an official English translation.

is only required for students who require an F-1 student visa to complete their graduate program.

The International Admissions Office will issue an *I-20* form for students who require an F-1 student visa, meet all admission requirements, supply the necessary financial documentation, and are accepted to a degree program. An *I-20* form will be required to apply for an F-1 student visa. If you would like additional information, please contact the International Admissions Office.

Note: All international students taking on-campus classes must purchase health insurance that meets Boise State University's health insurance requirements.

Administrative Handling of Admission Documents

The Graduate College coordinates graduate admission processes and can provide additional information and answer questions. All documents received by Boise State University in conjunction with an application for admission become the property of the university. These documents will be duplicated only for use in admission decisions and student advising at the university. Moreover, the

original documents will neither be returned to the applicant nor forwarded to any individual unaffiliated with Boise State University or forwarded to any other agency, organization, college, or university.



Questions About These Policies?

If you have questions about these policies, contact:

Graduate College
Riverfront Hall, Room 307
(208) 426-3903
Fax (208) 426-2789
<https://graduatecollege.boisestate.edu/>
E-mail: gradcoll@boisestate.edu

International Admissions Office
Student Union Building
(208) 426-1757
<https://admissions.boisestate.edu/international>
E-mail: interntl@boisestate.edu

Registration Policies and Procedures

Shortly after you have been admitted to a graduate program, your department will assign a member of the faculty to serve as your academic advisor. Nondegree-seeking students may seek advising in the Graduate College or the department from which you intend to take courses. Prior to registration, all students are encouraged to seek advising.

Registration takes place each semester and summer session. It consists of three distinct phases: continuing, new, and open registration. You will be assigned a registration appointment. Beginning at that time and until registration closes, you can log onto your Student Center via myBoiseState (<https://my.boisestate.edu/>) and register. The Registrar's Office, Administration Building, Room 110, (208) 426-4249, assists those students not familiar with the web process. You must have your username and password when you register.

Academic Calendar

Boise State's Academic Calendar, which lists all the registration deadline dates for the current catalog year, can be found in the front of this catalog and on the Registrar's website (<https://registrar.boisestate.edu/boise-state-academic-calendars/>). The calendar specifies the policy deadlines, by semester and session, for the following: registration, adding and dropping classes, and withdrawals. You are strongly encouraged to familiarize yourself with this calendar, especially the Deadlines by Session table located at the top of the Academic Calendar, as you will be held accountable for meeting these deadlines.

Academic and Fee Policy

Once you register for classes, you remain registered and are held responsible for the fees and grades assessed for these classes unless you cancel your registration. If you do not pay for or do not attend these classes, you are still held responsible for the fees and grades assessed. If you decide not to attend any classes, you must drop all of them (including classes and workshops that begin later in the semester and remove yourself from any waitlists) by logging on myBoiseState no later than the deadline (see the *Academic Calendar Deadlines by Session* table and the Rules for Dropping a Workshop) and dropping courses on your Student Center.

If you do not cancel your registration or pay your fees by the fee payment deadline, you will remain registered, you will be charged course fees, and you will be assessed a \$50 late penalty.

Note: Cancellation of courses may have financial aid impacts. You may be required to repay all, or a portion of, any financial aid awarded to you.

Enrollment Appointments for Continuing, New and Readmitted Students

Graduate students are initially assigned a registration appointment for fall and spring semesters.

- Fall 2017 appointments begin March 27, 2017
- Spring 2018 appointments begin October 30, 2017

Open registration begins after the fee-payment deadline for preregistered students and runs through the 10th day of the fall and spring semesters. Appointments are not assigned for summer sessions.

- Summer 2018 open registration begins February 20, 2018

Credit/Audit Status

During registration on myBoiseState (<https://my.boisestate.edu/>), you may elect to take a course for audit instead of credit, if space is available in the class. Register by selecting audit status with the understanding that you will receive neither credit nor a grade (A+ through F), regular course fees apply. On your transcript, audit status indicates that you had a seat in the class, but may or may not have participated in class activities. You may change your registration status from credit-to-audit or audit-to-credit until the appropriate session deadline (see the Academic Calendar Deadlines by Session table). If you fail to meet the audit requirements established by the instructor, the instructor may give you a final grade of UAU (Unsatisfactory Audit). For more information, contact the Registrar's Office, Administration Building, Room 110, (208) 426-4249.

Adding Classes

Before the semester begins, you may add classes to your schedule on myBoiseState (<https://my.boisestate.edu/>), if there is space available in the class. If a class is full, you may place yourself on a waitlist to enroll in the class if a seat becomes available. You may continue to add classes after the first day of classroom instruction up until the appropriate session deadline. However, after the fifth day of the semester's regular session, you must obtain the instructor's approval to add the class. Instructors may refuse to grant a permission number if the class is full (see the *Academic Calendar Deadlines by Session* table in the front of this catalog for the exact deadline). They may also refuse permission if your late entry would prevent you from benefiting fully from the class or would prevent other students in the class from doing so. Enter the permission number on your Student Center when you register for the class. If you are registering for or adding graduate assessment, 590 Practicum/Internship, 592 Portfolio, 595 Reading and Conference, 596 Independent Study, or 696 Directed Research; or undergraduate 496 Independent Study, challenge, or credit for prior learning, you may do so through the end of the sixth week of the semester.

Waitlisting

When attempting to enroll in a full course, usually you will be given the option of putting yourself on the waitlist for the course. Your eligibility to be on the waitlist depends on whether you meet the requisites for the course. Please note that some courses do not provide a waitlist option. Once on a waitlist, if a seat becomes

available, you will automatically be added to the course and notified via an e-mail sent to your BroncoMail account. If you are on multiple waitlists for different sections for the same course, you will be removed from the other waitlists at that time. The waitlist process runs five times daily throughout the registration process and is “closed down” on the last day a class can be added without an instructor’s permission number (see the *Academic Calendar Deadlines by Session* table). If you are already enrolled in another section of the course that is waitlisted or have time conflicts with other courses, you will not be enrolled via the waitlist process.

21-Credit Cap

You may enroll in up to 21 credits per term. If you want to take more than 21 credits in a term, you will need to work with your advisor to complete a Request to Exceed 21 Credit Hours form. Enrolling in more than 15 credits will result in an overload fee.

For more information about adding classes, contact the Registrar’s Office, Administration Building, Room 110, (208) 426-4249.

Dropping Classes

You may drop regular session classes from your schedule on myBoiseState (<https://my.boisestate.edu/>) through the tenth week of the semester. See the *Academic Calendar Deadlines by Session* table in the front of this catalog for the exact deadline. If you drop a regular session class before the 10th day of the semester, the class will not appear on your transcript. However, if you drop a regular session class after the 10th day, your transcript will show a grade of W (for withdrawal) for that class. Grades of W will not be used in GPA calculation (see Withdrawals for the maximum number of Grades of W you can accrue). Workshops, short courses, five-week, and eight-week block courses have different deadline dates. See the *Academic Calendar Deadlines by Session* table in this catalog for the exact deadline.

Withdrawals

- You may accrue up to ten (10) withdrawals for a baccalaureate degree and up to five (5) for an associate degree.
- Any grades of W received in an associate degree program count toward the 10 allowed for the baccalaureate degree program.
- Withdrawals from co-requisite courses (lecture/lab) will count as one W, unless the co-requisite courses are two separate graded courses.
- Grades of W earned prior to Spring 2014 semester are not counted toward the number allowed.

Once you have exhausted the number of W grades allowed, you may be removed from your major. Once you have completed a degree, you may earn an additional ten (10) grades of W toward a second baccalaureate degree or an additional five (5) grades of W toward an additional associate degree.

Note: The university has placed limits on the number of times you may enroll in a course. For more information, see *Repetition of Graduate Courses*, in the *Graduate Academic Regulations*, section of this catalog.

Note: If you intend to drop a class in which you have been issued university property—such as uniforms, instruments, or lab equipment—you must return the property before dropping the class. If you fail to do so, the department will place a hold on your record and could have you reinstated in the class.

Drop Fee

You are expected to finalize your class schedule at the beginning of each term. Dropping unwanted courses as the semester begins allows other students the opportunity to add the courses they need. You will have the opportunity to attend the first class session to make a decision to stay enrolled or drop before a \$10 drop fee per course is charged. The drop fee deadlines vary by session. See *Academic Calendar Deadlines by Session* table for the deadlines.

For more information about dropping classes, contact the Registrar’s Office, Administration Building, Room 110, (208) 426-4249.

Workshops

Workshops have special deadlines. Special Session 1 (SP1) is typically utilized for workshop or special event courses that span four days or fewer. This will allow students to add up until the day before the class begins and drop with a W one day before the class ends. If the class is dropped the last day, the drop will result in a grade of F.

Special Session 2 (SP2) is used to schedule courses that fall outside of standard predefined sessions (e.g., 1st 8-week, 2nd 5-week), and that span 5 days or more. This will allow you to add through the first day of class and drop with a W through the day after the first day of class. The last date to drop with a W varies by course, and you are strongly encouraged to access your class schedule on myBoiseState (<https://my.boisestate.edu/>) and click on the Deadline link for the specific class to confirm the final penalty date.

To enroll in a workshop that is full and has not started yet, you must submit a *Registration Override Form*, with the instructor’s signature, to the Registrar’s Office, Administration Building, Room 110, (208) 426-4249, no later than the day before the workshop starts. Workshops do not have permission numbers.

Appeals to Drop a Class After the Deadline

If you need to drop a class in a current semester after the last drop deadline for the session, but before the session ends, you must submit an appeal to the dean (or associate dean) of the college of the course using the Request to Drop a Class After the Deadline form. Read the instructions, fill out the form, submit a written letter, and provide documentation of extenuating circumstances that would justify an exemption to the drop deadline policy. The instructor may deny the appeal. If the instructor signs the form, then you can proceed to request approval and signature from the associate dean (or dean). Once you receive all required signatures, submit the form to the Registrar’s Office, Administration Building, Room 110, (208) 426-4249, for processing. The form is located online at <https://registrar.boisestate.edu/forms/student-forms/>.

Faculty-Initiated Withdrawal

An instructor has the option of withdrawing you from a course if any of the following conditions are present:

- you fail to attend one of the first two meetings of a class that meets more than once each week,
- you fail to attend the first meeting of a class that meets once each week,
- you have not satisfied the requisites for the class.

You should not expect that an instructor will withdraw you for nonattendance. The primary responsibility for course withdrawal rests with you.

To withdraw a student for failing to attend one of the first two meetings of a class that meets more than once each week or the first meeting of a class that meets once each week, the instructor has the option to submit a Faculty-Initiated Withdrawal Form to the Registrar's Office, Administration Building, Room 110, (208) 426-4249. If you are withdrawn from a course for failing to attend these specified class meetings, you may re-enroll in the course with the instructor's permission through the 10th day of the semester (see the *Academic Calendar Deadlines by Session* table in this catalog for the exact deadline of the various sessions). To be withdrawn for failing to satisfy entrance requirements, the instructor or the department must notify you of the impending withdrawal and then request the withdrawal through the Registrar's Office. All faculty-initiated withdrawals will be removed from your record and will not appear on your transcript.

Attendance Policy

You are responsible for attending courses for which you are enrolled. You are also responsible for making up any work you may have missed by failing to attend class, even if the absence was approved by the university, necessitated by illness, or necessitated by a personal emergency. In this sense, then, there are no "excused" absences.

Please note, you should consult your course syllabus for instructor's class attendance policy.

Complete Withdrawal from Boise State University

If you wish to leave the university in good standing, you must drop all your current semester classes and remove yourself from any waitlists by logging in to your Student Center on myBoiseState (<https://my.boisestate.edu>). See the *Academic Calendar Deadlines by Session* table in the front of this catalog for specific deadlines for the various sessions. If the complete withdrawal for regular session is made after the 10th day of classes and you have not paid your fees, you are still responsible for the entire amount of fees incurred plus a \$40.00 administrative processing fee. If you do not cancel your registration or completely withdraw by the appropriate deadline for the session, you will be awarded a final grade of F.

A complete withdrawal after the published deadline will only be granted by special appeal and because of extraordinary circumstances through the Office of the Dean of Students. An online form, instructions and FAQs are found at <https://deanofstudents.boisestate.edu/studentwithdrawal/>; (208) 426-1527; Norco Building, Suite 116. For information on refunds of tuition and fees following a complete withdrawal, see *Tuition and Fees*.

Financial Aid and Withdrawals

If you withdraw from the university, you need to be aware of federal regulations impacting your financial aid eligibility. Withdrawals will impact your compliance with Satisfactory Academic Progress. Please see the policy at <https://financialaid.boisestate.edu/sapdocuments/>. Complete withdrawals may also result in a financial obligation by you to return the unearned portion of any federal aid disbursed to you or to your student account. You must repay Boise State for any unearned aid which had applied toward tuition and fee charges. A repayment may also be required for unearned aid disbursed directly to you. A full explanation of this policy, including examples, is available at <https://deanofstudents.boisestate.edu/studentwithdrawal/>. If you are considering withdrawing from Boise State, we strongly recommend that you review this information. If you still have questions, please contact the Financial Aid Office. Call (208) 426-1664 for more information.

Administrative Withdrawal from Boise State University

An administrative withdrawal is the process by which Boise State formally withdraws you from the university, usually without your consent or cooperation. You may be administratively withdrawn for a variety of reasons, including the following:

- failing to pay library fines, overdue loans, deferred fee payments, housing accounts, or other such charges,
- falsifying information on an admissions application or other university record or document,
- failing to respond to an official summons issued by the university,
- exhibiting behavior that constitutes a clear and present danger to yourself or to others.

Administrative withdrawals due to nonpayment of financial obligations (library fines, overdue loans, deferred fees, housing accounts, etc.) are recorded with a grade of W and appear on your transcript if processed after the 10th day of the semester.

Administrative withdrawals due to ineligibility to be in a course or continue in school for reasons other than nonpayment of financial obligations may or may not appear on your transcript.

Notification of administrative withdrawals are sent to your BroncoMail account.



Questions About These Policies?

Contact the Registrar's Office,
Administration Building, Room 110,
(208) 426-4249.

Grades

Boise State University's Grading System

Boise State University uses a 4.0 grading scale. Table 3 lists the letter grades that instructors use to document their evaluation of your work and to document your academic status in the class. In addition, Table 3 defines the meaning of each letter grade and specifies the number of quality points that correspond to each grade. Quality points are used to determine your grade-point average (GPA). The procedure for calculating your GPA is described below, in *How to Calculate Your Grade-Point Average (GPA)*.

How to Calculate Your Grade-Point Average (GPA)

For each student, Boise State University calculates and documents three types of grade-point averages (GPA):

- cumulative GPA
- semester (term) GPA
- Boise State University GPA

Each of the three types of GPA is calculated with the same formula:

Total quality points earned divided by GPA credits attempted = GPA

In calculating your cumulative GPA, Boise State University uses courses you have taken at the university in your current “career” and all courses you have transferred from other post-secondary institutions—but only if you received a final letter grade (A+ through F) in those transferred courses. During any semester you can be enrolled in **one** of two possible careers — undergraduate or graduate.

In calculating semester GPA, the formula uses only the quality points earned and GPA credits attempted that semester. For Boise State University GPA, the formula uses only quality points earned and GPA credits attempted at Boise State University in your current career.

All GPA calculations exclude credits for:

- pass/fail courses in which you received a final grade of P (note: a grade of F will impact your GPA)
- courses that you registered for, but later dropped from your schedule, even though the course may appear on your transcript with a final grade of W or CW
- courses you took under audit status (AUD or UAU)
- courses in which you received the grade of I, for incomplete; or IP, for in-progress; (until the I or IP is changed to a letter grade)

Letter Grade	Meaning	Quality Points per Credit Hour	Used to Calculate GPA?
A+	Distinguished work	4	Yes
A	Distinguished work	4	Yes
A-	Distinguished work	3.7	Yes
B+	Superior work	3.3	Yes
B	Superior work	3	Yes
B-	Superior work	2.7	Yes
C+	Average work	2.3	Yes
C	Average work	2	Yes
C-	Average work	1.7	Yes
D+	Below-average work	1.3	Yes
D	Below-average work	1	Yes
D-	Below-average work	0.7	Yes
F	Failure	0	Yes
P	Pass: satisfactory work equivalent to C or higher; credits earned	0	No
I	Incomplete (see “Incompletes” in this chapter)	0 (until changed to a letter grade)	No
W	Student withdrew from the course	0	No
AUD	Course was taken under audit status	0	No
UAU	Unsatisfactory Audit: did not meet requirements set by instructor	0	No
IP	In-Progress; used for dissertation, portfolio, project, and thesis work in progress*	0 (until changed to a letter grade)	No
CW	Student completely withdrew from all classes that semester	0	No

*Note: if a student voluntarily leaves a graduate program in good standing, any IP grades accumulated will be changed to a grade of W.

Incomplete Grades

Instructors can enter a grade of I—for incomplete—if both of the following conditions are present:

- Your work has been satisfactory up to the last three weeks of the semester.
- Extenuating circumstances make it impossible for you to complete the course before the end of the semester.

In order to receive an incomplete in a **graduate** course, you and your instructor must agree to a contract stipulating the work you must do and the time in which it must be completed for you to receive a grade in the class. The terms of this contract are viewable on myBoiseState under Your Student Center To Do List. By the end of this specified time, the instructor must submit a grade.

If no grade other than incomplete has been assigned one year after the original incomplete, the grade of F will automatically be assigned. The grade of F may not be changed without the approval of the University Academic Appeals Committee. A grade of incomplete is excluded from GPA calculations until you receive a final grade in the course. You cannot graduate with a grade of I (*incomplete*) on your record.

You may not remove the incomplete from your transcript by re-enrolling in the class during another semester. A grade of incomplete is excluded from GPA calculations until you receive a final grade in the course.

- Courses repeated prior to Fall 1995 use a grade replacement policy. Only the most recent grade was used in calculating the cumulative GPA.
- Courses repeated Fall 1995 through Summer 2001 used a grade averaging policy. Courses repeated will be averaged, using both grades in the calculation of the GPA.
- Beginning Fall 2001 and on, courses repeated will use a grade replacement policy. Only the most recent grade will be used in calculation of the cumulative GPA.



Questions About These Policies?

Contact the Registrar's Office,
Administration Building, Room 110,
(208) 426-4249.

Tuition and Fees

In general, the costs of attending Boise State University arise from tuition, institutional fees, and special fees (such as fees for private music lessons or laboratory classes). Your actual costs depend on how many classes you take, the type of classes you take, and your status as a resident or nonresident student. In addition to these fees, you may also have to pay such additional charges as workshop fees or materials charges, depending on the type of classes you take. You may pay with cash, check, Visa, MasterCard, Discover, and American Express.

This chapter defines the current tuition and fees for attending Boise State University and provides other information about tuition and fees, including information on deadlines, deferred payment, and the senior-citizen rate. Also included in this chapter are some of the more commonly asked questions about Idaho residency requirements.

Deadlines for Paying Tuition, Fees, and Other Charges

You are expected to pay all tuition, fees, and other charges by the deadline specified in the current academic calendar. If you register after the deadline, you will be expected to pay all tuition, fees, and other charges when you register.

Access your student account on myBoiseState to find out deadlines for paying tuition, fees, and other charges. **Boise State does not mail out paper statements.** Login to <https://my.boisestate.edu/>. Once you are in, select: Students Center, Finances. Please contact the Payment and Disbursement Office, Administration Building, Room 101 or call (208) 426-1212 for specific fee information. Other financial information is available on the Student Financials website at <https://vpfa.boisestate.edu/student-financial-services/>.

Fee Payment Plan

Information regarding fee payment plans may be obtained in Payments and Disbursements, Administration Building, Room 101, (208) 426-1212 or online at <https://vpfa.boisestate.edu/student-financial-services/>.

How Boise State University Calculates Your Tuition and Fees

When you apply for admission to Boise State University, you pay a one-time, nonrefundable fee for processing your application. To calculate your other tuition and other fees, Boise State University uses a milestone of nine credits per semester. Once you register for nine or more credits, you are required to pay the full tuition and fees shown in Table 4 below.

Tuition and Fees	Resident	Nonresident
Tuition	\$1,855.61	\$9,513.61
Institutional Fees	\$2,521.39	\$2,521.39
Total (for up to 15 credits)	\$4,377.00	\$12,035.00
Additional Tuition (over 15 credits)	\$205.00 per credit hour	\$205.00 per credit hour
*Additional tuition is imposed if you register for over 15 credits. Each credit over 15 costs \$205.00 per credit.		

In determining whether you have reached the total of 9 credits per semester, Boise State counts all credit hours on your registration form, including credit hours under audit status, credit hours for courses you are repeating, and credit hours for workshops. In short, nearly every combination of any type of credit hour counts toward the 9-credit total. Please note, also, that developmental courses (such as ENGL 90 Developmental Writing or MATH 25 Elementary Algebra) count as 3 credits each toward the 9-credit total, even though you earn no credits by taking the course.

Note: Tuition, fees, and other charges are subject to change at any time by the Idaho State Board of Education, acting as the Board of Trustees for Boise State University.

Other Fees and Charges

If you enroll for fewer than nine credits, your fees are calculated according to the schedule shown in the following Table 5. Among the fees listed in Tables 5 and 6 are an application processing fee, music fees, special fees, and an overload fee. You pay the music fee if you register for private music lessons, and you pay the per credit rate of \$205.00 when you register for (over 15 credits) in a single semester.

Music fees are refundable, if you drop the class within the first 5 days of classroom instruction (see *Refund Policy* below). **Application fees are nonrefundable.**

Semester or Session	Resident per credit	Nonresident per credit
Fall 2017 and Spring 2018	\$390.00	\$685.00*
Summer 2018	\$390.00	\$390.00
*Includes \$295.00 nonresident per credit tuition fee.		

Table 6
Fees for Private Music Lessons

1 Credit	2 Credits	4 Credits
\$200	\$400	\$400

Senior Citizen Rate

If space in a course is available, Idaho residents who are at least 60 years old may register for the course and pay \$5 per credit hour, a \$20 registration fee (per semester), and any special fees (such as for private music lessons or laboratory fees). Self-support classes cannot be waived. To register at the senior citizen rate, first apply for admission, then you will need to go to the Payment and Disbursement Center, Administration Building, Room 101, Boise State University, 1910 University Drive, Boise, ID 83725, and show the cashier your driver's license, birth certificate, or other proof of your age to receive the reduction for fees.

Refund Policy

In general, if you completely withdraw from Boise State University **on or before the 10th day of the semester for regular session classes**, you are eligible to receive a full refund of the money you paid to register (less a \$40.00 administrative fee). If you withdraw after the 10th day of classroom instruction, you receive no refund. See the Academic Calendar in this catalog for deadlines of the other sessions. No refunds for private music lessons can be granted after the first five days of classroom instruction.

Note: In determining whether you have met the deadline and are therefore eligible for a refund, Boise State University considers only the date on which you officially withdraw—not the date on which you stopped attending class. Also, registering late has no effect on refund deadlines; Boise State University has published deadlines for 100% refund or waiver of fees. These deadlines differ depending upon which session the course is in. Please refer to the *Academic Calendar Deadlines by Session* table in the front of this catalog for specific deadlines for the various sessions. **Failure to drop the course or cancel registration by the published 100% deadline results in assessment of full fees for the course(s).**

All students who completely withdraw from Boise State will be assessed a \$40.00 administrative complete withdrawal fee.

Fee Appeals: Students who wish to appeal for a refund of fees or waiver of the course fees they are assessed should contact Account Maintenance, Room 101, Administration Building, (208) 426-2134 or utilize the appeal form located at <https://vpfa.boisestate.edu/student-financial-services/forms/>.

Idaho Residence for Tuition Purposes

Procedures to have your Residency Status Reviewed

Your legal residence for fee purposes is determined at the time of initial application for admission to Boise State and remains unchanged in the absence of satisfactory written evidence to the contrary. The burden of proof in requesting reclassification to resident status rests with you in providing clear and convincing evidence of residency for tuition purposes as defined by the law. If you are applying to change a nonresident classification from the point of application or are requesting consideration for reclassification based upon satisfying state law criteria must follow the procedure outlined below:

1. Contact the Residency Coordinator in the Registrar's Office, Room 110, Administration Building.
2. Complete the Idaho Residency Determination Worksheet and return it to the Residency Coordinator with supporting documentation. A form requesting reclassification to resident status may be filed after qualifying criteria have been satisfied but no later than 10 school days after the opening of the semester for which the change in status is requested.
3. The Residency Coordinator will determine if you meet the criteria for residency and will notify you in writing of the decision.
4. You may appeal the decision of the Residency Coordinator in writing to the Residency Appeals Committee. To file an appeal the applicant must specify in writing why you believe you have met the criteria and on what basis you should be given residency. The appeal should be turned in to the Residency Coordinator. You will be notified in writing of the decision of the Residency Appeals Committee.
5. If you contest the determination of the Residency Appeals Committee that you are not a qualified resident, you may petition the State Board of Education for review. The petition must be submitted to the President of Boise State University in writing and must set forth your reasons for contesting the decision. The President will submit the petition to the Executive Director of the Office of the state Board of Education who will determine whether the Board or the Board's designated representatives will hear the appeal. If the Board decides to hear the appeal, it will set forth the scope of review and notify you of the time, date, and place of the hearing. The decision of the Board is final and binding on all parties concerned. You must agree to the release of information to the review body and must comply with deadlines established by the institution for requesting an appeal.

Initial Determination of Residency Status

When you apply to Boise State, Admissions determines your status as a resident or nonresident for tuition purposes. After you have been admitted, if you have questions about your residency status, please contact the Registrar's Office at (208) 426-4249.

Relevant Law and Regulations

The statutory and regulatory provisions relevant to residency determinations may be found at:

- Idaho Code Section 33-3717B (institutions other than community colleges)
- Idaho Code Section 33-2110A (community colleges) IDAPA 08.01.04.

As an enrolled Boise State student, you may prove classification as an Idaho resident for tuition purposes by meeting the criteria for one of the following options.

1. **Dependent Student:** You have one or more parent(s)/legal guardian(s) who is domiciled in Idaho and provides at least 50% of your financial support. The parent/legal guardian must have maintained a bona fide domicile in Idaho for at least 12 months prior to the term in which you are applying for residency.
2. **Independent Student:** You receive less than 50% financial support from a parent/guardian and have continuously resided in, and maintained a bona fide domicile, in Idaho for purposes other than education for at least 12 months prior to the term in which you are applying for residency.
3. **Graduate of an Idaho High School:** You are a graduate from an accredited Idaho high school, are domiciled in Idaho, and have an enrolled in an institution within six years immediately following secondary school graduation regardless of the domicile of your parent or guardian (except if a non-US citizen (see, definition of non-resident below)).
4. **Completed 6 Years of Elementary and Secondary Education in Idaho:** You have completed 6 years of elementary and secondary education in Idaho, are domiciled in Idaho, and have matriculated at an institution within 6 years following completion of secondary education.
5. **Married to an Idaho Resident:** You are married to a person who is classified, or eligible for classification, as an Idaho resident for the purpose of attending an institution, except that if you were enrolled full-time in any term during the 12-month period before the term in which you are proposing to enroll as a resident, then you must independently establish domicile.
6. **Armed Forces:** You, your spouse, or—if you are a dependent student—your parent/guardian meets one of the following criteria:
 - a. Member of the Armed Forces who entered service as an Idaho resident, has maintained Idaho resident status, but is stationed outside of Idaho on military orders.
 - b. Member of the Armed Forces stationed in Idaho on military orders.
 - c. Officer or enlisted member of the Idaho National Guard.
 - d. Member who has been separated, under honorable conditions, from the Armed Forces after at least 2 years of service
7. **You are a member of the following Idaho Native American Indian Tribes:** Members of the following Idaho Native American Indian Tribes whose traditional and customary tribal boundaries

included portions of the state of Idaho, or whose Indian tribe was granted reserved lands within the state of Idaho:

- Coeur d'Alene
- Shoshone-Paiute
- Nez Perce
- Shoshone-Bannock
- Kootenai
- Eastern Shoshone

Becoming an Idaho Resident

A domicile is your true, fixed and permanent home, and place of habitation; it is the place where you intend to remain and expects to return to when leaving without establishing a new domicile elsewhere. If you are a dependent student, residency is based on the domicile of your parent or legal guardian. If you are an independent student, residency is based on your domicile or your spouse's.

Domicile may be proved by:

1. If you were attending school full-time, the filing of Idaho state income tax return covering a period of at least 12 months before the term in which the student proposes to enroll as a resident student and permanent full-time employment (30 hours per week, or 120 hours per month) or the hourly equivalent in Idaho for a period of at least 12 months before the term in which the student proposes to enroll as a resident student.
2. If you weren't attending school full-time in the prior year, proving at least five of the following type of criteria for 12 months before the term for which residency is sought:
 - a. Ownership or leasing of a residence in Idaho;
 - b. Registration and payment of Idaho taxes or fees, other than sales or income tax;
 - c. Registration to vote in Idaho;
 - d. Holding an Idaho driver's license or ID card;
 - e. Evidence of abandonment of a previous domicile;
 - f. Establishment of accounts with Idaho financial institutions;
 - g. Other similar factors such as:
 - i. Enrollment of dependent children in Idaho elementary or secondary schools
 - ii. Acceptance of permanent employment in Idaho
 - iii. Documentation of need to care for relative in Idaho
 - iv. Utility statements
 - v. Employment documentation

Important Definitions

Non-resident student means you meet one of the following:

1. Do not qualify for residency under the above options; or
2. Attend an institution with financial assistance from another country or governmental unit or agency thereof, such non-residency continuing for 1 year after completion of the term for which such assistance is last provided; or
3. Are not a citizen of the United States, unless you can provide verification of lawful presence in the United States. "Lawful

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presence” is verified through the means set forth in Idaho Code, 67-7903. As a non-citizen who can provide verification of lawful presence in the United States, you must meet one of the seven pathways to establish residency set forth above.

Continuously Resided means you have maintained a physical presence in Idaho for 12 consecutive months. As an independent student you must have continuously resided in Idaho for the 12-months prior to the term for which residency is sought. Evidence of physical presence in Idaho might include: utility statements, rental agreement, bank statements, documentation from an Idaho employer, etc.

Primarily Educational Purposes means enrollment in 12 or more credit hours in any term during the past 12 months.

Armed Forces means the United States Army, Navy, Air Force, Marine Corps, Coast Guard, and the reserve forces of those groups and does not include the National Guard or any other reserve force.

Idaho Residency Laws

The residency laws can be found at <http://www.legislature.idaho.gov/idstat/Title33/T33CH37SECT33-3717B.htm>.



Questions About Tuition and Fees?

If you have questions about tuition and fees, contact the Account Maintenance Center, Administration Building, Room 101, (208) 426-2134.

Questions About Residency Status?

If you have questions about residency status, contact the Registrar's Office, Administration Building, Room 110, (208) 426-4249.

Questions About Financial Aid?

If you have questions about financial aid, contact the Financial Aid Office, Administration Building, Room 117, (208) 426-1664

Financial Aid

Graduate students at Boise State may apply for a wide variety of financial aid, drawn from an equally wide variety of sources. You should investigate any financial aid that seems appropriate to your circumstances, beginning with financial aid available from your department or your graduate degree program.

Graduate Assistantships

Most departments award teaching or research assistantships that include a stipend and a waiver of tuition and fees. You may obtain an application for an assistantship on the Internet at <https://graduatecollege.boisestate.edu/>, from the department in which you are applying, or from the Graduate College, Riverfront Hall, Room 307. For additional information, please see *Boise State University Policy# 7170* at <https://policy.boisestate.edu/>.

Deadline for Departmental Aid

You should apply for these awards when you apply for admission to the Graduate College—no later than March 1. Some departments require an application deadline the first week in January. If your application is received by the department after the required deadline, it may not be considered until the following year.

The information contained in this publication reflects current procedures and rules affecting the delivery of financial aid. The University reserves the right to change, at any time, schedules, rules and regulations. Appropriate notice of such changes is given, whenever possible, before they become effective.

Federal, State, and Institutional Aid

Graduate students can apply for loans and work-study through the federal aid programs. Complete the following steps in order to apply for federal aid:

How to Apply for Financial Aid

Complete the *Free Application for Federal Student Aid* (FAFSA). You must submit the FAFSA each academic year to be determined eligible for most loan, work-study, or need-based scholarship programs. Financial aid applicants are encouraged to complete the FAFSA by February 15 prior to the academic year you will attend.

- Apply using FAFSA on the web (www.fafsa.gov). If you've applied other years, use your FSA ID to log in.

Tips in completing the FAFSA:

- Boise State University Title IV Code is 001616.
- Boise State University Financial Aid address: 1910 University Drive, Boise, ID 83725-1315.
- Ensure that all information you provide on the application is entered correctly.
- Enter your name as it appears on your social security card
- Provide all required signatures; use your FSA ID as a signature.
- Do not send tax documents or other materials with your application or signature page.
- If you provided an e-mail address on the FAFSA, you will receive an e-mail with a link to your *Student Aid Report* (SAR). If you

did not provide an e-mail address, you will need to return to the FAFSA website to view your Student Aid Report (SAR). Review your SAR and make any necessary corrections.

- The Financial Aid and Scholarships Office uses myBoiseState and BroncoMail to alert students of the need to provide additional materials, if required. Certain applicants are requested to provide documents to verify information reported on the FAFSA. Examples of what might be requested are child support paid forms, citizenship documentation, and IRS tax retrieval/tax return transcripts.
- You may be required to complete an electronic Master Promissory Note, or to complete loan entrance counseling requirements.
- Award acceptance: Once processing of your application is complete, your award information will appear on myBoiseState. You may accept, reduce, and decline your awards on myBoiseState.
- Students who submit the FAFSA by February 15 are given priority status and are among the first to be considered for need-based aid and scholarships. To determine need, the Financial Aid Office uses the federal methodology formula.
- All documents and other information requested by the Financial Aid Office must be submitted by June 1 in order to retain priority status.

Students who miss the February 15 priority date may still apply for federal aid, however, will only be considered for federal loans.

Eligibility Requirements

The following is a summary of the most common criteria affecting student eligibility for financial aid.

- Complete the *Free Application for Federal Student Aid* (FAFSA) and receive an official Expected Family Contribution (EFC).
- Be admitted to Boise State University in a degree program or an eligible certificate program which has been approved for financial aid by the U.S. Department of Education. In addition, you must have an admissions status that meets financial aid eligibility requirements. For example, if you have applied to a graduate degree program but have Pending Department Review admission status, you are ineligible for federal financial aid until your status is changed to either Regular or Provisional.
- Enroll for the minimum number of credit hours required by the aid program. For example, to receive a Direct Loan, a graduate student must be enrolled in at least 5 credit hours/ semester that apply directly towards a graduate degree. Students enrolled less than full-time (9 credits) may see a reduction in financial aid.
- Maintain Satisfactory Academic Progress standards (see detail on following pages).
- Be a U.S. Citizen, permanent resident, or eligible non-citizen. Federal financial aid is not available to international students attending Boise State on a student visa. (International students who encounter financial difficulties are encouraged to seek assistance from the International Student Services Office.)
- If you are male, you must be registered with Selective Service.
- You must not owe a repayment of any federal aid to Boise

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State, to any other school previously attended, or to the U.S. Department of Education.

- You must not be in default on a federal student loan.
- Submit all materials requested by the Financial Aid Office as soon as possible, but no later than the specified deadlines.
- You must meet all other eligibility requirements. Please contact the Financial Aid Office if you have any questions.

The following section describes a sampling of financial aid programs for which Boise State students may be eligible. Since different types of aid carry different obligations, we recommend that you discuss your options with a customer service representative in the Financial Aid Office

Sources of Financial Aid

William D. Ford Federal Direct Loans

Unsubsidized Direct Loans are long-term loans available to graduate students. The interest rates on newly originated Direct Loans for 2017-2018 is 6.00%. To apply, complete the FAFSA, available at www.fafsa.gov.

Boise State processes Direct Loan applications throughout the year. If you are awarded a Direct Loan, you will need to sign a master promissory note (MPN) if you do not already have an MPN on file. If you have not previously received a Direct Loan, you must complete a loan entrance counseling session (<https://financialaid.boisestate.edu/loan-counseling/>) before you can receive the funds. Also, the Direct Loan commits you to participating in an exit loan counseling session when you graduate or withdraw from the university.

You are expected to begin repaying the Direct Loan six months after graduation or six months after you have dropped below five credit hours. Please see the exit counseling information link on the following website for more information: <https://financialaid.boisestate.edu/loan-counseling/>.

Table 7, below, shows estimated repayment schedules for typical Direct Loans. Your actual debt and repayment plan may not match any of these examples; they are presented here merely to show typical loan amounts and repayment plans.

Loan Amount	Number of Payments	Monthly Payment	Total Interest	Total Repaid
\$ 5,000.00	120	\$59.00	\$2,042.00	\$7,042.00
\$10,000.00	120	\$117.00	\$4,083.00	\$14,083.00
\$15,000.00	120	\$176.00	\$6,125.00	\$21,125.00
\$25,000.00	120	\$293.00	\$10,208.00	\$35,205.00

Federal PLUS Loans

Federal PLUS Loans are available to graduate students. These loans are available to graduate students who still have an unmet cost of attendance after borrowing through the Direct Loan program, plus

any other sources of aid. Other differences between the Federal PLUS Loan for Graduate Students and other federal loan programs include:

- Applicants for the Federal PLUS Loan must not have an adverse credit history, as reported by a national credit reporting agency. Applicants with an adverse credit history may still qualify with an eligible co-signer.
- Repayment begins within 60 days of the last disbursement of the award year. There is no six-month grace period. Borrowers may request a deferment while enrolled at least half-time.
- The interest rate changes annually; the rate for 2017-18 is 7.00%.
- Annual loan limits are determined by subtracting all other sources of aid from the estimated cost of attendance figure.
- A separate PLUS Master Promissory Note must be completed and signed.
- Recipients must complete separate PLUS loan counseling requirements.

In addition to the requirements reported above, a student must meet all other eligibility requirements. For more information on the Federal PLUS Loan for Graduate Students, please visit <https://financialaid.boisestate.edu/>

Federal Work-Study Program (FWS)

This program gives graduate students the opportunity to earn money to pay for a portion of their educational expenses. FWS aid is awarded to selected graduate students who show financial need. Students receive payment based on hours worked. Payment is typically through direct deposit by the payroll office.

Atwell J. Parry Idaho Work-Study Program

This work-study program operates much like the Federal Work-Study Program, giving graduate students the opportunity to earn money to pay for a portion of their educational expenses. Only Idaho residents are eligible.

The GEM Nonresident Tuition Waiver

The GEM Scholarship is a nonresident tuition waiver for graduate students with a strong academic record who are not residents of the state of Idaho and who are enrolled full-time. Please review the Graduate College for a list of eligible majors (<https://graduatecollege.boisestate.edu/fundinggraduateschool/gem-scholarship/>).

Students must submit an application as they are not automatically considered for the waiver. Visit <https://secureforms.boisestate.edu/gradcoll/gem-scholarship-application/>.

For additional information, see the Graduate College website (<https://graduatecollege.boisestate.edu/fundinggraduateschool/>).

The waiver is renewable for an additional year if you complete a minimum of 18 graduate credits in the first two semesters and maintain a 3.30GPA.

Scholarships

Information about scholarships for graduate students can be found at <http://financialaid.boisestate.edu/scholarships> or <https://graduatecollege.boisestate.edu/>.

Short-Term Loans

Emergency Short Term Loans are available to students with a minimum grade-point average of 2.00. This loan is available to students who experience a significant financial emergency during the academic year. The maximum amount available is \$250 per semester. Only one loan is given per semester. The loan requires a \$25 processing fee, and must be repaid within 90 days. Applications are available in the Account Maintenance Office, Administration Building, Room 101.

Financial Aid for the Summer Session

The university has limited financial aid available for the summer session. If you need financial aid for the summer session, review the information on the Financial Aid website at <https://financialaid.boisestate.edu>. Please note, also, that your FAFSA for the preceding academic year must be submitted by March 15 to ensure your summer aid is ready before your summer classes begin.

Financial Aid for International Students

As part of the admissions process, international students must demonstrate that they have sufficient funding to attend Boise State University for one academic year. International students are eligible for scholarships and tuition waivers outlined in this Financial Aid section, except for financial aid provided by the U.S. government or State of Idaho. As international students apply for graduate admission to Boise State University, the application packet they receive from International Admissions contains a brochure explaining the various financial resources that are available.

Disbursing Funds

In March, the Financial Aid Office begins notifying scholarship recipients for the upcoming year. Federal loans are awarded as applications are processed. In the fall, if you have cleared your “to do” items on my.BoiseState by July 1, your financial aid will be applied to your student fees approximately one week before the start of classes. Any remaining funds will be electronically deposited into your bank account or a check will be mailed to you prior to the start of classes. Again in the spring, financial aid will be applied to your student account approximately one week prior to the start of classes. Any excess aid will be mailed to you or electronically deposited prior to the start of classes.

Note: All financial aid funds are distributed from the Account Maintenance Office, Administration Building, Room 101. Please

direct questions about your balance funds to that office at (208) 426-2134.

Change in Enrollment Status

Any change in your enrollment status may affect your ability to maintain satisfactory academic progress (see *Satisfactory Academic Progress* below).

Partial withdrawals Adjustments may be made to your financial aid eligibility if enrollment changes after disbursement of aid has occurred. Please be aware that withdrawals will negatively impact your satisfactory academic progress performance.

Complete withdrawals In general, students receive no refund of tuition and fees if they withdraw from the university after the 10th day of classroom instruction. Federal financial aid regulations state that eligibility for aid be recalculated whenever a student withdraws from Boise State University, either officially or unofficially. The recalculation determines the amount of aid a student has “earned,” by prorating according to the percent of the term completed before withdrawing. For example, a student who withdraws after completing only 30 percent of the term will have “earned” only 30 percent of aid eligibility. A student who completes more than 60 percent of the term is considered to have “earned” 100 percent of his/her aid eligibility. Examples of these calculations can be found on the website at: <https://financialaid.boisestate.edu/sapdocuments/>. In addition, any student attending a shorter session (a “module”) may need to re-confirm future attendance in that term; otherwise, a withdrawal calculation will be done.

Once a student officially withdraws, the Financial Aid Office will determine if/what is owed and will provide notification of adjustments to financial aid funding. If you have questions about what will happen when you withdraw, review the information on the website at: <https://financialaid.boisestate.edu/sapdocuments/>. After reviewing that information, if you still have questions, contact the Financial Aid Office.

Unofficial withdrawals The university is required to verify attendance for any student who unofficially withdraws or receives all F grades for a term. If attendance cannot be verified, students will be required to immediately repay all financial aid received for that term.

Satisfactory Academic Progress

Students applying for or receiving financial aid must make satisfactory academic progress at the university. These requirements are monitored at the end of each semester, soon after the semester's grades are made official. Your academic progress is considered satisfactory if you:

- maintain a minimum comprehensive GPA consistent with University requirements.
- pass 75% of all credit hours attempted while enrolled as a graduate student at Boise State University.
- complete your degree requirements within the maximum time allowed.

Review the complete satisfactory progress policy at <https://financialaid.boisestate.edu/sapdocuments/>.

Satisfactory Academic Progress Review

The University reviews financial aid files at the end of each term. If you are not making satisfactory academic progress or do not meet the term completion requirements (as defined in the policy on the website and briefly outlined above), you will be ineligible for financial aid until you are once again making satisfactory academic progress.

Appeals

If there were extenuating circumstances impacting your ability to meet the *Satisfactory Academic Progress Standards*, you have the right to file a written appeal for a temporary exemption from this policy. Examples of extenuating circumstances include the death of an immediate family member, illness or injury to the student, or similar circumstances. In filing an appeal, you must document any extenuating circumstances that prevented you from making satisfactory academic progress. Appeal forms may be

downloaded from the website at <https://financialaid.boisestate.edu/sapdocuments/>.

Staying Informed

Official correspondence will be sent to your student e-mail account. Remember to check your BroncoMail at least weekly to determine if additional information is needed. To easily find financial aid updates, look at the *Timely Tips* at <https://financialaid.boisestate.edu> or click on the Financial Aid Recipients link on myBoiseState. Information is updated regularly on policy changes or other important information that might affect your financial aid. You can also be a fan of the Boise State Financial Aid Facebook page to receive updates.



Questions About Assistantships?

If you have questions about assistantships, contact the Graduate College, Riverfront Hall, Room 307, (208) 426-3903

Questions About Financial Aid?

If you have questions about financial aid, contact the Financial Aid Office, Administration Building, Room 113, (208) 426-1664 or 800 824-7017 or by e-mail: financialaid@boisestate.edu.

Housing and Residence Life

The department of Housing and Residence Life provides on-campus housing options for Boise State students in several distinct residential communities, all located within walking distance from campus. Students can choose residence hall, suite-style, and townhouse living options, all with individual licensed bed spaces for the full academic year; or one of four apartment complexes designed for Sophomore and Above, graduate, and family housing with rent due on a month by month basis.

Housing and Residence Life professional and student paraprofessional staff members create an inclusive, safe, learning-centered, and caring community environment where residents develop meaningful and lasting relationships with each other and engage in campus life.

Fair-Housing Policy

Boise State University is an equal-opportunity institution and offers its living accommodations and makes housing assignments without regard to race, color, national origin, or handicap (as provided for in Title VI and Title IX and Sections 503 and 504 of the Rehabilitation Act of 1973).

Rules and Regulations

Rules and regulations governing university housing are defined generally in this chapter and more specifically in the *On-Campus Housing and Meal Plan Agreement*, *Student Code of Conduct*, and online at <https://housing.boisestate.edu>.

Graduate Housing

Housing and Residence Life has identified specific communities that are conducive to meeting the demands of being a graduate student. All other residential facilities are designed to address the needs of first-year and other undergraduate students.

Aspen, Cedar, Hawthorne, Juniper, Spruce, and Tamarack Townhouses are available to upper-division and graduate residential students, and are specifically designed for single students. Each unit features furnished living rooms, private and semi-private bathrooms, modern kitchens including energy efficient appliances, washer/dryer, and four single rooms. High-speed Internet, HD cable TV, and utilities are included in the room cost. Meal plans are not required, but recommended and can be added to the student account.

University Heights and University Manor consist of one and two bedroom apartments. Each unit has a wall-unit air conditioning/heating system, stove, and refrigerator. Card operated laundry facilities are located on-site. All utilities (electricity, gas, water, sewer, trash, cable and Internet) are provided for a utilities flat fee.

University Park consists of two and three bedroom apartments. Each unit has a wall-unit air conditioning/heating system, stove, and refrigerator. Card operated laundry facilities are located on-site. All utilities (electricity, gas, water, sewer, trash, cable and Internet) are provided for a utilities flat fee.

University Village consists of two bedroom apartments. Each unit has central air conditioning/heating, stove, refrigerator, and dishwasher. Card operated laundry facilities are located on-site. All utilities (electricity, gas, water, sewer, trash, cable and Internet) are provided for a utilities flat fee.

How to Apply for Housing

To apply online for housing, please go to <https://housing.boisestate.edu> and click the "Apply for Housing" link. In the application, students will be directed to pay a \$50 non-refundable application fee through the Touchnet System. In addition:

- Prospective townhouse residents will be directed to pay a \$250 housing down payment at the time of application. Before an application can be processed and student assigned, the application fee and down payment must be paid.
- Prospective apartment residents will receive an apartment offer and once that offer has been accepted, the student will need to pay a \$250 non-refundable reservation fee that will be converted to a security deposit at the time of license agreement signing.

Note: The application process to live with Housing and Residence Life is a separate process from the one to apply for admission to the university. If you apply for housing, it does not constitute acceptance or approval for admission to the university. Nor does being accepted for admission to the university signify that your application for housing had been accepted and approved.

Housing Preferences

Upon approval of an application for on-campus housing, Boise State University will assign students to designated graduate student spaces whenever possible based on the date of their deposit and availability of spaces at the time of assignment.



Questions About On-Campus Housing?

If you have questions about Housing and Residence Life, please visit us online at <https://housing.boisestate.edu> or contact us at (208) 447-1001 or housing@boisestate.edu.

Student Services

Boise State University provides a variety of services, programs, and activities to help you obtain the maximum benefit from your university experience; most services are free if you are currently enrolled.

Academic Programs and Services

The following services are available to you if you are seeking assistance with academic matters, from improving your writing, reading, and study skills to planning for a career.

Academic Support

If you are currently enrolled, you are encouraged to utilize academic support services through campus drop-in centers, learning assistant-led study groups, online tutoring, and academic skill-building workshops, courses, and coaching. These services are provided to you at no additional cost.

Current schedules for all tutoring centers and Learning Assistant sessions are posted on the Advising and Academic Success Center website: <https://aasc.boisestate.edu/tutoring/>.

Academic skill-building workshops in the areas of time management, reading and note taking strategies, study skills, and test anxiety are offered throughout the semester. Descriptions and schedules can be found at <https://aasc.boisestate.edu/workshops/>.

Academic Coaching is offered if you want one-on-one meetings to identify and build academic skills and motivation. Learn more and sign up at <https://aasc.boisestate.edu/coaching/>.

The Career Center

The Career Center provides career planning and employment services to all Boise State students. These services include career decision making and major exploration, employment assistance (resume and cover letter review, interview training, professional networking and job search advising), and coordination of the university's internship program. The Career Center's web-based career-guidance systems focus on your interests, skills, and values for making career choices. The Career Center sponsors annual events including annual career fairs, and a Meet the Employers Professional Series. Through BroncoJobs, you can access student employment, internship, and career-employment opportunities listed by businesses, government agencies, not-for-profit agencies, and school districts, as well as schedule on-campus interviews with participating employers. Further information is available at <https://career.boisestate.edu/> or by calling (208) 426-1747.

English Language Support Services

Free one-on-one ESL tutoring and course advice available for English language learners. Flexible hours are negotiable. Call (208) 426-1189 for information. Additional ESL resources are online at <https://englishsupport.boisestate.edu/>.

Graduate Student Orientation

Once admitted, you will receive notice of your admission status, as well as information on the next steps to complete enrollment. In mid-summer an e-mail will invite you to sign up for your Graduate Student Orientation; attendance is expected of all incoming Boise State students. Orientation is designed to ease your transition

into the Boise State graduate student community and help you get strategic about getting educated and earning your degree. During the program you will meet deans and staff, and will learn more about Boise State. The orientation program is held in the mid-August during the fall semester. Reservations are required to attend.

Student Success

Boise State offers a variety of student success courses (ACAD). ACAD courses promote academic success through intentional skill-building assignments, learning awareness, and academic goal setting. Nationwide, students who participate in such courses have a higher graduation rate than those who do not. For more information contact the Advising and Academic Success Center at (208) 426-4049 or academic@boisestate.edu. You can find ACAD course descriptions in the *Boise State University Undergraduate Catalog*.

Test Preparation

Assisting you in preparation for graduate admission exams for graduate school is the focus of short courses on the Graduate Record Exam (GRE), the Law School Admissions Test (LSAT), and the Graduate Management Admissions Test (GMAT) offered through the Center for Professional Development, in the Division of Extended Studies at Boise State. For more information, call (208) 426-1709.

The Testing Center

The university provides a variety of testing services to Boise State students and the community. Tests offered include: Accuplacer (for placement into math courses), CLEP (College Level Equivalency Placement), Residual ACT (only for use at Boise State), ESOL (English for Speakers of Other Languages), World Language Placement, International Student Admissions exams (TOEFL and IELTS) and the Miller Analogies Test (graduate admission).

For testing hours and appointments, call (208) 426-2762 or go to <https://aasc.boisestate.edu/testing/>. You can also direct testing questions to testingservices@boisestate.edu. Located in the Simplot Micron Academic Success Hub, 2nd Floor, Room E213.

Writing Center

The Boise State Writing Center is a free service open to all members of the campus community—students, faculty, and staff. We offer support and encouragement to all writers, primarily through one-to-one consultations, both in person and online. Each consultation is geared toward the individual needs of the writer and is a collaborative effort between writer and consultant. You can schedule a consultation by visiting us in Liberal Arts, Room 200 or at <https://writingcenter.boisestate.edu/>.

Campus Recreation

The Campus Recreation mission: We build an engaged community that encourages healthy, active people and enhances student success. Campus Recreation offers a wide array of opportunities for informal, instructional, and competitive recreation programs. The 105,000 square foot Student Recreation Center serves as the hub for university students, faculty, staff, and alumni who want to be healthy and active members of the Boise State community. Programs and services include personal training, competitive and recreational

sports, club activities, group exercise, outdoor recreation, cardio and strength workout options. The Student Recreation Center is located at 1515 University Drive (located adjacent to the Student Union). For more information call (208) 426-1131, or visit <https://rec.boisestate.edu/>.

Aquatics Programming

The 17,000-square-foot Aquatics Complex addition is a hub for water activities. With a multipurpose pool, recreation pool, and spa, the three bodies of water offer opportunities for lap swim, water exercise, swim lessons, water polo, kayaking instruction, relaxation, and more.

Club Sports Programming

Club Sports offers a variety of sporting choices in a variety of disciplines if you are interested in competition. Opportunities exist for you to learn a new sport or maintain a personal level of expertise in the sport you love. All clubs are student led, operated, and funded. Clubs provide a chance for you to develop and implement leadership skills. Club members practice regularly and often compete against local and regional opponents. There are over 23 existing club sports, however if your interests are not represented, Campus Recreation is more than happy to help you start a new club.

Fitness Programming

The Fitness Program organizes over 40 free drop-in group exercise classes each week during the semester including classes like: cycling, Zumba, yoga, and Insanity™. Motivational help with becoming more active or working to reach a fitness goal is available, including premium classes, incentives, fitness testing, and personal training. Workshops related to fitness and health are offered to educate the Boise State community.

Informal Recreation

There are many opportunities to recreate at Boise State. The Student Recreation Center comprises a 3-court gymnasium, 4 racquetball courts, aquatics center, rock climbing wall and bouldering cave, multipurpose rooms, and a full complement of strength and cardio equipment. In addition, there are locker rooms, saunas, equipment check out, and towel service are available.

Intramural Sports Programming

If you are interested in an organized athletic activity, the Intramural Sports Program establishes numerous on-campus leagues and tournaments. Both the novice and expert can experience fun competition in team, dual, and individual sports throughout the year. The biggest event is our annual Toilet Bowl (flag football) tournament, which is played on the famous blue turf to kick off Homecoming week.

Outdoor Programming

The Outdoor Program offers a wide variety of events and educational pursuits to keep students, faculty, staff and alumni involved and active exploring the mountains, rivers and deserts of Idaho and beyond. Each year the Outdoor Program provides adventure-based instructional workshops, seminars, and trips for students of all ability levels, as well as a climbing gym, student leadership development, custom group adventures, and the region's largest four-season outdoor equipment rental operation. For more information on outdoor events call (208) 426-1946.

The Cycle Learning Center

The Cycle Learning Center (CLC) is a campus-based service focused on developing healthy and sustainable lifestyles by promoting the use of bicycles and multi-modal transportation options. As the university's centralized source for basic bicycle repair services, instructional clinics, and alternative transportation information, the CLC strives to create a hands-on learning environment that empowers you to explore sustainable transportation through educational programming, retail sales, and services.

Center for Global Education

Boise State University welcomes students from around the world and encourages Idaho and U.S. students to take advantage of the countless educational and research opportunities available throughout the globe.

The Center for Global Education is the home for Global Learning Opportunities (study abroad), International Admissions, International Student Services, the Intensive English Program, and more.

Global Learning Opportunities

As a Boise State student, you have the opportunity to participate in academic programs around the world. There are summer, semester, and year-long study abroad options for which you receive academic credit at Boise State, with pre-departure planning and approval. These opportunities are affordable, with the option of using your financial aid and receiving scholarships. Most sites offer courses taught in English as well as opportunities to enhance foreign language skills.

If you participate in a Boise State Global Learning Opportunity, you may take advantage of international service-learning, internships, and volunteerism, as well as regular academic studies. For example, if you study in Puntarenas, Costa Rica, you can volunteer at a marine animal park. If you study in Bilbao, Spain, you can serve as an intern at a local company. If you study in China, you can serve as a conversation partner to Chinese students.

The benefits of an international experience are enormous. You will gain the ability to view your academic field from new perspectives; see and experience what you are studying at a personal level, enhance your cross-cultural communication skills, increase your self-awareness, and understand the American culture better. Additionally, graduates with international experience typically have a distinct advantage in the job market.

To receive credit for Global Learning Opportunities, you must register under the education abroad course number (INTPRGM 400 or INTPRGM 401). The Course Approval Form must be completed before departure to ensure proper evaluation of courses when the program is completed. Upon receipt of an official transcript, courses are evaluated and recorded to the Boise State transcript with transcript text indicating the location of study. Additional information, application forms and deadlines, final costs, and program prerequisites can be obtained at <https://international.boisestate.edu/> or call Global Learning Opportunities at (208) 426-2630.

International Student Services (ISS)

International Student Services provides comprehensive support services to international students as they integrate into the larger campus community. ISS acts as a welcoming center where

Student Services

international student needs can be met directly or referred to the appropriate community resource. ISS serves as the primary source of expertise regarding immigration and cross-cultural issues for the campus at-large, and as a liaison between faculty, staff and international students. ISS provides opportunities for intercultural engagement, supporting university efforts toward internationalization by bringing international and domestic community members together for cultural exchange. International Student Services is located in room 227 of the Simplot Micron Advising and Success Hub. For more information please visit us on the web at <https://iss.boisestate.edu/> or call International Student Services at (208) 426-3652.

Health Services

Health Services provides the Boise State community with comprehensive health care that focuses on an integrated delivery model. Combining the highly skilled and licensed staff of the Medical, Counseling and Wellness departments enables you to retain, enhance, promote, and improve upon your physical, mental, and spiritual health. Health Services provides specialized resources, and experiential learning opportunities in support of the overall mission of Boise State

Counseling Services

Provides services that enhance growth and development, help improve personal effectiveness and resilience, and promote success. We are here to help you deal more effectively with concerns that impact your pursuit of personal and academic goals. We have a diverse and experienced staff of psychologists, counselors, social workers, and supervised trainees. We provide a range of services that include individual, multi-person, and group counseling, consultation and crisis intervention, workshops and outreach presentations, all aimed at enhancing student success at Boise State.

Insurance and Billing

The Health Insurance and Billing Office can help answer general questions regarding health insurance and can provide you with resources that can assist you with plans on or off of the marketplace.

Affordable Care Act – Health Insurance Exchange Notice The Marketplace is where individuals and families looking to buy health insurance can shop for, compare, and choose from several health coverage options. It also provides you basic information about eligibility for tax credits or subsidies.

- If you are an Idaho resident, visit the Idaho Marketplace at <https://www.yourhealthidaho.org/>.
- If you are an out-of-state student, visit <https://www.healthcare.gov/> to access insurance options available from your home state.
- If you are an international student, legally residing in the United States, you can purchase health insurance in the Marketplace; however, you are not eligible for tax credits or subsidies.

For additional information on insurance or finding a plan, contact the Health Insurance Office at (208) 426-2158, or e-mail healthinsurance@boisestate.edu.

Medical Services

Your on-campus family doctor's office. Whether you are sick, injured, or need care for a long-standing medical condition, Medical Services is equipped and staffed to take care of you. Services are located conveniently on campus and affordable. We give special attention to health promotion and disease prevention, and empower

patients to take responsibility for their own health by making healthy choices. Appointment and urgent/walk-in services are available. Wellness Services empowers you in your lifelong commitment to health by providing comprehensive wellness resources to the campus community.

Wellness Services

Based in the Health Center, but has programming which occurs throughout campus, Wellness Services contributes to the integration of services by offering Dietitian Services, HIV Testing, and Health Coaching. Peer Educators provide outreach and education to students on a variety of health topics while receiving experiential learning opportunities and experiences.

Student Involvement and Leadership

As a Bronco, you are destined to do great things, but your success is not wholly defined by personal accomplishments. Success is also defined by the impact you have in the lives of others. The Student Involvement and Leadership Center works to build connections between Boise State students, the campus, and the local community. This is accomplished through leadership development programs, volunteer and service opportunities, student organizations, sororities and fraternities, and campus activities. You can write your own unique involvement story by joining any of the 200+ student organizations academic, cultural, recreational, and social organizations available. Through programs like Catalyst, LeaderShape, as well as domestic and international Alternative Breaks, you can Get (IN)volved, connect with other students, the campus, and the community, while learning to reach your full capacity to impact and change the world.

For additional information and ideas on how to get involved, visit us on the second floor of the Student Union Building above the Boise River Café, find us online at <https://getinvolved.boisestate.edu/>, or call (208) 426-1223.

The Associated Students of Boise State University (ASBSU) advocates on behalf of Boise State students by promoting student engagement on university task forces, committees, and advisory boards, and by serving as a voice for student concerns. Further, ASBSU encourages student participation in university life by providing financial support to student organizations. ASBSU is made up of several bodies: elected and appointed student representatives in the Executive Council manage the internal and external affairs of the organization; students from academic and non-academic departments in the Student Assembly give opinion on university initiatives; and the Student Funding Board provides funding allocations for student organizations. ASBSU offices are located within the Student Involvement and Leadership Center on the second floor of the Student Union. For additional information, call (208) 426-4240 or visit <https://asbsu.boisestate.edu/>.

Other Student Services

Listed below are a number of services and programs provided to students, staff, and faculty, including services offered by the Advising and Academic Enhancement Office, the Veterans Services Office, and the Gender Equity Center.

Children's Center

The University Children's Center provides care for children eight weeks to five years of age. Operating hours are 7:00 a.m.–5:30 p.m., five days a week during fall and spring semesters and thirteen

weeks of summer session. It is located at the corner of Beacon and Oakland Streets. The center is licensed through the City of Boise and accredited through NAEYC. Financial assistance is not available. Currently, the center is full with a wait list. Check the webpage for updates on space for the wait lists. For more information and rates, call (208) 426-4404 or visit <https://childrenscenter.boisestate.edu/>.

Dean of Students

The Office of the Dean of Students (DOS) provides a variety of services designed to support student success and engagement at Boise State. The DOS plays a significant role in supporting and empowering students and their families during difficult times by providing service to students who need clarification and advice regarding a wide range of student-related issues related to campus life, student services, safety, individual concerns, and personal and family emergencies. Call (208) 426-1527 or visit <https://deanofstudents.boisestate.edu/>.

Educational Access Center

The center coordinates academic and housing accommodations for students who have self-identified as having a disability. In addition to working with students to establish reasonable and appropriate accommodations, the Educational Access Center provides students, faculty, and staff with information about specific disabilities and accessibility at Boise State. For further information, visit <https://eac.boisestate.edu/> or call (208) 426-1583.

Gender Equity Center

The Women's Center has been renamed the Gender Equity Center. This name change is the result of efforts to clarify that programs and services are centered on Gender Equity and open to all. The Gender Equity Center empowers you to achieve your academic goals by providing educational outreach, support services, and a safe place.

The staff promotes active citizenship and encourages dialogue about the social construction of gender and how gender intersects with race, ethnicity, class, sex, sexual orientation, ability, age, and nationality. Housed in the center are two lounges, one that is reservable for students and a LGBTQIA lounge with net stations, as well as a lactation room for nursing parents. Educational events are created by student staff members who welcome ideas and opportunities for collaboration within the three areas of focus: Women's Student Services, LGBTQIA Student Services, and Violence Prevention and Support. No-cost, confidential advocacy for victims of sexual assault, relationship violence, and stalking are available, as well as support for personal, financial, or academic crises. For a full list of programs and services visit the website at <https://genderequity.boisestate.edu> or stop by the center, located on the second floor of the Student Union Building, (208) 426-4259.

Multicultural Student Services

Multicultural Student Services provides training, education, and advocacy for you on issues of power, privilege, oppression, works to raise awareness, conduct trainings, develop workshops and create programming that will address issues for both dominant and nondominant groups. Multicultural Student Services also provides a forum for education aimed at helping you learn multicultural skills and perspectives that you need for a successful experience at Boise State and beyond. All of these efforts are an expression of our

commitment to a philosophy of Inclusive Excellence at Boise State. Multicultural Student Services is housed in the Student Diversity Center on the second floor of the Student Union Building, co-located with International Student Services. For more information please visit us on the web at <https://mss.boisestate.edu/> or call us at (208) 426-5950.

Regional Sites

Student services such as advising, registration, book sales, and library services are available at most off-campus sites. The regional locations and phone numbers are listed in Chapter 1—An Introduction to Boise State, in the section about the Division of Extended Studies.

Student Diversity Center

Located on the second floor of the Student Union Building, (208) 426-5950, the Student Diversity Center houses both International and Multicultural Student Services and is a place where you can meet with other students in a relaxed, friendly atmosphere. The Student Diversity Center promotes cultural diversity and appreciation through campus-wide cultural awareness programs and through the support of Boise State's ethnic organizations' festivals and events provided through International Student Services, Multicultural Student Services and the Martin Luther King Jr. Living Legacy Committee. The Student Diversity Center also provides a forum for education aimed at helping you learn multicultural skills and perspectives that you need for a successful experience at Boise State and beyond. All of these efforts are an expression of our commitment to a philosophy of Inclusive Excellence at Boise State.

Student Employment

As a registered student, you can search for on-campus (including work-study), off-campus, part-time, summer, temporary, and full-time job opportunities on BroncoJobs, the university's web-based job-listing site, hosted by the Career Center. There is no charge to use this service. New jobs are posted daily. Further information is available at (208) 426-1747 or <https://career.boisestate.edu/>.

Student Rights and Responsibilities

Boise State is committed to maintaining a strong, academically honest environment, free from harassing and disruptive behavior. As a part of the Office of the Dean of Students, Student Rights and Responsibilities serves as the central coordinating office of university student conduct regulations and ASBSU Student Legal Services. For further information, please call (208) 426- 1527 or visit <https://deanofstudents.boisestate.edu/>.

Veteran Services

The Veteran Services Office, consists of a peer customer service staff, Academic and Career advisor, and an Outreach Coordinator. All of which provide GI Bill assistance, transition support, and academic/career advising to Veterans, Active Duty military, National Guard and Reserve members, as well as dependents who may qualify. They are located in the Lincoln Office Suites adjoining the Lincoln Parking Garage, 1607 University Drive, (208) 426-3744, veteranservices@boisestate.edu.

Graduate Academic Regulations

The academic policies described in this chapter apply to all graduate degree and certificate programs and are approved by the Graduate Council and administered by the Graduate College. Under this general regulatory umbrella, each graduate program is locally administered by an academic unit assigned by the university. The academic unit may be a department, a college, or a specially appointed unit consisting of graduate faculty members from multiple departments or colleges. Although an academic unit may develop local regulations for a specific graduate program under its control, the local regulations must be consistent with these academic policies and are therefore subject to review and approval by the Graduate Council. It is the responsibility of all graduate faculty members and graduate students to become thoroughly familiar with all policies that govern the graduate program in which they participate.

Language Requirement

English is the language of instruction at Boise State University. Graduate students must be proficient in English and may be required to demonstrate a prescribed level of ability in one or more other languages. If language ability beyond proficiency in English is required by a graduate program, the means of verification are defined by the program.

Simultaneous Enrollment

Simultaneous enrollment in more than one graduate degree program is prohibited by the Graduate College, except in those situations in which a signed, written agreement negotiated between the program and the Graduate College allows a student to earn a master's degree while pursuing a doctoral degree. Because of the fundamental requirement that at least two-thirds (2/3) of the total credit requirement for a degree must be earned after admission to the degree program, doctoral students who are interested in acquiring a master's degree while working toward the doctoral degree should promptly apply to the master's degree program.

Simultaneous enrollment in a graduate degree program and a graduate certificate program is permitted. Because of the fundamental requirement that at least two-thirds (2/3) of the total credit requirement for a certificate must be earned after admission to the certificate program, graduate degree-seeking students who are interested in acquiring a graduate certificate as an intermediate step should promptly apply to the certificate program.

Simultaneous enrollment in two graduate certificate programs is permitted. Simultaneous enrollment in more than two graduate certificate programs is prohibited by the Graduate College. Simultaneous enrollment in graduate degree and 2 or two graduate certificate programs is also prohibited by the Graduate College.

Graduate Student Advising

Thoughtful, comprehensive advising is critical to the success of every graduate student. In this context, the word "advising" is used broadly to encompass:

Academic Planning This includes helping students map out a plan for completing the degree or certificate requirements, adjusting the

plan to accommodate changes that may occur in the student's life, and helping students meet the administrative requirements of the program and the university.

Professional Development This includes helping students make conceptual connections among courses, improve their research skills, build their professional networks, conduct research that contributes to existing knowledge within the discipline, and when appropriate make a successful transition from graduate student to working professional.

This kind of comprehensive advising requires an ongoing partnership, lasting from admission to graduation, that is based on mutual respect and understanding and in which all parties work to create a learning experience that allows students to:

1. Develop a plan for completing the degree or certificate within a reasonable time and adjust the plan when it is in the student's best interest
2. Develop a level of expertise in a topic
3. Improve their ability to use the methods and technology of their discipline
4. Contribute as a member of a professional community of practice within their discipline
5. Engage in continued learning after graduation

At Boise State University, graduate students work with an advisor, supervisory committee, and/or procedural advisor.

Advisor

Graduate students must be under the guidance of an advisor if they are not under the guidance of a supervisory committee. An advisor is a member of the graduate faculty and is appointed by the graduate program. It is permissible for the Graduate Program Coordinator to be appointed as the advisor for all students enrolled in the graduate program. It is also permissible for an advisor to guide a master's student (but not a doctoral student) through all graduate activities except for a culminating activity that requires a supervisory committee. Once appointed, the advisor is the primary source of program information and advice and works with the student on matters related to both academic planning and professional development.

An advisor is named by the graduate program at the time of admission. However, either the program or the student may subsequently request an advisor change to best match the student's academic interests or professional goals. Any advisor change should be the result of consultation among the student, current advisor, proposed advisor, Graduate Program Coordinator, and because of possible faculty workload considerations, the department chair. The program should inform the Graduate College of any advisor change by sending an e-mail to gradcoll@boisestate.edu.

Supervisory Committee

A supervisory committee is required for any master's student or doctoral student engaged in thesis or dissertation activity. A supervisory committee is composed of members of the graduate faculty who are appointed by the Graduate College and charged with the guidance of a student admitted to a specific graduate degree program. The committee consists of a major advisor who

serves as chair plus at least two (2) but no more than four (4) additional members who are chosen to provide a broad range of knowledge and expertise to the student. No student may remain in a graduate program that requires a thesis or dissertation without a major advisor named as part of the supervisory committee. The major advisor is the primary mentor for the student and must be a member of the graduate faculty with an endorsement to chair a supervisory committee. A majority of the committee members must hold appointments in the department(s) responsible for the program or the participating departments in the case of interdisciplinary programs. In all cases, the fundamental principle is that the committee, collectively, should be constituted to provide the best possible guidance throughout the student's career, including his or her thesis or dissertation work.

Graduate students should take an active role, working with their advisor, in identifying faculty members to serve on their supervisory committee. Once possible committee members are identified, the student completes an *Appointment of Supervisory Committee* form and submits it for signature by the specified committee chair and Graduate Program Coordinator. This form must include a recommended committee membership based on a reasonable match between student and faculty academic interests. The form is then submitted to the Graduate College for review. Once satisfied with the recommended committee, the Graduate Dean formally appoints the committee and sends e-mail notifications to the Graduate Program Coordinator and the student (using the student's Boise State e-mail address, according to *Boise State University Policy #2280*). The *Appointment of Supervisory Committee* form should be submitted as early as possible in the student's graduate career and no later than the time of submission of the *Application for Admission to Candidacy* (AAC) form.

A change in the membership of the supervisory committee can be made after initial appointment by submitting an updated *Appointment of Supervisory Committee* form. This should be done according to policies and procedures developed by the graduate program and only with the approval of the Graduate College.

Procedural Advisor

With prior approval of the Graduate College, a member of the graduate program who does not hold membership in the Graduate Faculty may be assigned to advise some or all of the students in the program on procedural issues, such as the submission of paperwork, course sequencing, and other matters related to academic planning. The actual position title assigned by the university to procedural advisors can vary from program to program.

Academic Performance

A fundamental requirement for satisfactory academic performance is that, with very limited exceptions, students with a cumulative grade point average (GPA) below 3.00 are ineligible for graduation from a graduate degree or certificate program (see *Academic Performance at Graduation*). Students with a cumulative GPA that drops below 3.00 at any time should consult with their advisory or Graduate Program Coordinator for advice and possible options.

Cumulative GPA Requirement All students admitted to the Graduate College, including degree and certificate students and nondegree-seeking students, must meet the cumulative GPA requirements described in this section. A student admitted to the Graduate College must maintain a minimum cumulative GPA of

3.00, including transfer courses. If the cumulative GPA is below 3.00 at the end of an enrolled semester (including summer), the student is placed on probation. At the end of the next enrolled semester (including summer), the Graduate College reviews the student's progress and takes one of the following actions:

1. Remove the student from probation if the cumulative GPA is 3.00 or above.
2. Continue the student on probation if the cumulative GPA is below 3.00 and the semester GPA is 3.00 or above. Students may continue on probation for an unlimited number of semesters but will be ineligible for graduation if their cumulative GPA is below 3.00 at the end of their graduation semester. Students should consult their advisor or the Graduate Program Coordinator for advice and possible options (see *Academic Performance at Graduation*).
3. Dismiss the student from their graduate program and Boise State University if the cumulative GPA is below 3.00 and the semester GPA is below 3.00. Students who are dismissed are administratively withdrawn from their courses and cannot register for classes until they are either reinstated to the graduate program or readmitted to the Graduate College. Students who request reinstatement (following *Boise State University Policy #3090*) and are granted reinstatement to the program within 30 calendar days are not required to reapply to the Graduate College. A new online application and application fee is required after 30 days, or when a student's request for reinstatement is denied.

In each case, the Graduate College informs the graduate program and the student via e-mail (using the student's Boise State e-mail address, in accordance with *Boise State University Policy #2280*).

Academic Performance at Graduation

All students enrolled in a degree or certificate program must meet the following academic performance requirements at the end of their final (graduation) semester: (1) cumulative GPA requirement, (2) program GPA requirement, and (3) individual course requirements.

Cumulative GPA Requirement At the end of the graduation semester a student's eligibility for graduation will be reviewed using the following guidelines:

- Students with a cumulative GPA of 3.00 or above will be eligible for graduation.
- Students with a cumulative GPA below 3.00 and who were not on probation at the start of the graduation semester will be ineligible for graduation and placed on probation until their cumulative GPA is 3.00 or above. Students should consult their advisor or the Graduate Program Coordinator for advice and possible options.
- Students with a cumulative GPA below 3.00 and who were on probation at the start of the graduation semester will be dismissed from the graduate program and Boise State University.

Students may appeal their dismissal only in the situation in which they meet both of the following conditions:

- They changed graduate programs after their initial admission to the Graduate College.
- Their semester GPA was 3.00 or above in all semesters (including summers) after their change of graduate programs.

In each case, the appeal will be carefully reviewed by the Graduate College and the timeliness of the appeal will be considered.

Graduate Academic Regulations

Program GPA Requirement A student who is admitted to a graduate program is required to list on an *Application for Admission to Candidacy* form (for a degree program) or a *Proposed Plan of Study for a Graduate Certificate* form (for a certificate program) the specific courses to be applied to meet all of the credit requirements defined for the program. The program grade point average (program GPA) is the grade point average computed for this set of courses. If the program GPA is less than 3.00, the student is ineligible for the degree or certificate and should consult their advisor or the Graduate Program Coordinator for advice and possible options.

Individual Course Requirements Students who are admitted to a graduate program cannot list a course on an *Application for Admission to Candidacy* form (for a degree program) or a *Proposed Plan of Study for a Graduate Certificate* form (for a certificate program) if the course is graded lower than C or P. An undergraduate course, G-designated course, or transfer course cannot be listed if it is graded lower than B. If the grade for a specific course that is required by the graduate program is too low to be listed on the *Application for Admission to Candidacy* form or the *Proposed Plan of Study for a Graduate Certificate* form, and if that grade cannot be improved under the course repetition policy, the student is ineligible for the degree or certificate and will be dismissed from the graduate program and Boise State University. In this case, students should consult their advisor or the Graduate Program Coordinator for advice and possible options.

Repetition of Graduate Courses

Repetition to Improve a Grade A graduate student who has completed a graduate course for credit may attempt to repeat that course to improve the grade, but only once and only with the written approval of the Graduate Program

Coordinator using the *Request to Repeat a Graduate Course* form. Certain graduate courses cannot be repeated to improve a grade, including:

- 590 Practicum/Internship,
- 591 Project
- 592 Portfolio
- 593 Thesis
- 686 Master's Preliminary Examination
- 687 Doctoral Preliminary Examination
- 690 Master's Comprehensive Examination
- 691 Doctoral Comprehensive Examination
- 693 Dissertation

If a student's attempt to repeat a course results in a grade of W or CW, an additional attempt is not permitted unless the student can document extenuating circumstances that are clearly beyond the student's control.

A course that has been completed more than once in an attempt to improve a grade can be listed only once on an *Application for Admission to Candidacy* form (for a degree program) or a *Proposed Plan of Study for a Graduate Certificate* form (for a certificate program). The listed semester and grade must be for the most recent completion of the course for credit. All course registrations on record beyond published drop dates for each semester or session appear on the student transcript and GPA computations are carried out according to *Boise State University Policy# 2200*. In order to conform to previous policies of the Graduate College on course

repetition to improve a grade, a graduate student may not repeat a Boise State course to improve a grade of F if the course was initially completed prior to the start of the Fall 2003 semester.

Repetition for Credit The university-wide graduate courses and some departmental courses (such as MUS 563 Major Instrument Pedagogy I and MUS 564 Major Instrument Pedagogy II) are associated either with specifically defined efforts by an individual student or with content characteristics that can change from semester to semester. These courses and others like them may be repeated for credit and listed multiple times by a graduate student on his or her an *Application for Admission to Candidacy* form (for a degree program) or a *Proposed Plan of Study for a Graduate Certificate* form (for a certificate program) form subject to all approvals and limitations of the graduate program and the Graduate College.

Transfer Credit

Transfer credit is academic credit that is awarded to a student by another college or university and is approved for application to the requirements of a graduate certificate or degree at Boise State University. Transfer credit must satisfy the following restrictions:

1. Transfer credit must be graduate academic credit representing a grade of A or B awarded by a regionally accredited U.S. college or university or by a non-U.S. institution of higher education that is approved for transfer purposes by the International Admissions Office. Continuing education units (CEU) and other non-academic credits are ineligible as transfer credit.
2. Culminating activity courses, courses where the grade is based only on attendance, and courses representing experiential learning, regardless of the level (undergraduate or graduate), are ineligible as transfer credit.
3. Credit applied to meet the requirements of a previously earned degree of any type at another institution is ineligible for use as transfer credit. The only exception is that credit applied to a previously earned master's degree at another institution may be applicable as transfer credit to a doctoral degree.
4. Application of transfer credit must be approved by the graduate program.

The maximum transfer credit that can be applied to meet the requirements of a graduate certificate or degree is limited by the fundamental requirement that at least two-thirds (2/3) of the total credit requirement for a degree or certificate must be earned after admission to the program. A graduate program may impose a more restrictive transfer policy (fewer allowed transfer credits) for that program. In the case of a cooperative graduate program offered by Boise State University and the University of Idaho and/or Idaho State University, a more liberal transfer policy (more allowed transfer credits) is permissible, but only if the Graduate Council has approved a higher transfer credit limit for the program.

G-Courses and Dual-Listed Courses

A student enrolled in a G-course or a 500-level dual-listed course must complete all work required of students earning undergraduate credit (in the corresponding non-G-course or 400-level dual-listed course) plus substantial work at the graduate level. The Graduate College strictly limits the application of G courses to no more than one-third (1/3) of the total credit requirement for a degree or certificate. In addition, the Graduate College recommends that

the applicable credit earned in G-courses and 500-level dual-listed courses together should not exceed one half (1/2) of the total credit requirement of a graduate certificate or degree. The graduate program may further restrict the application of G-courses and 500-level dual-listed courses.

Application of Credit Already Applied to a Graduate Certificate

A graduate certificate is viewed by some programs as an intermediate accomplishment or stepping stone between a baccalaureate degree and a master's degree. The Graduate College therefore allows graduate credit (but not undergraduate credit) earned at Boise State University and previously applied to meet the requirements of a Boise State graduate certificate to also be applied to meet the requirements of a Boise State master's degree, but not a Boise State doctoral degree. This is known as dual application and is subject to the following stipulations:

1. The dual application of credit must be consistent with those policies of the master's program that may limit or preclude such application.
2. The dual application of credit must be approved by the student's advisor or by the chair of the supervisory committee.
3. All time constraints imposed by the Graduate College that govern the applicability of the credit must be met.

In-Service Teacher Education or Professional Education Workshop Courses

Credit earned for in-service teacher education or professional education workshop courses (for which a special low fee is charged by the university) cannot be applied to meet the credit requirements of a graduate degree or graduate certificate (see section V.R.3.a.Viii. of the *Governing Policies and Procedures of the Idaho State Board of Education*).

Challenge Courses

Graduate students who believe that their background, education, and/or experience has given them sufficient knowledge in a subject area may "challenge" certain courses. This means that they may be able to receive credit for the course by passing a challenge exam. The graduate program offering the course determines whether a course is available for challenge and may develop screening procedures to determine whether a particular student is eligible to take a challenge exam. (Some programs may not offer any challenge exams.) To be eligible for a course challenge, students must have completed 12 credits at Boise State University. Students may not challenge a course to improve a previous grade earned in the course. The process for a course challenge (governed by *Boise State University Policy# 3040*) is:

1. Request and approval. This requires:
 - A written request from the student to the graduate program for permission to register for a challenge exam.
 - A determination by the graduate program to grant the request. For interdisciplinary courses, this decision will be made by the coordinator of the graduate program to which the course applies.
 - A determination whether the challenge course will be graded (A-F) or P/F.
2. Credit for Prior Learning form (available via the Boise State

University Registrar's Office website). This requires:

- Sections 1 and 2 of the form completed by the student.
 - A checkmark in the "challenge" box in section 2.
 - Signature of the course instructor.
 - Completion of section 3 by the graduate program.
3. Payment. This requires:
 - Submitting the signed form to the Boise State University Payment and Disbursement Center.
 - Payment by the student of the required fee (\$50 for a challenge exam prepared by the department or \$20 for an externally prepared exam).
 - Completion by the Payment and Disbursement Center of section 4 of the form.
 - Returning the form to the department before taking the challenge exam.
 4. Exam and results. This requires:
 - Returning the form to the graduate program before taking the challenge exam.
 - Completing the challenge exam.
 - Completion of section 5 of the form by the graduate program and submission to Registrar's Office.
 - Grades of P or A through C- will be recorded on the student's transcript. Grades of D+ or lower will not be transcribed.

Graduate Credit Option for Undergraduate Students

An undergraduate student who is also a senior may request approval to enroll in a G-course or a 500-level course. The student must complete a *Permit for Seniors to Take Graduate Courses* form. The student may apply the course in one of three ways:

- As graduate credit (Option I)
- As upper division undergraduate credit (Option II)
- As credit for an accelerated master's program (Option III)

Graduate Credit (Option I) Graduate credit earned under a Permit for Seniors to Take Graduate Courses does not imply that the student will be admitted to a graduate program at Boise State University. If the student completes courses for graduate credit while a senior and is later admitted to a graduate program, the program has the authority to decide which courses (if any) completed as a senior can be applied to the credit requirements of the program. The program also has the authority to define a maximum number of applicable credits of this type for the program, but the maximum cannot exceed one-third (1/3) of the total credit requirement for the degree or certificate.

Upper-Division Undergraduate Credit (Option II) The student may apply up to two (2) successfully completed 500-level courses to his or her upper-division credit requirement for a baccalaureate degree.

Accelerated Programs (Option III) Students in an accelerated master's degree may apply a limited number of graduate level courses (as approved by the graduate program) to both their undergraduate and graduate degree.

Other Limitations Undergraduate students may not enroll in 600-level courses. Courses offered as part of the Master of Business Administration program are excluded from enrollment by all undergraduate students. Students admitted by the Graduate College to work on an accelerated master's degree are subject to

Graduate Academic Regulations

course limitations imposed by the Graduate College and by the participating graduate program or programs.

Admission to Candidacy

Admission to candidacy is a critically important process required of all students enrolled in graduate degree programs. The candidacy process serves as the official review by the Graduate College of the student's plan of study. This official review allows the Graduate College to identify degree requirements and graduate regulations that may have been overlooked or misinterpreted. If left undetected and uncorrected for too long, these shortcomings can delay progress toward a graduate degree. The candidacy process also helps the Graduate College update the student's *Academic Advisement Report* (AAR) form, which is used for the final degree or certificate audit conducted by the Registrar prior to graduation, and enables the university to fulfill its obligations to accrediting organizations. Because of the importance of the candidacy process, a student who has not been admitted to candidacy cannot participate in a final oral examination or apply for graduation.

Candidacy Requirements for a Master's Student A master's student may be admitted to candidacy if the student is in regular status and has completed a set of courses sufficient to satisfy at least one half (1/2) of the total credit requirement with individual course grades of C or better and a GPA of at least 3.00 (computed for the set of courses).

Candidacy Requirements for a Doctoral Student A doctoral student may be admitted to candidacy if the student is in regular status, has passed the comprehensive examination, has satisfied any language proficiency requirements and the doctoral residency requirement, and has completed a set of courses sufficient to satisfy at least one half (1/2) of the total credit requirement with individual course grades of C or better and a program GPA of at least 3.00 (computed for the set of courses)

Application for Admission to Candidacy

A student who is enrolled in a graduate degree program applies for admission to candidacy by submitting to the Graduate College an *Application for Admission to Candidacy* (AAC) form. The AAC is the result of academic planning done by the student and his or her advisor and lists the courses proposed by the student to fulfill the total credit requirement for a degree as defined in a particular annual edition of the *Boise State University Graduate Catalog*. Once the student submits the form, it is reviewed by Graduate Program Coordinator or designee. If approved, it is reviewed by the Graduate College. If the AAC is approved by the Graduate College, e-mail notifications are sent to the graduate program and the student (using the student's Boise State e-mail address, according to *Boise State University Policy# 2280*). If any deficiencies are found in the list of courses, the Graduate College notifies the student and the graduate program and helps find acceptable remedies. A change in an approved AAC form, such as in the case where a course is no longer available, can be requested by submitting a *Request for Adjustment of Academic Requirements* form.

Although the academic calendar specifies a submission deadline for the AAC form, the Graduate College recommends that students submit the form as soon as one half (1/2) of the total credit requirement for the degree is completed. If students wait until the deadline specified in the academic calendar and the Graduate

College finds deficiencies, they may not be able to complete the necessary corrective actions before the anticipated graduation date. It is therefore in students' best interests to carefully prepare the AAC form and submit it to the Graduate College in a timely manner.

Proposed Plan of Study for a Graduate Certificate

A student who is enrolled in a graduate certificate program is required to submit to the Graduate College a *Proposed Plan of Study for a Graduate Certificate* (PPSGC) form. This form is the result of academic planning done by the student and his or her advisor and lists the courses proposed by the student to fulfill the total credit requirement for a certificate as defined in a particular annual edition of the graduate catalog. Once the student submits the form, it is reviewed by the Graduate Program Coordinator or designee. If approved, it is reviewed by the Graduate College. If the PPSGC is approved by the Graduate College, e-mail notifications are sent to the graduate program and the student (using the student's Boise State e-mail address, according to *Boise State University Policy#2280*).

Students should submit the PPSGC form to the Graduate College shortly after admission to the certificate program (for certificates that can be completed in one or two semesters) or in the semester in which they expect to meet at least one half (1/2) of the total credit requirement for the certificate (if they anticipate spending more than two semesters to complete the certificate). If any deficiencies are found in the list of courses on the PPSGC form, the Graduate College notifies the student and the graduate program and helps find acceptable remedies. The Graduate College cannot guarantee that these remedies will not delay progress toward the certificate. It is therefore in a student's best interest to submit the PPSGC form in a timely manner. Students are notified once the PPSGC form is approved by the Graduate College. A change in an approved PPSGC, such as in the case where a course is no longer available, can be requested by submitting a *Request for Adjustment of Academic Requirements* form.

Choice of Graduate Catalog

A student enrolled in a graduate degree or certificate program may choose to meet the requirements for that program as defined in any annual edition of the *Boise State University Graduate Catalog* in effect after the student is admitted to the program by the Graduate College. The program requirements so specified by the student will be used by the Graduate College to evaluate the *Application for Admission to Candidacy* (AAC) form (for a degree program) or the *Proposed Plan of Study for a Graduate Certificate* (PPSGC) form (for a certificate program), and by the Registrar's Office for the final degree or certificate audit.

Adjustment of Academic Requirements

The *Boise State University Graduate Catalog* chosen by a student determines the program requirements that must be met by the student. The specific courses that have been approved by the Graduate College as meeting those program requirements are known as the academic requirements for the student, and are listed on the approved an *Application for Admission to Candidacy* form (for a degree program) or a *Proposed Plan of Study for a Graduate Certificate* form (for a certificate program). A student may request a change in academic requirements only by submitting a *Request for*

Adjustment of Academic Requirements form to the Graduate College for review and approval.

Theses and Dissertations

Like all Boise State University researchers, graduate students engaged in thesis or dissertation research are expected to carry out their research in an ethical and responsible manner. This includes consideration for human subjects, animal subjects. For additional information about thesis and dissertation research, see the *Boise State University Graduate College Policy and Procedure Manual*.

A student must undergo a process involving three primary steps on the way to satisfying the thesis or dissertation requirement of a graduate degree program. These steps must be taken in proper order, and each subsequent step cannot be undertaken until the student successfully completes the prior step.

Defense The student defends the thesis or dissertation before a committee known as the defense committee (which always includes the supervisory committee). This event is formally referred to as the final oral examination.

Final Reading Approval The student makes any modifications that may be required by the defense committee and submits the revised thesis or dissertation to the chair of the supervisory committee (or designee) for final reading approval.

Format Review The student electronically submits the thesis or dissertation and supporting documentation to the Graduate College for a format review by the Coordinator of Theses and Dissertations, and responds to any corrections that may be required by the Graduate College.

- This format review is guided by a detailed requirements and procedures described in a manual called *Standards and Guidelines for Theses and Dissertations*. A thesis or dissertation that does not conform to the standards and guidelines will be returned by the Graduate College to the student for corrections. The issues addressed in the standards and guidelines ensure that the thesis or dissertation is complete in terms of the components required by the Graduate College, that the final version meets technical publication standards (e.g., minimum margins for binding purposes), and that certain legal requirements involving copyright are given proper attention by the student.
- An official format review cannot be initiated until the chair of the supervisory committee (or designee) has granted final reading approval of the thesis or dissertation. However, the Graduate College will provide preliminary advice on request. Students with questions about any aspect of the format review are encouraged to contact the Thesis and Dissertation Office.

Final Version After the thesis or dissertation has passed the format review, the student submits the final version as an electronic file to the Graduate College for review by the Graduate Dean (or designee). This should be done before the deadline published in the academic calendar. The thesis or dissertation requirement of a graduate degree program is not considered satisfied until the final version has been approved by the Graduate Dean. When submitting the final version:

1. The student should include a page that contains the research protocol number and a statement that the protocol has been approved by the appropriate ORC committee – Institutional Review Board (IRB), Institutional Animal Care and Use Committee (IACUC), or Institutional Biosafety Committee (IBC). Refer to responsible conduct of research.

2. The student should submit an Access Agreement for a Thesis or Dissertation form. Because a thesis or dissertation is a significant contribution to a discipline, the Graduate College requires that all theses and dissertations be archived and made publicly accessible. This is done through ScholarWorks, a digital university repository overseen by the Albertsons Library. The conditions for public access to a thesis or dissertation may vary depending on a variety of circumstances. These conditions are requested by the student and reviewed by the Graduate College in the access agreement. Approval by the Graduate College of an access agreement is a graduation requirement for all students who complete a thesis or dissertation as part of a graduate degree program.
3. The student can order archival bound paper copies of the thesis or dissertation as required by the department and for personal use. The Graduate College provides an electronic process for a student to order paper copies.

Name Used on a Thesis or Dissertation

The name used on a thesis or dissertation must match the author's name as it appears on official Boise State University records. Students may choose to omit a middle name or use an initial. But the name used must be consistent throughout the thesis or dissertation and the accompanying paperwork (*Defense Committee Approval*, *Final Reading Approval*, and *Access Agreement*).

Students who want to use a different name, such as a nickname, on their thesis or dissertation must first change their name in official Boise State University records by submitting a *Student Information Update* form to the Office of the Registrar.

Thesis and Dissertation Office

The Thesis and Dissertation Office is a valuable resource for graduate students and faculty and shares the goal of helping students produce a high quality thesis or dissertation. The student and supervisory committee are responsible for the content and overall quality of the research and the resulting thesis or dissertation. However, the Thesis and Dissertation Office provides the following resources that can be used from the beginning of the writing process to publication of the thesis or dissertation via *ScholarWorks*

Standards and Guidelines for Theses and Dissertations. This document includes information on:

- The thesis and dissertation process
- Thesis/dissertation elements, standards, and guidelines
- The Graduate College thesis/dissertations template for Microsoft Word
- ScholarWorks thesis and dissertation reference manual

Thesis and Dissertation Boot Camp

This 4-day workshop is held every January, before classes begin for the spring semester. The workshop includes quiet space and time to write, a trained tutor available from 9:00 am to 1:00 pm each day, and short (15 to 30 minute) breakout presentations on topics such as the writing process, time management, formatting, and citations. The Boot Camp is open to all graduate students working on a thesis or dissertation. Information about the Boot Camp can be found on the Graduate College website at: <https://graduatecollege.boisestate.edu/thesisdissertation/workshops-and-clinics/>.

Group Workshops Upon request, Thesis and Dissertation Office staff will conduct a workshop designed to meet the needs of any

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group of graduate students or faculty members working on a thesis or dissertation, from the proposal stage to the final version. Topics vary and can include formatting, citations, the thesis/dissertation process or anything else related to writing a thesis or dissertation.

Individual Consultations with Students and/or Faculty

Upon request, Thesis and Dissertation Office staff will meet individually with graduate students or faculty members. This consultation is available to all graduate students and faculty members regardless of the writing project and can be set up by appointment or on a drop-in basis. Topics can vary, however, the focus is on helping students and faculty members communicate through writing by providing an outside perspective and by exploring diverse writing methods within and outside of their respective disciplines. Students in particular are encouraged to meet with Thesis and Dissertation Office staff early in their graduate careers to take advantage of this resource.

Culminating Activity

The term culminating activity refers to a summary exercise that is carried out by a graduate student with a high degree of independence, is based on advanced study and accumulated graduate experience, is integrative in nature, and is typically the focus of the student near the end of his or her graduate career. The traditional culminating activities for master's students and doctoral students are the thesis and dissertation, respectively, but master's students in the United States now engage in many other forms of culminating activity such as a project, portfolio, capstone course, series of practicums, recital (performing arts), and comprehensive examination. Satisfactory completion of a culminating activity (or part of a culminating activity) is normally recorded by a grade in a graduate course set up specifically for that purpose (e.g., 592 Portfolio).

Graduation

Applying for Graduation

Students nearing completion of the requirements for a graduate degree or certificate program must apply for graduation and pay the required graduation fee. This initiates a final audit of the student's academic records by the Registrar's Office and reserves an official embossed diploma or certificate. To apply for graduation and pay the graduation fee, students log on to MyBoiseState.edu in the Student Center and choose the Apply for Graduation option from the drop down box under Academics. This process should be completed no later than the deadline published in the academic calendar for the semester or summer session in which the student intends to complete the degree or certificate requirements. The month of the expected date of graduation is May for students finishing in the spring semester, August for students finishing in the summer session, and December for students finishing in the fall semester. Students who miss their expected date of graduation twice are placed on inactive status by the Registrar's Office and are required to contact the Registrar's Office before attempting to establish a new graduation date.

Commencement

Candidates for graduate degrees are eligible to participate in commencement if cleared to do so by the Registrar's Office. Students completing a graduate certificate program are not eligible to

participate in commencement unless they are also candidates for a graduate degree and have been cleared for participation by the Registrar's Office. Diplomas and certificates are mailed to recipients after satisfactory completion of a final degree audit of all program requirements by the Registrar's Office.

Program Time Lines

All time lines associated with graduate degree and certificate programs are published each semester or summer session in the Boise State University's *Academic Calendar*. These time lines include application and fee payment deadlines, last day to add and drop courses, starting and ending dates for semesters and sessions, last days for filing program forms, final oral examinations, and the submission deadlines for theses and dissertations. It is the responsibility of the student to be familiar with these time lines

Full-Time Enrollment Exception for International Students

For the purpose of verifying enrollment, a graduate student must be enrolled in at least nine (9) credits to be considered "full time." Students enrolled in fewer than nine (9) credits are considered to be enrolled proportionally less than full-time. This applies to each fall, spring, and summer semester or session.

An exception applies to international students when summer is the first semester in F1 or J1 status. For immigration purposes only a minimum of six (6) credits is required during the summer for international students to be considered full time. Three (3) of these six (6) credits must be in coursework other than independent study, thesis, or dissertation.

This does not change the requirement for international students who have a Graduate Assistantship (GA) to be registered in nine (9) credits during Fall and Spring, but can maintain their GA without summer registration.

In determining whether a student is enrolled full-time, Boise State counts all credit hours on the student's registration form, including courses under audit status, courses being repeated, and credits for workshops. In short, nearly every combination of any type of credit hour counts toward the required credit total. Note also that developmental courses (such as ENGL 90 Developmental Writing or MATH 25 Elementary Algebra) count as three (3) credits each toward the full time credit total, even though no credit is earned for taking the course (see *Tuition and Fees*)

Student Handbook

A graduate program may compile a handbook of procedures for a degree or certificate program. These are essential resources and students should visit the program website or contact the Graduate Program Coordinator to obtain a copy.



Questions About These Regulations?

Contact the Graduate College
Riverfront Hall, Room 307
(208) 426-3903
<http://graduatecollege.boisestate.edu/>
E-mail: gradcoll@boisestate.edu

Regulations for Graduate Certificate Programs

Description

A graduate certificate program is limited in scope relative to a graduate degree program but provides an opportunity for advanced study with a particular focus. Successful completion of a graduate certificate program is a coherent academic accomplishment that leads to an official notation on the student's transcript. Subject to the regulations that govern a specific program, a graduate certificate can often serve as an intermediate accomplishment for a student whose ultimate goal is a graduate degree.

Certificate Requirements

The curriculum of a graduate certificate program is a set of academic courses identified by the university as suitable for properly qualified students who wish to study a clearly delineated topic within a disciplinary or interdisciplinary setting. The curriculum may include both specific courses and a selection of elective courses.

Credit Requirements The program of study leading to a graduate certificate must satisfy the following two stipulations:

1. The total credit requirement cannot exceed half of the total number of credits required by the most closely related master's degree program offered by the university;
2. The total credit requirement must include at least nine graduate credits earned in courses exclusive of university-wide graduate courses 591-598, 686-693, and 696-697.

Any deviation by the certificate curriculum from these two stipulations must be approved by the Graduate Council. A limited number of credits earned in undergraduate courses may be applied to meet the credit requirements (see *Restrictions on Certain Courses*). In all cases, at least two thirds of the total credit requirement must be earned at Boise State University since admission to the program. All credit must be academic credit and must be approved for application by the graduate program coordinator.

Culminating Activity

A culminating activity is normally not a requirement of a graduate certificate program but is not precluded from being a requirement. If a culminating activity is required, it must be of limited scope relative to the culminating activity required by the most closely related master's degree program offered by the university. The culminating activity must be represented in the total credit requirements using an appropriate course.

Duration of Graduate Study

All requirements for a graduate certificate (including transfer courses) must be started and completed within a single continuous interval of no more than four (4) years. This single continuous interval includes summers and any semesters in which the student is not enrolled. In addition, it must encompass all courses applied to the certificate, including transfer courses.

Restrictions on Certain Courses

All graduate certificate programs must be consistent with the following restrictions. A particular certificate program may impose more stringent restrictions for that program.

Undergraduate Courses

The number of applicable credits earned in undergraduate courses cannot exceed one third (1/3) of the total number of required graduate credits. An undergraduate course applied to a graduate certificate must be an upper division course with a grade of B or better and the course cannot represent effort for an undergraduate thesis, internship, practicum, independent study or research, conference or workshop, experiential learning, study abroad, seminar, or colloquium.

Previously Applied Courses

In general, any course applied to a previously earned degree of any type at any institution cannot be applied to meet the credit requirements of a graduate certificate program. An exception that applies to a specific certificate program may be approved by the Graduate Council. Courses allowed under this exception are limited by the fundamental requirement that at least two thirds (2/3) of the total credit requirement for the program must be earned at Boise State University after admission to the program.

Simultaneous Enrollment in a Graduate Certificate and Degree Program

A student may be enrolled simultaneously in a graduate certificate program and a graduate degree program subject to the following conditions:

1. The specific policies of the two programs permit co-enrollment.
2. The co-enrollment is approved by the chair of the supervisory committee or the advisor and the coordinators of the graduate certificate and degree programs.
3. All "Duration of Graduate Study" time constraints imposed by the Graduate College that govern the applicability of the credit must be met for both the graduate certificate program and the graduate degree program.

Enrollment in More Than One Certificate Program

Simultaneous enrollment in two graduate certificate programs is permitted but only under the condition that both certificate programs allow simultaneous enrollment. Simultaneous enrollment in more than two graduate certificate programs is prohibited by the Graduate College.



Questions About These Regulations?

Contact the Graduate College
Riverfront Hall, Room 307
(208) 426-3903
<http://graduatecollege.boisestate.edu/>
E-mail: gradcoll@boisestate.edu

Regulations for Master's Programs

Description

Although programs leading to a master's degree are very diverse, they generally fall into two categories depending on overall emphasis and the nature of the culminating activity.

- Scholarly programs emphasize research or creative activities and require a thesis that is defended formally in a public setting and made publicly accessible through the university archive.
- Professional programs emphasize the application of advanced knowledge and skills and require a project, capstone course, series of practicums, recital, or comprehensive examination.

Both scholarly and professional master's programs involve substantial study beyond the baccalaureate degree, impart the methodology of discovery or creation in a given discipline, and prepare students to contribute at an advanced level to the workplace and to the community.

Degree Requirements

Advisor or Supervisory Committee

A student admitted to a master's program must be under the guidance of either a supervisory committee or an advisor appointed soon after admission (see Graduate Student Advising).

Credit Requirements

The program of study leading to a master's degree must include at least 30 total credits. All credit applied to meet the total credit requirement must be graduate academic credit except that a limited number of credits earned in undergraduate courses outside the major are allowed. At least two thirds (2/3) of the total credit requirement must be earned at Boise State University after admission to the master's program. All credit must be approved for application by the chair of the supervisory committee or the advisor.

Language Proficiency

A master's student must be proficient in English and may be required to demonstrate a prescribed level of ability in one or more other languages. If language ability beyond proficiency in English is required, the means of verification are defined by the graduate program.

Culminating Activity

The program of study leading to a master's degree must include at least one culminating activity that may be a thesis, project, portfolio, capstone course, series of practicums, performance recital or lecture recital, or comprehensive examination. The culminating activity or activities should be represented in the program by nonzero credit but cannot exceed one third (1/3) of the total credit requirement. Exceptions to the culminating activity requirement can be made by a master's program and must be approved by the Graduate Council.

Final Oral Examination A student enrolled in a master's program with a thesis requirement must pass a final oral examination that probes his or her ability to describe and defend all aspects of the thesis in both a public setting and a private conference with a supervisory committee.

Duration of Graduate Study

The minimum duration of study for the master's degree is one (1) academic year after admission to the program. All requirements for a master's degree (including transfer courses) must be started and completed within a single continuous interval of no more than seven (7) years. This single continuous interval includes summers and any semesters in which the student is not enrolled. In addition, it must encompass all courses applied to the degree, including transfer courses.

Restrictions on Certain Courses

All master's programs must be consistent with the following restrictions. A particular master's program may impose more stringent restrictions for that program.

Aggregate Restriction

No more than one third (1/3) of the total credit requirement exclusive of culminating activity credit can be met by the aggregate of credits earned in undergraduate courses, pass-fail courses, and university-wide courses numbered 590, 594-596, 598, and 696 (or equivalent courses that may appear as transfer credits). An exception to this restriction may be considered when the courses are outside the major field of study, are taken to expand interdisciplinary or transdisciplinary educational experiences, and are approved by the graduate program and the Graduate College by an academic adjustment.

Undergraduate Courses

An undergraduate course may be applied to meet the credit requirements of a master's degree subject to the following restrictions:

1. The course must be an upper-division course and must be in a discipline outside the major field of study of the master's program.
2. A grade of B or better must be earned in the course.
3. The course cannot represent effort for an undergraduate thesis, internship, practicum, independent study or research, conference or workshop, experiential learning, study abroad, seminar, or colloquium.

Previously Applied Courses

In general, any course applied to a previously earned degree of any type at any institution cannot be applied to meet the credit requirements of a master's program. The only exception is a course that qualifies for application under regulations for a second master's degree at Boise State University or an accelerated master's degree. Each course allowed under this exception is subject to the following additional restrictions:

1. A grade of B or better must have been earned in the course.
2. The course cannot represent effort for a graduate culminating activity or for experiential learning.

Courses allowed under this exception are limited by any stipulations that apply to the requirements for second master's degrees and accelerated master's degrees. Courses allowed under this exception are also limited by the fundamental requirement that at least two

thirds (2/3) of the total credit requirement for the master's degree must be earned at Boise State University after admission to the graduate program.

Thesis

A thesis documents original research or creative activity carried out by a student enrolled in a master's program. A research thesis is characterized by a clearly stated proposition or hypothesis that is investigated using analysis and synthesis of data or other scholarly evidence. The thesis must include a discussion of the relevant literature and demonstrate the ability of the student to independently and successfully address a significant intellectual problem with concepts and methods that are accepted in the major field of study. A creative thesis includes works of fiction, poetry, and creative nonfiction and is associated with the Master of Fine Arts in Creative Writing program.

Thesis Proposal A thesis proposal must be approved in advance by the supervisory committee. The thesis proposal presents the background, objectives, scope, methods, and time lines of the thesis research. Substantive work done by the student prior to the appointment of the supervisory committee or work represented by credit other than 593 Thesis (such as 596 Independent Study and 696 Directed Research) is not acceptable for the thesis under any conditions.

Registration for Thesis Credit A master's student must register for at least one (1) credit of 593 Thesis in any semester or session in which the student is engaged in thesis activity, including the semester or session of the final oral examination, regardless of the number of 593 Thesis credits already accumulated by the student. The student cannot undertake the final oral examination unless enough 593 Thesis credit has been accumulated to meet the degree requirement for such credit. The student is not required to register for 593 Thesis credit in the semester or session subsequent to the semester or session in which the Graduate College receives the format review copy of the thesis and the Final Reading Approval pages signed by the chair of the supervisory committee (or designee). The student must submit the format review copy and the signed Final Reading Approval pages to the Graduate College no later than the last day of the final exam week of the semester or session. Failure to meet this deadline will require the student to register for at least one credit of 593 Thesis in the subsequent semester or session.

Thesis Grading All 593 Thesis credits are graded in-progress (IP) until a final grade of either pass (P) or fail (F) is assigned by the master's program. A grade of pass (P) is assigned to all 593 credits if the final oral examination is passed, and a grade of fail (F) is assigned to all 593 credits if the student fails the final oral examination. See *Final Oral Examination and Failure of a Final Oral Examination* below.

Final Thesis Approvals and Procedures A grade of pass (P) in all 593 credits is not sufficient to satisfy the thesis requirement for a master's degree and does not clear a student for graduation. A thesis that has been successfully defended by the student at the final oral examination must also:

1. Be granted final reading approval by the major advisor (chair of the supervisory committee).
2. Include an Access Agreement for a Thesis or Dissertation

form describing conditions for archiving and publishing the dissertation through ScholarWorks.

3. Include a page that contains the research protocol number and a statement that the protocol has been approved by the appropriate Office of Research Compliance (ORC) committee Institutional Review Board (IRB), Institutional Animal Care and Use Committee (IACUC), or Institutional Biosafety Committee (IBC).
4. Pass the format review of the Graduate College.
5. Be approved by the Graduate Dean.

Project

A project is a substantial exercise that demonstrates the ability of a master's student to independently and successfully carry out a professional activity similar to what may be encountered in the workplace. Although a final oral examination for a project is not required by the Graduate College, the master's program may define procedures for such an examination and require it for all students in the program. The Graduate College does not archive projects and does not require that graduate programs archive projects. However, it is permissible for a program to adopt local regulations and implement procedures for archiving some or all projects produced in a particular graduate program. This flexibility acknowledges the great diversity of projects across disciplines and the differing views on their archival value.

Registration for Project Credit A master's student who is engaged in project activity during any semester or term, including the semester or term in which the project in final form is assigned a grade, must register for at least one (1) credit of 591 Project, regardless of the number of 591 Project credits already accumulated by the student.

Project Grading All 591 Project credits are graded in-progress (IP) until a final grade of either pass (P) or fail (F) is assigned by the academic unit responsible for the program. The same grade (P or F) is assigned to all 591 credits registered by the student during his or her career in the master's program.

Portfolio

A portfolio is a substantial collection of selected work that demonstrates the student's efforts, progress, and accomplishments in one or more areas of the curriculum. The portfolio is a culminating activity, although students should begin the process early by discussing with faculty how to plan and organize their portfolio. This is followed by the collection of examples of work throughout their academic careers that demonstrate, for example, knowledge of a subject, mastery of a learning process, publishable scholarship or completion of special projects, themes, and/or creative activity. A portfolio must contain the student's thoughts about the learning process, demonstrate the grasp of key information and/or exhibit the development of crucial skills. These reflections can take the form of learning logs, reflective journals, and other forms, as appropriate. The credit(s) awarded should reflect the work required to assemble the portfolio.

Registration for Portfolio Credit The number of required 592 Portfolio credits is determined by the master's program. The student registers for the number of required 592 Portfolio credits during the semester when the portfolio is expected to undergo final evaluation and be assigned a grade.

Portfolio Grading All 592 Portfolio credits are graded either pass (P) or fail (F). However, if the final evaluation of a portfolio is delayed, then at the discretion of the academic unit responsible for the program, all 592 Portfolio credits may be assigned a grade of in progress (IP). A grade of in-progress (IP) is converted to either pass (P) or fail (F) after the portfolio has undergone final evaluation.

Capstone Course

A capstone course is a graduate course that serves as a final comprehensive assessment of the knowledge and skills of a master's student in the major field of study. As a culminating activity, a capstone course is taken in the last semester of a master's program and may be a grade-point course or pass-fail course. A capstone course may be designated with a program-specific graduate course number or the university-wide graduate course 692 Capstone Course.

A student who receives a grade of F in a capstone course may not graduate in that semester or term, regardless of whether the student is otherwise qualified to do so. A failed capstone course may be repeated (see *Repetition of Courses* in the *Graduate Academic Regulations* section). If repeating a capstone course, a student must enroll for the number of credits required by the course.

Series of Practicums

A practicum is a supervised practical application of previously studied theory that takes place in a professional, clinical, or field setting. The culminating activity for a master's program may be a series of practicums completed primarily during the later phases of the program. A practicum may be designated with a program-specific graduate course number or may use university-wide graduate course 590 Practicum/Internship.

Performance Recital or Lecture Recital

A performance recital or lecture recital coupled with one or more examinations may be used as a culminating activity for a master's program in the performing arts. A performance recital or lecture recital is designated with a program-specific graduate course number and must be a pass-fail course.

Comprehensive Examination

A comprehensive examination assesses depth and breadth of knowledge. When used as the culminating activity or as part of the culminating activity for a master's program, a comprehensive examination cannot be attempted until the student has completed all core courses required by the program and has been admitted to candidacy. The program may impose additional conditions to be met by the student prior to the examination, such as completion of all courses required for the degree.

Considerable autonomy is granted to the graduate program in the design, administration, and evaluation of a master's comprehensive examination. However, the student must be registered for at least one (1) credit of 690 Master's Comprehensive Examination during the semester or term of the first attempt at the comprehensive examination, and the examination must be administered in time to process and submit the grade when grade reports are due in the Office of the Registrar. If the student passes the comprehensive examination, a grade of pass (P) is submitted for the 690 credit(s). If the student fails the comprehensive examination, then the program

follows the procedure described for failure of a comprehensive examination.

Failure of a Comprehensive Examination

Failure of a comprehensive examination (any attempt by a master's student) is documented by submission of a *Report of Failure of a Comprehensive Examination* form to the Graduate College and by submitting the appropriate grade for 690 Master's Comprehensive Examination. A comprehensive examination that is failed on the first attempt can be repeated once, but only if a second attempt is requested by the student and approved by the master's program. The request by the student for a second attempt must be in writing to the Graduate Program Coordinator and must be made within five (5) working days after the student is notified of his or her failure. If a second attempt is not requested by the student, or if a request is made by the student but not approved by the graduate program, then a grade of fail (F) is assigned to the 690 credit(s) and the student is dismissed from the program and Boise State University by the Graduate College. If the student's request is approved by the program, then the second attempt must occur within twelve (12) months after the first attempt, and an incomplete grade (I) is assigned to the 690 credit(s) until the result of the second attempt is known. If the student does not make the second attempt within twelve (12) months after the first attempt, or if the student fails the second attempt, then a grade of fail (F) is assigned to the 690 credit(s) and the student is dismissed from the program and Boise State University by the Graduate College. Any extension of the twelve-month limit on the second attempt must be approved by the graduate program and by the Graduate Dean.

Final Oral Examination

The Graduate College requires a final oral examination (also called a defense) for a master's student only if the student is completing a thesis as a culminating activity. The examination must consist of three sequential parts in which the student presents and defends the thesis research:

1. A public presentation
2. A public question and answer session
3. A private question and answer session with the defense committee

The final oral examination should occur no later than the date specified in the academic calendar. This date is set to allow time for final revision and processing of the thesis so that a student who passes the final oral examination has a reasonable chance for graduation in the same semester or session. Announcement of the public presentation to the university community is required and should precede the presentation by at least two (2) weeks.

The defense committee for a master's student is identical to the student's supervisory committee, and the chair of the supervisory committee is responsible for conducting all three parts of the final oral examination according to procedures established by the Graduate College. However, at the request of the student or academic unit, a graduate faculty representative (GFR) may be appointed as a nonvoting member to the defense committee by the Graduate Dean. The GFR must be a member of the Graduate Faculty and a member of an academic unit not represented on the supervisory committee. The GFR conducts all three parts of the final oral examination according to procedures established by the Graduate College.

The result of a final oral examination for a master's student can only be reported as pass or fail. The determination of pass or fail is by a vote of the voting members of the defense committee with a simple majority determining the outcome unless the graduate program requires a unanimous vote for pass. If a tie vote occurs, then the student is considered to have failed the final oral examination. A result of pass is immediately documented by the signatures of the voting members of the defense committee on the *Defense Committee Approval* form that is to be bound with the paper copies of the thesis. A result of fail is immediately documented on a *Report of Failure of a Final Oral Examination* form that is submitted to the Graduate College by either the chair of the supervisory committee or the GFR.

Failure of a Final Oral Examination

Failure of a final oral examination (any attempt by a master's student) is documented by submission of a *Report of Failure of a Final Oral Examination* form to the Graduate College and by submitting the appropriate grade for 690 Masters Comprehensive Examination. A final oral examination that is failed on the first attempt can be repeated once, but only if a second attempt is requested by the student and approved by the graduate program. The request by the student for a second attempt must be in writing to the Graduate Program Coordinator and must be made within five (5) working days after the student is notified of his or her failure. If a second attempt is not requested by the student, or if a request is made by the student but not approved by the graduate program, then a grade of (F) is assigned to all 593 credits and the student is dismissed from the program and Boise State University by the Graduate College. If the student's request is approved by the academic unit, then the second attempt must occur within twelve (12) months after the first attempt, and IP grades are maintained for all 593 credits until the result of the second attempt is known. If the student does not make the second attempt within twelve (12) months after the first attempt, or if the student fails the second attempt, then a grade of (F) is assigned to all 593 credits and the student is dismissed from the program and Boise State University by the Graduate College. Any extension of the twelve-month limit on the repeat attempt must be approved by the graduate program and by the Graduate Dean.

Second Master's Degree

Students who have earned a master's degree from Boise State University may earn a second master's degree in another discipline under the following guidelines:

1. The student must meet all requirements prescribed for the second degree.
2. Requirements for the second degree that have already been met as part of the first master's degree may be counted toward the second degree with the following stipulations:
 - The supervisory committee and Graduate Dean approve.
 - Credit for culminating activities is automatically excluded from application to both degrees.
 - At least two thirds (2/3) of the credit applied to the second degree must represent new course work; that is, courses not already applied to the first degree.
3. All requirements for the second degree (including transfer courses must be started and completed within a single continuous interval of no more than seven (7) years.

4. A student cannot be admitted to a second master's degree program until all requirements for the first master's degree have been completed.

Accelerated Master's Degree

An academic unit responsible for a specific existing undergraduate degree program and specific existing master's degree program may develop a process that allows certain students in the undergraduate degree program to pursue the master's degree on an accelerated schedule. These students register for a limited number of graduate courses in the last two (2) semesters of their undergraduate program with the understanding that graduate credits earned in these courses can be used to satisfy both bachelor's and master's degree requirements. The remaining requirements for the master's degree are satisfied by the student in the semesters subsequent to the award of the bachelor's degree. All requirements for both the bachelor's degree and master's degree must be met. In addition, the early start on the master's degree requirements must not delay receipt of the bachelor's degree beyond a nominal four-year schedule for that discipline. Students who work toward an accelerated master's degree are subject to all academic performance requirements of the Graduate College, including cumulative GPA, program GPA, and individual course grade requirements.

Because it is critically important to maintain the high intellectual quality of a graduate program, the program is required to carefully consider the overall readiness of an undergraduate student when recommending that the student be allowed to pursue a master's degree on an accelerated schedule. The process developed by the program for judging the overall readiness of a student must require that the student meet at least two GPA measures computed after the student completes 75 undergraduate credits toward the bachelor's degree:

1. An overall GPA of at least 3.0
2. A GPA of at least 3.3 computed for undergraduate courses chosen by the graduate program because of their importance to the undergraduate and master's degree programs.

In order to better judge the overall readiness of the student, a graduate program may require higher GPA measures than those indicated here, and may require that the student meet additional stipulations for eligibility. Meeting these eligibility requirements does not guarantee that a student will be permitted to pursue an accelerated master's degree. As is the case with all graduate admission decisions, the Graduate Dean is responsible for making the final decision on whether or not an undergraduate student is permitted to work on a master's degree on an accelerated schedule. Undergraduate students at other colleges and universities are not eligible to work on an accelerated master's degree at Boise State University.



Questions About These Regulations?

Contact the Graduate College
 Riverfront Hall, Room 307
 (208) 426-3903
<http://graduatecollege.boisestate.edu/>
 E-mail: gradcoll@boisestate.edu

Regulations for Education Specialist Programs

Description

The Education Specialist (Ed.S.), is an advanced degree specifically designed for individuals who wish to develop advanced knowledge and theory beyond the master's degree, but may not wish to pursue a doctoral degree. At Boise State University, admission requirements include a master's degree from a regionally accredited U.S. institution of higher education or from a non-U.S. institution of higher education that is judged equivalent to a U.S. master's degree by the International Admissions Office, along with other Graduate College and program-specific requirements.

Degree Requirements

The curriculum of an Ed.S. program is a set of academic courses identified by the university as suitable for properly qualified students. The curriculum may include both specific courses and a selection of elective courses.

Credit Requirements

At least two thirds (2/3) of the total credit requirement must be earned at Boise State after admission to the graduate program. All credit must be approved for application by the graduate program. All credit applied to meet the total credit requirement for an Ed.S. degree must be graduate academic credit except that a limited number of credits earned in undergraduate courses outside the major are allowed.

Culminating Activity

A culminating activity may not be required for an Ed.S. program but is not precluded from being a requirement. If a culminating activity is required, it must be represented in the total credit requirements using an appropriate course.

Duration of Graduate Study

All requirements for an Ed.S. (including transfer courses) must be started and completed within a single continuous interval of no more than seven (7) years, although a graduate program may require a shorter interval of study for specific types of course. This single continuous interval includes summers and any semesters in which the student is not enrolled. In addition, it must encompass all courses applied to the degree, including transfer courses. For the Ed.S. in the Educational Technology program, any transfer credits must have been taken with five (5) calendar years of the time of admission to the program, as well as meet other Graduate College requirements.

Restrictions on Certain Courses

All Ed.S. programs must be consistent with the following restrictions. A particular Ed.S. program may impose more stringent restrictions for that program.

Aggregate Restriction

No more than one third (1/3) of the total credit requirements (exclusive of any culminating activity that may be required) can be met by the aggregate of credits earned in undergraduate courses, pass-fail courses, and university-wide courses numbered 590, 594-596, 598, and 696 (or equivalent courses that may appear as transfer credits). An exception to this restriction may be considered when the courses are outside the major field of study, are taken to expand interdisciplinary or transdisciplinary experiences, and are approved by the graduate program and the Graduate College by an academic adjustment.

Undergraduate Courses

An undergraduate course may be applied to meet the credit requirements of an Ed.S. degree subject to the following restrictions:

1. The course must be an upper-division course and must be in a discipline outside the major field of study of the Ed.S. program.
2. A grade of B or better must be earned in the course.
3. The course cannot represent effort for an undergraduate thesis, internship, practicum, independent study or research, conference or workshop, experiential learning, study abroad, seminar, or colloquium.

Previously Applied Courses

In general, any course applied to a previously earned degree or certificate of any type at any institution cannot be applied to meet the credit requirements of an Ed.S. program. An exception that applies to a specific graduate program may be approved by the Graduate Council.



Questions About These Regulations?

Contact the Graduate College
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Regulations for Doctoral Programs

Description

Boise State University offers two doctoral degrees with an in-depth focus on academic research: Doctor of Philosophy (Ph.D.) and Doctor of Education (Ed.D.). Each requires demonstration of expertise in a major field of study, a working understanding of one or more related disciplines, independent research leading to a significant and original contribution to knowledge, and (in some cases) proficiency in one or more foreign languages. Recipients of the Ph.D. and Ed.D. degree generally engage in careers of active scholarship in a wide variety of employment settings.

Boise State University also offers a Doctor of Nursing Practice (DNP) degree. This is the highest degree for practice-focused nurses providing direct or indirect care to patients, families, organizations or populations; engaged as faculty in nursing programs; leading health related organizations; developing and implementing health policy; and translating research into evidence-based practice. Information about the DNP degree can be found on the School of Nursing website at <https://hs.boisestate.edu/dnp/>.

This section describes policies that apply to Ph.D. and Ed.D. degree programs.

Degree Requirements

Supervisory Committee A student admitted to a Ph.D. or Ed.D. program must be under the guidance of a supervisory committee. (see *Guidance of Graduate Students* in the *Graduate Academic Regulations* section of this catalog.)

Credit Requirements

The program of study leading to a Ph.D. or Ed.D. degree must satisfy the following minimum credit requirements:

- 66 total credits, at least half of which must be earned in courses exclusive of dissertation.
- All credit applied to meet the credit requirements must be graduate academic credit except that a limited number of credits earned in undergraduate courses outside the major field of study are allowed.
- At least two thirds (2/3) of the total credit requirement must be earned at Boise State after admission to the program and must be approved for application by the supervisory committee.

Residency Each Ph.D. and Ed.D. student must spend at least one academic year in full-time, on-campus graduate study at Boise State University. Every Ph.D. and Ed.D. student must fulfill this residency requirement or fulfill a substitute requirement or plan that is developed by the program and approved by the Graduate Council.

Comprehensive Examination

Each Ph.D. and Ed.D. student must pass a comprehensive examination that assesses:

- depth and breadth of knowledge in the major field of study and in one or more related disciplines.
- readiness to undertake dissertation research.

Language Proficiency

Each Ph.D. and Ed.D. student must be proficient in English and may be required to demonstrate a prescribed level of ability in one or more other languages. If language ability beyond proficiency in English is required, the means of verification are defined by the program.

Dissertation

Each Ph.D. and Ed.D. student must prepare a dissertation written in clear and effective English that embodies the results of his or her original scholarly research (see *Dissertation* below).

Final Oral Examination Each Ph.D. and Ed.D. student must pass a final oral examination that rigorously and deeply probes the ability of the candidate to describe and defend all aspects of the dissertation research in both a public setting and in a private conference the defense committee (see *Final Oral Examination* below).

Duration of Graduate Study

The minimum duration of study for the Ph.D. and Ed.D. degree is three (3) academic years beyond the baccalaureate degree. All requirements for a Ph.D. or Ed.D. degree (including transfer courses) must be started and completed within a single continuous interval of no more than ten (10) years. This single continuous interval includes summers and any semesters in which the student is not enrolled. In addition, it must encompass all courses applied to the degree, including transfer courses.

Restrictions on Certain Courses

All Ph.D. and Ed.D. programs must be consistent with the following restrictions. A particular Ph.D. or Ed.D. program may impose more stringent restrictions for that program.

Aggregate Restriction

No more than one third (1/3) of the total credit requirement exclusive of culminating activity credit (693 Dissertation) can be met by the aggregate of credits earned in undergraduate courses, pass-fail courses, and university-wide courses numbered 590, 594-596, 598, and 696 (or equivalent courses that may appear as transfer credits). An exception to this restriction may be considered when the courses are outside the major field of study, are taken to expand interdisciplinary or transdisciplinary educational experiences, and are approved by the graduate program and the Graduate College by an academic adjustment.

Undergraduate Courses

An undergraduate course may be applied to meet the credit requirements of a Ph.D. or Ed.D. degree subject to the following restrictions:

1. The course must be an upper-division course and must be in a discipline outside the major field of study of the program.
2. A grade of B or better must be earned in the course.
3. The course cannot represent effort for an undergraduate thesis, internship, practicum, independent study or research, conference or workshop, experiential learning, study abroad, seminar, or colloquium.

Doctoral Programs Regulations

Previously Applied Courses

In general, any course applied to a previously earned degree or certificate of any type at any institution cannot be applied to meet the credit requirements of a Ph.D. or Ed.D. degree. The only exception is a course applied to a master's degree previously earned at a regionally accredited U.S. institution or non-U.S. institution approved by the Graduate College and the Registrar. Each course allowed under this exception is subject to the following additional restrictions:

1. A grade of B or better must have been earned in the course.
2. The course cannot represent effort for a graduate culminating activity or for experiential learning.

Courses allowed under this exception are limited by the fundamental requirement that at least two-thirds (2/3) of the total credit requirement for the degree must be earned after admission to the program. An exception to this requirement is that students who have completed an Ed.S. degree at Boise State and enroll in a related Ed.D. degree may apply all of the credits previously applied to the Ed.S. degree to the Ed.D. degree. This is known as dual application and is subject to the following stipulations:

1. The dual application of credit must be consistent with those policies of the Ed.D. program that may limit or preclude such dual application.
2. The dual application of credit must be approved by the student's advisor or by the chair of the supervisory committee.
3. All time constraints imposed by the Graduate College that govern the applicability of the credit must be met.

Comprehensive Examination

Considerable autonomy is granted to the program in the design, administration, and evaluation of the comprehensive examination for a Ph.D. or Ed.D. student. However, the student must be in regular status and registered for at least one credit of 691 Doctoral Comprehensive Examination during the semester or term of the first attempt at the comprehensive examination, and the examination must be administered in time to process and submit the grade when grade reports are due in the Office of the Registrar. If the student passes the comprehensive examination, a grade of pass (P) is submitted for the 691 credit(s). If the student fails the comprehensive examination, then the program follows the procedure described in *Failure of the Comprehensive Examination* (below).

Failure of the Comprehensive Examination

Failure of the comprehensive examination (any attempt by a Ph.D. or Ed.D. student) is documented by submission of a *Report of Failure of a Comprehensive Examination* form to the Graduate College and by submitting the appropriate grade for 691 Doctoral Comprehensive Examination. A comprehensive examination that is failed on the first attempt can be repeated once, but only if a second attempt is requested by the student and approved by the program. The request by the student for a second attempt must be in writing to the Graduate Program Coordinator and must be made within five (5) working days after the student is notified of his or her failure. If a second attempt is not requested by the student, or if a request is made by the student but not approved by the program, then a grade

of F is assigned to the 691 credit(s) and the student is dismissed from the program and Boise State University by the Graduate College. If the student's request is approved by the program, then the second attempt must occur within twelve (12) months after the first attempt, and an incomplete grade (I) is assigned to the 691 credit(s) until the result of the second attempt is known. If the student does not make a second attempt within twelve (12) months after the first attempt, or if the student fails the second attempt, then a grade of F is assigned to the 691 credit(s) and the student is dismissed from the program and Boise State University by the Graduate College. Any extension of the twelve-month limit on the second attempt must be approved by the program and by the Graduate Dean.

Dissertation

Original research carried out by a student at the doctoral level is documented by a dissertation. A dissertation is characterized by a clearly stated proposition or hypothesis that is investigated using analysis and synthesis of data or other scholarly evidence. The dissertation must demonstrate mastery of the relevant literature and the ability of the student to independently and successfully address a substantial intellectual problem with concepts and methods that are accepted in the major field of study.

Dissertation Proposal A dissertation proposal must be approved in advance of the dissertation research by the supervisory committee. The dissertation proposal presents the background, objectives, scope, methods and time lines of the dissertation research. Substantive work done by the student prior to the appointment of the supervisory committee or work represented by credit other than 689 Dissertation Proposal or 693 Dissertation (such as 596 Independent Study and 696 Directed Research) is not acceptable for the dissertation under any conditions.

Registration for Dissertation Credit A Ph.D. or Ed.D. student must register for at least one (1) credit of 693 Dissertation in any semester or session in which the student is engaged in dissertation activity, including the semester or session of the final oral examination, regardless of the number of 693 Dissertation credits already accumulated by the student. The student cannot undertake the final oral examination unless enough 693 Dissertation credit has been accumulated to meet the degree requirement for such credit. The student is not required to register for 693 Dissertation credit in the semester or session subsequent to the semester or session in which the Graduate College receives the format review copy of the dissertation and the *Final Reading Approval* pages signed by the chair of the supervisory committee (or designee). The student must submit the format review copy and the signed *Final Reading Approval* pages to the Graduate College no later than the last day of the final exam week of the semester or session. Failure to meet this deadline will require the student to register for at least one credit of 693 Dissertation in the subsequent semester or session.

Dissertation Grading All 693 Dissertation credits are graded in-progress (IP) until a final grade of either pass (P) or fail (F) is assigned by the academic unit responsible for the program. A grade of pass (P) is assigned to all 693 credits if the final oral examination is passed, and a grade of fail (F) is assigned to all 693 credits if the student fails the final oral examination.

Final Dissertation Approvals and Procedures A grade of pass (P) in all 693 credits is not sufficient to satisfy the dissertation requirement for a Ph.D. or Ed.D. degree and does not clear a student for graduation. A dissertation that has been successfully defended by the student at the final oral examination must also:

1. be granted final reading approval by the major advisor (chair of the supervisory committee)
2. include an *Access Agreement for a Thesis or Dissertation* form describing conditions for archiving and publishing the dissertation through *ScholarWorks*.
3. include a page that contains the research protocol number and a statement that the protocol has been approved by the appropriate Office of Research Compliance (ORC) committee – Institutional Review Board (IRB), Institutional Animal Care and Use Committee (IACUC), or Institutional Biosafety Committee (IBC).
4. pass the format review of the Graduate College
5. be approved by the Graduate Dean

Final Oral Examination

The final oral examination for a Ph.D. or Ed.D. student (also called a defense) must consist of three sequential parts in which the student presents and defends the dissertation research:

1. A public presentation
2. A public question and answer session
3. A private question and answer session with the defense committee.

The final oral examination should occur no later than the date specified in the academic calendar. This date is set to allow time for final revision and processing of the dissertation so that a student who passes the final oral examination has a reasonable chance for graduation in the same semester or session. Announcement of the public presentation to the university community is required and should precede the presentation by at least two (2) weeks. The defense committee must include the entire supervisory committee plus a nonvoting Graduate Faculty Representative (GFR) who is appointed by the Graduate Dean. The GFR must be a member of the graduate faculty and a member of a graduate program not represented on the supervisory committee. The GFR conducts all three parts of the final oral examination according to procedures established by the Graduate College. At the request of the Ph.D. or Ed.D. program, the Graduate Dean may appoint an additional voting member to the defense committee known as the external examiner. The external examiner may be from the university or from outside the university but cannot be a member of the graduate program responsible for Ph.D. or Ed.D. degree. The result of a final oral examination for a Ph.D. or Ed.D. student can only be reported

as pass or fail. The determination of pass or fail is by a vote of the voting members of the defense committee with a simple majority determining the outcome unless the graduate program requires a unanimous vote for pass. If a tie vote occurs, then the student is considered to have failed the final oral examination. A result of pass is immediately documented by the signatures of the voting members of the defense committee on the Defense Committee Approval form that is to be bound with the paper copies of the thesis. A result of fail is immediately documented on a *Report of Failure of a Final Oral Examination* form that is submitted to the Graduate College by the GFR.

Failure of the Final Oral Examination

Failure of a final oral examination (any attempt by a Ph.D. or Ed.D. student) is documented by submission of a *Report of Failure of a Final Oral Examination* form to the Graduate College and by submitting the appropriate grade for 693 Dissertation. A final oral examination that is failed on the first attempt can be repeated once, but only if a second attempt is requested by the student and approved by the graduate program. The request by the student for a second attempt must be in writing to the Graduate Program Coordinator and must be made within five (5) working days after the student is notified of his or her failure. If a second attempt is not requested by the student, or if a request is made by the student but not approved by the program, then a grade of F is assigned to all 693 credits and the student is dismissed from the program and Boise State University by the Graduate College. If the student's request is approved by the graduate program, then the second attempt must occur within twelve (12) months after the first attempt, and IP grades are maintained for all 693 credits until the result of the second attempt is known. If the student does not make a second attempt within twelve (12) months after the first attempt, or if the student fails the second attempt, then a grade of F is assigned to all 693 credits and the student is dismissed from the program and Boise State University by the Graduate College. Any extension of the twelve-month limit on the repeat attempt must be approved by the graduate program and by the Graduate Dean.



Questions About These Regulations?

Contact the Graduate College
 Riverfront Hall, Room 307
 (208) 426-3903
<http://graduatecollege.boisestate.edu/>
 E-mail: gradcoll@boisestate.edu

Summary of Programs and Courses

Table 8
Graduate Degrees and Certificates Offered at Boise State University

Department	Degree	Program	Page
College of Arts and Sciences			
Anthropology	M.A.	Master of Arts in Anthropology	74
	M.A.A.	Master of Applied Anthropology	75
Art	M.A.	Master of Arts in Art Education	76
	M.F.A.	Master of Fine Arts, Visual Arts	77
Biological Sciences	Ph.D.	Doctor of Philosophy in Ecology, Evolution, and Behavior	78
	M.A.	Master of Arts in Biology	81
	M.S.	Master of Science in Biology	82
	M.S.	Master of Science in Raptor Biology	83
Chemistry and Biochemistry	M.S.	Master of Science in Chemistry	100
Communication	M.A.	Master of Arts in Communication	107
English	M.A.	Master of Arts in English, Literature	159
	M.A.	Master of Arts in English, Rhetoric and Composition	159
	M.A.	Master of Arts in Teaching English Language Arts	161
	M.A.	Master of Arts in Technical Communication	162
	Certificate	Technical Communication	163
Geosciences	Ph.D.	Doctor of Philosophy in Geophysics	167
	Ph.D.	Doctor of Philosophy in Geosciences	168
	M.ESci.	Master of Earth Science	169
	M.S.	Master of Science in Geoscience	170
	M.S.	Master of Science in Geophysics	171
	Certificate	Geographic Information Analysis	172
History	M.A.	Master of Arts in History	177
	M.A.H.R.	Master of Applied Historical Research	178
Interdisciplinary Studies Program	M.A.	Master of Arts in Interdisciplinary Studies	180
	M.S.	Master of Science in Interdisciplinary Studies	180
Mathematics	M.S.	Master of Science in Mathematics	193
	M.S.	Master of Science in Mathematics Education	194
Music	M.M.	Master of Music, Music Education	201
	M.M.	Master of Music, Performance	201
Theatre Arts	M.F.A.	Master of Fine Arts in Creative Writing	122

Continued

Graduate Degrees and Certificate Programs Offered continued			
Department	Degree	Program	Page
College of Business and Economics			
Accountancy	M.S.	Master of Science in Accountancy	71
	M.S.	Master of Science in Accountancy, Taxation	72
Economics	M.Ec.	Master of Economics	144
	M.S.	Master of Science in Economics	144
College of Business and Economics	M.B.A.	Master of Business Administration Full Time Program Online Program Part Time Program	91
	M.B.A.	Executive Master of Business Administration	95
	M.B.O.E.	Executive Master of Business Operational Excellence	96
College of Education			
College of Education	Ed.D.	Doctor of Education in Curriculum and Instruction	126
Counselor Education	M.A.	Master of Arts in Counseling Addiction Counseling Cognate School Counseling Cognate	118
Curriculum, Instruction, and Foundational Studies	Ed.S.	Education Specialist in Executive Educational Leadership	128
	M.A.	Master of Arts in Education, Curriculum and Instruction	129
	M.Ed.	Master of Education in Educational Leadership	130
	M.S.	Master of Science in STEM Education	130
	Certificate	Mathematical Teaching for Instruction	131
	Certificate	Teaching	132
Early and Special Education	M.Ed.	Master of Education in Early and Special Education	137
	M.I.T.	Master in Teaching in Early Childhood Intervention	138
	M.I.T.	Master in Teaching in Special Education	139
	Certificate	Behavioral Interventions and Supports	139
	Certificate	Early Childhood Intervention Services and Supports	140
	Certificate	Early Childhood Special Education	140
	Certificate	Habilitative Services and Supports	141
	Certificate	Special Education Services and Supports	141
Educational Technology	Ed.D.	Doctor of Education in Educational Technology	146
	Ed.S.	Education Specialist in Educational Technology	147
	M.E.T.	Master of Educational Technology	147
	M.S.	Master of Science in Educational Technology	147
	Certificate	Educational Games and Simulations	148
	Certificate	Online Teaching	149
	Certificate	School Technology Coordination	149
	Certificate	Technology Integration Specialist	150
Literacy, Language, and Culture	M.A.	Master of Arts in Education, Literacy	184
	M.Ed.	Master of Education in Bilingual Education	185
	M.Ed.	Master of Education in English as a New Language	186

Continued

Summary of Programs and Courses

Graduate Degrees and Certificate Programs Offered continued			
Department	Degree	Program	Page
College of Engineering			
Civil Engineering	M.Engr.	Master of Engineering in Civil Engineering	103
	M.S.	Master of Science in Civil Engineering	103
Computer Science	M.S.	Master of Science in Computer Science	113
	Certificate	Computer Science Teacher Endorsement	114
Electrical and Computer Engineering	Ph.D.	Doctor of Philosophy in Electrical and Computer Engineering	153
	M.Engr.	Master of Engineering in Electrical and Computer Engineering	155
	M.S.	Master of Science in Electrical and Computer Engineering	155
Mechanical and Biomedical Engineering	M.Engr.	Master of Engineering in Mechanical Engineering	197
	M.S.	Master of Science in Mechanical Engineering	197
Organizational Performance and Workplace Learning	M.S.	Master of Science in Organizational Performance and Workplace Learning	211
	Certificate	Workplace E-Learning and Performance Support	211
	Certificate	Workplace Instructional Design	211
	Certificate	Workplace Performance Improvement	211
College of Health Sciences			
Community and Environmental Health	M.H.S.	Master of Health Science Health Policy Health Promotion Health Services Leadership	109
	Certificate	Health Services Leadership	111
Kinesiology	M.A.L.	Master of Athletic Leadership	181
	M.K.	Master of Kinesiology Behavioral Studies Biophysical Studies Socio-historical Studies	182
	M.S.	Master of Science in Kinesiology Behavioral Studies Biophysical Studies Socio-historical Studies	182
Nursing	D.N.P.	Doctor of Nursing Practice	204
	M.N.	Master of Nursing, Adult–Gerontology Nurse Practitioner, Acute Care Option	205
	M.N.	Master of Nursing, Adult–Gerontology Nurse Practitioner, Primary Care Option	205
	Certificate	Adult–Gerontology Nurse Practitioner—Acute Care	207
	Certificate	Adult–Gerontology Nurse Practitioner—Primary Care	207
	Certificate	Healthcare Simulation	208
Social Work	M.S.W.	Master of Social Work	227
	M.S.W.	Master of Social Work – Advanced Standing	227
School of Public Service			
Criminal Justice	M.A.	Master of Arts in Criminal Justice	123
Political Science	M.A.	Master of Arts in Political Science	215

Continued

Graduate Degrees and Certificate Programs Offered continued			
Department	Degree	Program	Page
Public Policy and Administration	Ph.D.	Doctor of Philosophy in Public Policy and Administration	217
	M.P.A.	Master of Public Administration General Public Administration Environmental, Natural Resource, and Energy Policy and Administration State and Local Government Policy and Administration	219
	Certificate	Conflict Management	221
	Certificate	Nonprofit Administration	222
Interdisciplinary Programs			
Biological Sciences/Chemistry and Biochemistry/Physics	Ph.D.	Doctor of Philosophy in Biomolecular Sciences	88
	M.S.	Master of Science in Biomolecular Sciences	89
Computer Science/Mathematics	Ph.D.	Doctor of Philosophy in Computing	117
Geosciences/Civil Engineering	M.S.	Master of Science in Hydrologic Sciences	179
Graduate College	Certificate	College Teaching	105
Materials Science and Engineering/Biological Sciences/Chemistry/Physics	Ph.D.	Doctor of Philosophy in Materials Science and Engineering	189
	M.Engr.	Master of Engineering in Materials Science and Engineering	189
	M.S.	Master of Science in Materials Science & Engineering	190
	Certificate	Computational Materials Science and Engineering	190
	Certificate	Foundations in Materials Science and Engineering	191
	Certificate	Nanomaterials Science and Engineering	191

How to Read a Course Description

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2
3
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6

BIOL 527 STREAM ECOLOGY (3-3-4)(F)(Odd years). The biology and ecology of flowing waters is emphasized; their biota, management, and ecology at both the community and ecosystem level will be discussed.

 PREREQ: BIOL 323 or PERM/INST.

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Course Numbering and Description Key

Each course at Boise State University has a course description that consists of a prefix, course number, title, credit code, semester code, additional information, content description, and list of requisites. These elements of the course description are described below.

- 1) Course prefix/Subject** The prefix indicates the department or academic unit offering the course.
- 2) Course numbering system** Each course offered is assigned a unique number, indicating what type of course it is and what sort of credits may be earned in the course. Courses are numbered as follows:
 - 00 – 99 non-academic credit courses
 - 100 – 299 lower-division undergraduate courses
 - 300 – 499 upper-division undergraduate courses
 - 500 – 699 graduate courses

3) Course title The official title of the course.

4) Credits The unique course number of each course is followed by a sequence of three numbers that indicate the number of classroom hours per week that the course meets, the number of special hours (laboratory, studio, field) per week that the course meets, and the number of credits a student earns by completing the course. The following examples show typical uses of these additional numbers:

- (3-0-3) a 3-hour lecture class carrying 3 credits
- (3-4-5) a 3-hour lecture class with a corresponding 4-hour laboratory class, carrying 5 credits

Note: a ‘V’ is used to indicate variable credits or hours.

5) Semester code The semester code indicates the semester(s) and/or term in which the course is offered and is expressed using letter codes F for fall semester, S for spring semester, and SU for summer term, with the full sequence of letter codes enclosed in parentheses. A comma or slash between letter codes is used to interpret combinations as illustrated in the following examples:

- (F) fall semester only
- (S) spring semester only
- (F,S) fall and spring semester
- (F/S) fall semester, spring semester, or both
- (F,SU) fall semester and summer session only
- (S,SU) spring semester and summer session only

If the semester code is not indicated, then the course is offered during the fall and spring semesters and summer session (although there may be some exceptions).

6) Additional information Additional information associated with the scheduling of the course such as a notice of alternate year offering may be given in parentheses after the semester code.

7) Requisites The list of requisites specifies any prerequisites and corequisites using the following abbreviations:

- PREREQ: prerequisite (condition to be met before enrollment)
- COREQ: corequisite (condition met before or during enrollment)
- PERM/INST: permission of instructor required to enroll
- PERM/CHAIR: permission of department chair required to enroll
- ADM/PROG: student must be admitted to the appropriate graduate program

The most common prerequisite is a specific course that must be successfully completed prior to enrollment. The most common corequisite is a laboratory course that must be taken during the same semester or term as a related science course.

Course Terminology

A **graded course** is any course in which the awarded grade is one of the traditional grades (A, B, C, D, or F) and a **pass-fail course** is any course in which the awarded grade is P (pass) or F (fail). A **graduate course** is any course offered with a course number between 500 and 699 inclusive; successful completion of a graduate course earns graduate credit.

Graduate courses are said to be **cross-listed** if they are offered by multiple academic units and have identical titles, credit codes, and content descriptions in each unit (such as BIOL 511 and BMOL 511).

Dual-listed courses are those offered by an academic unit at both the 400-level and 500-level with identical titles, credit codes, and content descriptions (such as GEOPH 420 and GEOPH 575).

A G-course is an upper-division undergraduate course marked with a G-suffix (such as ENGL 401G); successful completion of a G-course earns graduate credit if the student meets certain requirements (see *G-Courses and Dual-Listed Courses* in the *Graduate Academic Regulations* section).

University-Wide Graduate Courses

A university-wide graduate course represents a certain type of graduate activity with the same course number and title across all academic units. University-wide graduate courses 591 Project, 592 Portfolio, 593 Thesis, 690 Master's Comprehensive Examination, 692 Capstone Course, and 693 Dissertation represent work done on graduate culminating activities and are therefore known as culminating activity courses; some graduate programs have culminating activity courses that are numbered differently than these university-wide courses.

553 PROFESSIONAL EDUCATION (Variable Credit). Available at special fee rate (approximately one-third of part-time fee rate). Credit is awarded for professional development only and cannot be applied to a graduate degree program by policy of the State Board of Education. Either graded or pass/fail.

580-589 SELECTED TOPICS (Variable Credit). Subjects normally offered and studied in one department can be divided into as many as 10 areas. Each area will be assigned one number of the 580-589 group. Although the topics considered in the courses in any one area may vary from semester to semester, repeated use of any one number implies that the topics continue to be selected from the same area. Either graded or pass/fail.

590 PRACTICUM/INTERNSHIP (Variable Credit). To earn graduate credit you must have a 3.00 cumulative GPA and no more than 12 credits may be applied toward a graduate degree or second undergraduate degree. Some graduate programs, however, accept only 3 internship credits. Practicum/Internship cannot be repeated to improve a grade. Either graded or pass/fail.

Note: An undergraduate internship is an entry level employment experience related to the discipline. The graduate intern already has an undergraduate degree and is expected to perform with a higher level of responsibility, decision-making authority, and accomplishment.

591 PROJECT (Variable Credit). Execution of a substantial exercise that demonstrates the ability to successfully and independently carry out a professional activity similar to what is encountered in the professional workplace; archival of the results of the project is required according to standards approved by the Graduate College. Pass/fail only.

592 PORTFOLIO (Variable Credit). A broad-based selection of significant student work that is used to appraise student performance and professional development. A portfolio reflects the depth and breadth of a student's educational growth since entering the graduate program. Portfolios may include, but are not limited to, classroom examinations, journals, writing samples, publishable scholarship, professional projects, annotated bibliographies, and artistic endeavors. Pass/fail only.

593 THESIS (Variable Credit). Independent research or creative activity at the master's level resulting in a thesis that must be defended at a final oral examination and archived in the university library. The thesis must be written in clear and effective English and presented in a format that conforms to the standards of the Graduate College. Pass/fail only.

594 CONFERENCE OR WORKSHOP (Variable Credit). Intensive daily instruction by a recognized expert in a specialized topic over a period of time considerably shorter than a semester. Workshop credits may not transfer. Either graded or pass/fail.

595 READING AND CONFERENCE (Variable Credit). The conduct of topical research, assigned readings or literature review. The faculty advisor and the student prepare and sign an agreement describing the amount and type of work to be accomplished. Either graded or pass/fail.

596 INDEPENDENT STUDY (Variable Credit). Advanced study of a specialized topic; design and completion of a project may be included in the study. The student works with a high degree of independence to meet well-defined goals under the supervision of a member of the graduate faculty. Requires submission of a completed *Application for Graduate Independent Study* prior to the deadline specified in the academic calendar. An

independent study cannot be substituted for a course regularly offered at Boise State, nor can independent study credits be used to improve a grade in a course the student has already taken. Either graded or pass/fail.

597 SPECIAL TOPICS [Required Modifier] (Variable Credit). Instruction on a topic that is not included in the catalog of regular graduate courses; the topic is indicated by the required modifier. Descriptions for these courses are given in the *Schedule of Classes* published each semester. Either graded or pass/fail.

598 SEMINAR (Variable Credit). Small group meetings for the exchange of ideas, debate of issues, or presentation of research. Format, conduct, and purpose of seminars vary widely among disciplines. Either graded or pass/fail.

686 MASTER'S PRELIMINARY EXAMINATION (Variable Credit). An early assessment of a student's potential to complete a master's program satisfactorily. Considerable autonomy is granted to the academic unit in the design, administration, and evaluation of the preliminary examination. Pass/fail only.

687 DOCTORAL PRELIMINARY EXAMINATION (Variable Credit). An early assessment of a student's potential to complete a doctoral program satisfactorily. Considerable autonomy is granted to the academic unit in the design, administration, and evaluation of the preliminary examination. Pass/fail only.

688 THESIS PROPOSAL (Variable Credit). Background, objectives, scope, methods, and timeline of the thesis research. Considerable autonomy is granted to the academic unit in the design, administration, evaluation, and approval of the thesis proposal. Pass/fail only.

689 DISSERTATION PROPOSAL (Variable Credit). Background, objectives, scope, methods, and timeline of the dissertation research. Considerable autonomy is granted to the academic unit in the design, administration, and evaluation, and approval of the dissertation proposal. Pass/fail only.

690 MASTER'S COMPREHENSIVE EXAMINATION (Variable Credit). The culminating activity (or part of the culminating activity) for a non-thesis master's program. Considerable autonomy is granted to the academic unit in the design, administration, and evaluation of the comprehensive examination. May be attempted only after completion of all required core courses and admission to candidacy. Other conditions may be imposed by the academic unit responsible for the program. May not be used for a master's thesis defense. Pass/fail only.

691 DOCTORAL COMPREHENSIVE EXAMINATION (Variable Credit). Taken when the doctoral student is in Regular Status and has completed a significant number of course credits applicable to the degree requirements. Considerable autonomy is granted to the academic unit in the design, administration, and evaluation of the comprehensive examination. Pass/fail only.

692 CAPSTONE COURSE (Variable Credit). A final comprehensive assessment of the knowledge and skills of a master's student in the major field of study. A culminating activity taken in the last semester of a master's program. Either graded or pass/fail.

693 DISSERTATION (Variable Credit). Independent research at the doctoral level resulting in a dissertation that must be defended at a final oral examination and archived in the university library and with UMI. The dissertation must be written in clear and effective English and presented in a format that conforms to the standards of the Graduate College. Pass/fail only.

696 DIRECTED RESEARCH (Variable Credit). Research conducted by a graduate student under the supervision of a member of the graduate faculty. Requires the clear statement of a hypothesis or proposition, a review of the relevant literature, analysis and synthesis of data or scholarly evidence, and the inference of conclusions. The results must be stated in a report written in clear and effective English. Requires submission of an *Application for Directed Research* prior to the deadline specified in the academic calendar. Either graded or pass/fail.

697 SPECIAL TOPICS [Required Modifier] (Variable Credit). Instruction on a topic that is not included in the catalog of regular graduate courses; the topic is indicated by the required modifier. Descriptions for these courses are given in the *Schedule of Classes* published each semester. Either graded or pass/fail.

Summary of Programs and Courses

Course Prefixes

Table 9 below lists all the graduate course prefixes used at Boise State. A course prefix is the two or more letter code preceding a course number; it indicates the subject area of the course.

ACCT	Accountancy	GEOG	Geography
ANTH	Anthropology	GEOPH	Geoscience
ART	Art	GEOS	Geoscience
BIOCHEM	Biochemistry	HIST	History
BIOL	Biology	HLTHST	Health Science
BMOL	Biomolecular Sciences	INTDIS	Interdisciplinary Studies
BOT	Botany	ISLE	Intensive Semester Learning Experience
BUSCOM	Business Communication	KIN-AL	Kinesiology, Athletic Leadership
BUSMBA	Master of Business Administration Online	KINES	Kinesiology
CE	Civil Engineering	MATH	Mathematics
CHEM	Chemistry	MBA	Master of Business Administration
COID	College of Innovation and Design	MBOE	Master of Business Operational Excellence
CJ	Criminal Justice	ME	Mechanical Engineering
CMGT	Construction Management	MHLTHSCI	Master of Health Science
COMM	Communication	MSE	Materials Science and Engineering
COUN	Counseling	MUS	Music
CS	Computer Science	MUS-APL	Music, Applied
DISPUT	Dispute Resolution	MUS-ENS	Music, Ensemble
ECE	Electrical & Computer Engineering	MUS-PRV	Music, Private Lessons
ECON	Economics	N-SIM	N-SIM
ED-CIFS	Curriculum, Instruction, & Foundational Studies	NURS	Nursing
ED-ESP	Early & Special Education	OPWL	Organizational Performance & Workplace Learning
ED-LLC	Literacy, Language, and Culture	PHYS	Physics
EDTECH	Educational Technology	POLS	Political Science
EDU	Education	PSYC	Psychology
EEB	Ecology, Evolution, and Behavior	PUBADM	Public Policy and Administration
EMBA	Executive Master of Business Administration	REFUGEE	Refugee Services
ENGL	English	SOC	Sociology
ENGR	Engineering Science	SOCWRK	Social Work
GCOLL	Graduate College	SPS	School of Public Service
GENDER.	Gender Studies	VIP	Vertically Integrated Projects
GENSCI	General Science	ZOOL	Zoology

Department of Accountancy

College of Business and Economics

Chair: Troy Hyatt

Micron Business and Economics Building, Room 3130

Phone: (208) 426-3412

<https://cobe.boisestate.edu/msa/>

Graduate Faculty: Bahnson, Baxter, Cowan, English, Filzen, Gooden, Hyatt, Koeppen, Mosebach

Graduate Degrees Offered

- Master of Science in Accountancy
- Master of Science in Accountancy, Taxation

General Information

The Master of Science in Accountancy (MSA) and Master of Science in Accountancy, Taxation (MSAT) programs provide the opportunity to enhance your professional competence and acquire the skills necessary to offer value-added services to clients. Each program builds upon knowledge and skills previously acquired in undergraduate accounting courses.

These degree programs are appropriate for students with either or both of the following goals:

1. Accounting professionals who want to expand their knowledge and become familiar with recent developments in the accounting field.
2. Recent undergraduate accounting graduates who want to expand their understanding of accounting and earn enough college credits to meet the minimum required for the CPA exam.

Students may apply for Graduate Assistantships covering tuition and fees plus a stipend. Applications for Graduate Assistantships must be received in the Business Graduate Studies office by February 1 of each year. Typical assignments include research assistantships, teaching assistantships, or specific project assignments.

Due to our location in Boise, many local internship opportunities are available. MSA and MSAT students may apply up to 3 credit-hours from an internship toward their graduation requirements.

Application and Admission Requirements

1. Successful applicants to the MSA or MSAT program typically bring at least a 3.00/4.00 or better GPA and a Graduate Management Admission Test (GMAT) score of 500 or better. We also accept Graduate Record Examinations (GRE) scores with minimum target scores of 152 in both the verbal and math categories. A higher GPA may offset a slightly lower GMAT or GRE score and vice versa.
2. Fast Track admission waives the GMAT or GRE test requirement and the essay requirement for applicants who meet at least one of the following criteria: (1) Completed at least 18 semester credits in upper-division (300, 400 or 500 level) accounting courses taken for undergraduate credit and have graduated from a regionally accredited institution and achieved a 3.30/4.00 or better GPA in all their upper-division accounting courses and a 3.30/4.00 or better cumulative GPA, (2) Current CPAs, Certified

Management Accountants (CMA), or Certified Internal Auditors (CIA). Applicants should request a letter be sent directly to the Graduate College from the appropriate state board or national organization verifying their certification status, or (3) Earned an advanced degree (Masters, Doctorate, etc.) from a regionally accredited institution in any discipline.

3. English proficiency is required. International students must score at least 587/240/95 on the TOEFL exam or 6.5 on the IELTS exam.
4. A solid foundation in accounting is required to succeed in the MSA program. Successful completion of all undergraduate accounting courses and the business core required for Boise State University's BBA accountancy degree demonstrates that foundation. Equivalent courses from another accredited university can be considered to meet this requirement.
5. MSAT applicants should also bring a strong background in accounting, but the MSAT program specifically requires only ACCT 302, Survey of Federal Income Taxation (or its equivalent) prior to enrolling in MSAT courses. Applicants are evaluated on a case-by-case basis and individuals may be required to prepare for MSAT courses by completing specific undergraduate accounting courses.
6. In addition, applicants without a degree in accountancy seeking professional certification are advised to consult with the appropriate State Board of Accountancy regarding additional coursework required for certification.
7. Applicants to either program are evaluated based on motivation level, prior academic performance, GMAT or GRE scores, managerial potential, and essays. Details can be found on the COBE graduate programs website: <https://cobe.boisestate.edu/graduate-programs-overview/>.

Master of Science in Accountancy

Graduate Studies Director: Zeynep Hansen

Program Administrator: Trisha Stevens Lamb

Micron Business and Economics Building, Room 4101

Phone: (208) 426-3116

E-mail: graduatebusiness@boisestate.edu

<https://cobe.boisestate.edu/graduate-programs-overview/>

Degree Requirements

Master of Science in Accountancy	
Course Number and Title	Credits
Required Accountancy and Taxation Courses	12
ACCT 505 Advanced Auditing	
ACCT 512 Financial Reporting Theory	
ACCT 530 Corporate Tax Law	
ACCT 550 Advanced AIS and IT Audit	
Accountancy Courses	6-15
ACCT 510 Advanced Financial Reporting	
ACCT 514 Advanced Managerial Accounting	
ACCT 516 Financial Analysis and Valuation	
ACCT 518 International Financial Reporting	
ACCT 590 Practicum/Internship	
<i>Continued</i>	

<i>Master of Science in Accountancy continued</i>	
Accountancy and Taxation Electives	0-12
ACCT 520 Tax and Accounting Research	
ACCT 525 Partnership Tax Law	
ACCT 535 Estate and Gift Taxation	
ACCT 540 Taxation of Non-Profit Organizations	
ACCT 570 Multi-State Taxation	
ACCT 575 International Taxation	
ACCT 579 Personal Financial Planning	
ACCT 580 Selected Accounting Topics	
ACCT 585 Volunteer Income Tax Assistance Program	
ACCT 597 Special Topics	
Non-Accountancy Electives	0-6
Electives chosen from non-accountancy graduate courses. No more than 3 credits can come from courses outside of the College of Business and Economics.	
Total	30
Non-Accountancy Electives must be approved by the student's graduate advisor.	

Master of Science in Accountancy (Online Program)

Graduate Studies Director: Zeynep Hansen
 Program Administrator: Trisha Stevens Lamb
 Micron Business and Economics Building, Room 4101
 Phone: (208) 426-3116
 E-mail: graduatebusiness@boisestate.edu
<https://cobe.boisestate.edu/msa/>

Degree Requirements

Master of Science in Accountancy	
<i>Course Number and Title</i>	<i>Credits</i>
Required Accountancy and Taxation Courses	12
ACCT 505 Advanced Auditing	
ACCT 512 Financial Reporting Theory	
ACCT 530 Corporate Tax Law	
ACCT 550 Advanced AIS and IT Audit	
Accountancy and Taxation Courses	18
ACCT 510 Advanced Financial Reporting	
ACCT 514 Advanced Managerial Accounting	
ACCT 516 Financial Analysis and Valuation	
ACCT 518 International Financial Reporting	
ACCT 520 Tax and Accounting Research	
ACCT 579 Personal Financial Planning	
ACCT 590 Practicum/Internship	
Total	30

Master of Science in Accountancy, Taxation Concurrent Juris Doctorate Program

Graduate Studies Director: Zeynep Hansen
 Program Administrator: Trisha Stevens Lamb
 Micron Business and Economics Building, Room 4101
 Phone: (208) 426-3116
 E-mail: graduatebusiness@boisestate.edu
<https://cobe.boisestate.edu/msa/>

General Information

Students may elect to enroll concurrently in our MSAT program and the University of Idaho's JD program in order to earn two coveted degrees in a streamlined fashion.

A student who wishes to participate in this concurrent program must be separately admitted to the MSAT and JD programs under the normal admission process before being considered for admission to the concurrent program. If admitted to the concurrent program, the student must satisfy the requirements of each degree as well as the requirements of the concurrent program.

Up to 12 credits earned in the University of Idaho law courses (prefix LAW) can be applied to meet the requirements of the MSAT program, and up to 12 credits in the Boise State University accountancy courses (prefix ACCT) can be applied to meet the requirements of the JD program. This dual application of credit is governed by additional stipulations specially developed for the concurrent program and students must specifically apply to the concurrent program. Contact the Program Administrator for details.

Degree Requirements

Master of Science in Accountancy, Taxation	
<i>Course Number and Title</i>	<i>Credits</i>
Required Taxation Courses	9
ACCT 520 Tax and Accounting Research	
ACCT 525 Partnership Tax Law	
ACCT 530 Corporate Tax Law	
Taxation Courses	6-21
ACCT 535 Estate and Gift Taxation	
ACCT 540 Taxation of Non-Profit Organizations	
ACCT 570 Multi-State Taxation	
ACCT 575 International Taxation	
ACCT 579 Personal Financial Planning	
ACCT 585 Volunteer Income Tax Assistance Program	
ACCT 590 Practicum/Internship	
ACCT 597 Special Topics	
Accountancy Electives	0-15
ACCT 505 Advanced Auditing	
ACCT 510 Advanced Financial Reporting	
ACCT 512 Financial Reporting Theory	
ACCT 514 Advanced Managerial Accounting	
ACCT 516 Financial Analysis and Valuation	
ACCT 518 International Financial Reporting	
ACCT 550 Advanced AIS and IT Audit	
ACCT 580 Selected Accounting Topics	
<i>Continued</i>	

<i>Master of Science in Accountancy, Taxation continued</i>	
Non-Accountancy Electives Electives chosen from non-accountancy graduate courses. No more than 3 credits can come from courses outside of the College of Business and Economics.	0-6
Total	30
Non-Accountancy Electives must be approved by the student's graduate advisor.	
For students in the concurrent JD/MSAT program, the maximum transfer credits from the University of Idaho is 12 credits. For Taxation Courses, 3 to 12 credits can come from University of Idaho tax law courses. ACCT 525 Partnership Tax Law and ACCT 530 Corporate Tax Law will not count toward this requirement without the permission of the program advisor.	

Course Offerings

See *Course Numbering and Terminology* for definitions.

ACCT — Accountancy

ACCT 505 ADVANCED AUDITING (3-0-3)(F/S/SU). In-depth study of auditing from an external auditor's perspective. Topics include substantive testing, evidence, planning, reporting, documentation, and case studies. The course includes a major project in external auditing. PREREQ: ADM/PROG.

ACCT 510 ADVANCED FINANCIAL REPORTING (3-0-3)(F/S). Topics include financial reporting for segment and interim reporting, foreign currency transactions and translation, not-for-profit accounting, and other current topics. PREREQ: ADM/PROG.

ACCT 512 FINANCIAL REPORTING THEORY (3-0-3)(F). A critical analysis of the concepts and premises underlying financial reporting practices. Coverage includes the conceptual framework, current accounting standards and their origins, and other current topics in financial reporting. PREREQ: ADM/PROG.

ACCT 514 ADVANCED MANAGERIAL ACCOUNTING (3-0-3)(F/S). Advanced applications of managerial accounting information for strategic management decisions. Coverage includes specialized tools for planning, operating and control decisions such as strategic cost management, strategic performance measurement and incentive systems, and activity- and resource-based costing. Emphasis is placed on the understanding and use of state of the art managerial accounting techniques. PREREQ: ADM/PROG.

ACCT 516 FINANCIAL ANALYSIS AND VALUATION (3-0-3)(F). Study of the theory and practice of financial statement analysis and business valuation. Methods of fundamental analysis and business valuation are examined and applied in problems, cases and projects. PREREQ: ADM/PROG.

ACCT 518 INTERNATIONAL FINANCIAL REPORTING (3-0-3)(S). Contemporary accounting practices of the major national economies. Includes directives of the European Community affecting financial reporting and pronouncements and activities of the International Accounting Standards Board. PREREQ: ADM/PROG.

ACCT 520 TAX AND ACCOUNTING RESEARCH (3-0-3)(F). Instruction in all aspects of tax research including legislative, administrative and judicial sources; major tax services, and Internet-based tax research libraries. While the majority of the course focuses on tax research, the course also includes

instruction in ethical issues in tax practice and instruction in financial accounting research resources, including the FASB Codification. PREREQ: ADM/PROG.

ACCT 525 PARTNERSHIP TAX LAW (3-0-3)(F). Tax meaning of partnership, formation transactions between partner and partnership; determination and treatment of partnership income; sales and exchanges of partnership interest; distributions; retirement; death of a partner; drafting the partnership agreement. PREREQ: ADM/PROG.

ACCT 530 CORPORATE TAX LAW (3-0-3)(S/SU). Tax considerations in corporate formations, operations, distributions, redemptions, reorganizations, and liquidations. Includes a study of S corporations and an overview of financial accounting for income taxes. PREREQ: ADM/PROG.

ACCT 535 ESTATE AND GIFT TAXATION (3-0-3)(F/S/SU). Federal estate and gift taxes, including estate planning. PREREQ: ADM/PROG.

ACCT 540 TAXATION OF NONPROFIT ORGANIZATIONS (3-0-3)(SU). Overview of tax issues affecting nonprofits. Topics include: qualifying for and maintaining federal tax-exempt status, the unrelated business income tax, private foundations, and charitable deductions. PREREQ: ADM/PROG.

ACCT 550 ADVANCED AIS AND IT AUDIT (3-0-3)(S). Advanced coverage of the intersection of accounting, information technology, and analytics. Course includes topics such as IT infrastructure from a controls and security perspective, IT audit principles, data analytic tools, and communication of complex information. Students will assume leadership roles with respect to group and team assignments. Students can only take ACCT 450 or ACCT 550, not both. PREREQ: ADM/PROG.

ACCT 570 MULTI-STATE TAXATION (3-0-3)(F). State income tax issues and sales and use tax issues with a special focus on issues faced by multistate taxpayers. PREREQ: ADM/PROG.

ACCT 575 INTERNATIONAL TAXATION (3-0-3)(F/S/SU). Multinational tax law for domestic corporations with operations abroad and nonresident citizens. PREREQ: ADM/PROG.

ACCT 579 PERSONAL FINANCIAL PLANNING (3-0-3)(S). The course focuses on the tools to help individuals reach their personal financial goals. There will be five main areas of emphasis: investments, insurance coverage/asset protection, income tax planning, retirement planning and estate planning. The areas will be covered in the personal finance framework. PREREQ: ADM/PROG.

ACCT 580 SELECTED ACCOUNTING TOPICS (3-0-3)(S). Current accounting topics and issues are investigated in this class. Selected Accounting Topics may be taken once, as either ACCT 480 or ACCT 580. PREREQ: PERM/INST.

ACCT 585 VOLUNTEER INCOME TAX ASSISTANCE (VITA) PROGRAM (0-2-1)(S). Supervised participation in the Volunteer Income Tax Assistance (VITA) Program. VITA is an IRS initiative designed to promote and support free tax return preparation services for underserved low-to-moderate income individuals, persons with disabilities, the elderly, and those with limited English speaking ability. May be repeated once for a total of 2 credits. PREREQ: ACCT 302 and ADM/PROG.

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

Department of Anthropology

College of Arts and Sciences

Chair: John Ziker
 Hemingway Center, Room 55
 Phone: (208) 426-3023
 Fax: (208) 426-4329
<https://anthropology.boisestate.edu>
 E-mail: anthropology@boisestate.edu

Graduate Faculty: Demps, Hill, Plew, Snopkowski, Yu, Ziker

Graduate Degrees Offered

- Master of Arts in Anthropology
- Master of Applied Anthropology

General Information

The Department of Anthropology offers two distinct graduate programs. The program leading to the Master of Arts in Anthropology degree emphasizes research and requires completion of a thesis. The program leading to the Master of Applied Anthropology degree is a professional science program and requires completion of a project representing exemplary professional practice. Students in both programs complete a core of advanced courses providing thorough exposure to modern theory and methods in anthropology.

Application and Admission Requirements

Prospective students are encouraged to discuss their goals and interests with the graduate program coordinator. An applicant must follow the general application procedures for admission to a graduate program (see *Graduate Admission Regulations*). An applicant must also provide GRE General Test scores, a letter of intent (describing background, academic interests, and career goals), and two letters of recommendation from academic faculty. Once the file for an applicant is complete, it will be evaluated by a committee and an admission recommendation (regular, provisional, or denial) will be forwarded to the Dean of the Graduate College. The dean will make the final admission decision and notify the applicant.

Conditions for Admission. Applicants must satisfy the minimum admission requirements of the Graduate College and must hold a baccalaureate degree in anthropology or a related field. Admission is competitive and is not guaranteed to any applicant.

Student Guidance

The graduate program coordinator will assign a temporary faculty advisor to each student prior to the first semester of enrollment. By

the end of the first semester, the advisor, in consultation with the student, will initiate the appointment of a three-person supervisory committee that will assume responsibility for guidance.

Master of Arts in Anthropology

Graduate Program Coordinator: Mark Plew
 Hemingway Center, Room 55
 Phone: (208) 426-3444
 Fax: (208) 426-4329
<https://anthropology.boisestate.edu>
 E-mail: mplew@boisestate.edu

Degree Requirements

Master of Arts in Anthropology. Students must complete at least 31 credits distributed as shown in the degree requirements table. All students must complete at least one year of foreign language courses as a background requirement (language courses completed in an undergraduate program may fulfill this requirement); research in some geographic areas may require additional language skills. Based on guidance from their faculty advisory committee, students prepare for and successfully complete their preliminary examination. All requirements for the degree must be completed within a period of seven years.

Master of Arts in Anthropology	
Course Number and Title	Credits
Core Sequence	
ANTH 501 Adaptation and Human Behavior	3
ANTH 502 Human Evolutionary History and Development	3
ANTH 503 History and Theory in Anthropology	3
ANTH 504 Statistical Methods in Anthropology	3
ANTH 513 Research Design in Anthropology	3
With the approval of the supervisory committee, a student may substitute a comparable 3-credit course for ANTH 504.	
Elective Courses	
Electives must be approved by the supervisory committee. Application of independent study to the elective requirement is limited to 6 credits. Pass/Fail credits, workshop credits, and practicum/internship credits are not applicable to elective requirements.	
Preliminary Examination	
ANTH 686 Master's Preliminary Examination	1
Culminating Activity	
ANTH 593 Thesis	6
Total	31

Master of Applied Anthropology

Graduate Program Coordinator: Mark Plew
 Hemingway Center, Room 55
 Phone: (208) 426-3444
 Fax: (208) 426-4329
<https://anthropology.boisestate.edu>
 E-mail: mplew@boisestate.edu

Degree Requirements

Masters of Applied Anthropology. Students must complete at least 33 credits distributed as shown in the degree requirements table. All requirements for the degree must be completed within a period of seven years.

Master of Applied Anthropology	
Course Number and Title	Credits
Core Sequence	
ANTH 501 Adaptation and Human Behavior	3
ANTH 502 Human Evolutionary History and Development	3
ANTH 503 History and Theory in Anthropology	3
Skill Sequence	
ANTH 504 Statistical Methods in Anthropology	3
ANTH 513 Research Design in Anthropology	3
ANTH 524 Introduction to Cultural Resource Management	3
GEOG 560 Introduction to Geographic Information Systems	3
Elective Courses	
Electives must be approved by the supervisory committee.	
Culminating Activity	
ANTH 591 Project	6
<i>Total</i>	33

Course Offerings

See *Course Numbering and Terminology* for definitions.

ANTH — Anthropology

ANTH 501 ADAPTATION AND HUMAN BEHAVIOR (3-0-3)(F). Theories and methods used to address questions related to the proximate (structure of adaptations) and ultimate (adaptive significance) causes of human behavior. Processes occurring on generational and evolutionary time scales with emphasis on procurement, mating, parenting, social exchange and distribution, demographic transition, human universals, and cultural diversity.

ANTH 502 HUMAN EVOLUTIONARY HISTORY AND DEVELOPMENT (3-0-3)(F). Theories and methods used to address questions related to the ontogenetic (developmental) and phylogenetic (evolutionary) history of humans. Evolutionary time scales with an emphasis on variation within and between human populations and other primates over time, and the interaction of human populations to environmental stress.

ANTH 503 HISTORY AND THEORY IN ANTHROPOLOGY (3-0-3)(F). A reading-intensive survey of history and theory in anthropology from classical times through the 20th century. A review of history and philosophy of science with emphasis upon innovations in 19th and 20th century theory relevant to current issues and debates.

ANTH 504 STATISTICAL METHODS IN ANTHROPOLOGY (3-0-3)(S). Concepts, methods and models used in analysis of anthropological data. Measures of correlation and central tendency, of probability and analysis of

variance. Analysis of anthropological, archaeological and biological data sets. PREREQ: PERM/INST.

ANTH 513 RESEARCH DESIGN IN ANTHROPOLOGY (3-0-3)(S). Design a research project, write a proposal, and initiate search for funding. Familiarization with topics useful for developing career in anthropology, such as approaching funding institutions, publishers and employers, and participating in professional organizations.

ANTH 520 ADVANCED GEOARCHAEOLOGY AND QUATERNARY ENVIRONMENTS (3-0-3)(F/S)(Alternate years). Global to site-specific scale review and evaluation of lithostratigraphic and biostratigraphic contexts focusing on the last three million years of human prehistory. Emphasis on integration of chronologic, biotic, geomorphic and isotopic evidence of environmental change on the human time-scale. PREREQ: PERM/INST.

ANTH 521 HUMAN PALEOECOLOGY OF NORTH AMERICA (3-0-3)(F/S)(Alternate years). Examines the application of physical and biotic evidence to evaluate changing environments and their relationship to prehistoric human populations. Focus is on past environmental change in western North America placed within continental-scale and global-scale contexts. PREREQ: PERM/INST.

ANTH 522 HUNTER-GATHERER ETHNOARCHAEOLOGY (3-0-3)(F/S)(Alternate years). Examination of variability in adaptations by modern hunter-gatherer populations emphasizing subsistence, mobility, and social organization. Focus is on examination of lithic technology, faunal analysis, and site structure as sources of archaeological interpretation.

ANTH 523 ADVANCED ARCHAEOLOGICAL FIELD METHODS (3-0-3)(SU). Emphasis upon developing research designs, decision-making, and in-field project management. Open to students with previous field experience and graduate work in archaeology. PREREQ: PERM/INST.

ANTH 524 INTRODUCTION TO CULTURAL RESOURCE MANAGEMENT (3-0-3)(S). Legal and regulatory functions of heritage management within federal and state agencies with a focus on public lands. Emphasizes resource and collections management, tribal consultation, public education, archaeological ethics, and the role of research in cultural resource management.

ANTH 530 ADVANCED TOPICS IN EVOLUTIONARY ANTHROPOLOGY (3-0-3)(F/S)(Alternate years). This course provides the theoretical foundation for testing evolutionary hypotheses about human cultural variation, human physiological adaptations and social behavior, and life-history evolution, marriage, reproduction, inheritance, and subsistence. The course provides a broad, empirical view of hominid-behavioral evolution and ecology. PREREQ: PERM/INST.

ANTH 531 ECONOMIC ANTHROPOLOGY (3-0-3)(F/S)(Alternate years). The comparative study of economic behavior in hunter-gatherer, tribal, and complex societies. The course examines subsistence strategies, craft production and specialization, and exchange, as well as theoretical debates surrounding the economic topic of transition.

ANTH 532 GAME THEORY AND HUMAN COOPERATION (3-0-3)(F/S)(Alternate years). Designed as an advanced introduction to the origins and development of human sociality from the perspective of game theory and evolutionary biology. This course will review and discuss classic and new papers from anthropology, biology, economics, political science, and psychology. Issues to be explored include widespread pro-social behavior among humans, living in small vs. large groups, rank and status, sexual division of labor, and obstacles to building cooperation and peace on a number of social scales.

ANTH 580 SELECTED TOPICS IN ANTHROPOLOGY (F/S). Philosophical and theoretical issues in anthropology. Developments in methodology and technical advances in anthropological research. Seminar topics will vary.

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

Department of Art

College of Arts and Sciences

Chair: Kathleen Keys

Liberal Arts Building, Room 252

Phone: (208) 426-1230

Fax: (208) 426-1243

E-mail: artdept@boisestate.edu

<https://art.boisestate.edu>

Graduate Faculty: Bacon, Blakeslee, Budde, Dinkar, Earley, Elder, Erpelding, AnnieMargaret, Fox, Francis, Keys, Lee, Peariso, Sadler, Scott, Smulovitz, Turner, Walker, Wiley, Young

Graduate Degrees Offered

- Master of Arts in Art Education
- Master of Fine Arts, Visual Arts

General Information

Master of Fine Arts The Department of Art offers a full time Master of Fine Arts (MFA) degree in Visual Arts. The program encourages innovative work in art metals, ceramics, drawing, installation, interdisciplinary studio, new genres, painting, photography, sculpture, social practice, video, etc. The degree requires 60 total credits distributed as follows: 6 credits in art history, 30 credits in studio, 6 credits in Graduate Concourse, 6 credits in Graduate Seminar, 6 credits in thesis and 6 credits in general electives.

Students admitted to the program are provided with private studio space. Graduate faculty hold regular studio visits and consultations.

The MFA degree program fosters students' creative, intellectual, and professional development as artists who produce excellent work, are able to discuss and contextualize their work cogently, and who are prepared to enter various career paths available to artists. Course work emphasizes applied study, art history, theory and criticism. A Visiting Artist Program that brings a wide range of artists and scholars to campus on a regular basis enhances the MFA experience by providing lectures, workshops, and critiques. The program culminates in an exhibition of a body of work, a written analysis that supports the work, and an oral defense of both

Master of Arts in Art Education The 33 credit program leading to the Master of Arts in Art Education degree is designed to meet the needs of art educators working in schools, museums and other arts organizations or communities, and gives students the opportunity to gain the knowledge and skills necessary to become reflective and well-informed art educators. It does not lead to initial certification nor does it require certification for admission. Course work focuses on advanced curriculum development, an examination of contemporary issues relating to art and education, and advanced study of art history and studio practices. Students may select from two possible culminating experiences.

Graduate Assistantships

Assistantships are available for full-time students and are awarded competitively. Assistantships include an out-of-state tuition waiver, in-state fee waiver, and a stipend. Assistants must enroll for a minimum of nine credit hours each semester and must meet any other requirements as set forth by the Graduate College. Applications are available at the Graduate College website and must be submitted to the Department of Art on or before January 15.

Master of Arts in Art Education

Graduate Program Coordinator: Kathleen Keys

Campus School, Room 116A

E-mail: KathleenKeys@boisestate.edu

<https://art.boisestate.edu>

Application and Admission Requirements

Admission Requirements Fall or Spring admission. An applicant must satisfy the minimum admission requirements of the Graduate College (see *Graduate Admission Regulations*). Admission is competitive and the achievement of minimum requirements does not guarantee acceptance to the program. To be considered as a graduate student in the MA program, applicants must possess an earned baccalaureate or professional degree in a relevant program from an accredited college or university by the expected date of entry. Applicants must possess a minimum of 3.00 cumulative grade point average (GPA) based on a 4.00 scale in all previous undergraduate work and a minimum of 3.3 cumulative GPA based on a 4.00 scale in all previous relevant graduate work. Artistic proficiency within at least one studio area is required.

Application Procedures A prospective student must follow the general graduate application procedure for degree-seeking students (see *Graduate Admission Regulations*). Students must first be admitted to the Graduate College and have official transcripts from all institutions previously attended submitted to the Graduate College.

The prospective M.A. in Art Education student must also submit the following to the Department of Art by January 15 to be considered for Fall admission, or by October 1 to be considered for Spring admission (submission is via slideroom.com; see program website for instructions):

1. A statement outlining your educational and professional background, your professional objectives, and philosophy of art or art education and why you are interested in the program.
2. Three letters of recommendation from professionals in art education or related fields that address the applicant's experience working in art and/or educational settings and potential contribution to the field of art education.
3. A portfolio of at least 15 digital images of a recent body of work and an artist statement that addresses the work submitted.
4. An example of academic or professional writing.
5. Additional related work samples.
6. Evidence of any public or private teaching experiences.
7. Evidence of successful completion of basic K-12 art education methods courses; both K-8 and 6-12 or their equivalents. Deficiencies may be completed upon acceptance.

Degree Requirements

Master of Arts in Art Education	
Course Number and Title	Credits
ART 501 Contemporary Issues and Research in Art Education	3
ART 551 Curriculum Development and Assessment in Art Education	3
Education Graduate Core courses	6
Electives	15
Culminating Activity ART 591 Project or ART 593 Thesis	6
Total	33

Master of Fine Arts, Visual Arts

Graduate Program Coordinator: Chad Erpelding
Campus School, Room 110A
Phone: (208) 426-4081
E-mail: chaderpelding@boisestate.edu

Application and Admission Requirements

To be considered as a graduate student in the MFA program, applicants must possess a B.A., B.F.A., or a M.A. degree in Art from an accredited institution and have and maintain a minimum cumulative grade point average of 3.00. Applicants must also have completed a minimum of 12 credits of undergraduate art history prior to taking courses for graduate credit. Undergraduate coursework in modern and/or contemporary art history and art theory is highly desirable. Admission is competitive and the achievement of minimum requirements does not guarantee acceptance to the program.

Students must first be admitted to the Graduate College and have three letters of recommendation and official transcripts for all institutions previously attended submitted to the Graduate College. An applicant must satisfy the minimum admission requirements of the Graduate College (see *Graduate Admission Regulations*) at least 4 weeks prior to January 15.

Applicants must also submit the following to the Art Department by January 15 (submission is via slideroom.com; see program website for instructions):

1. A portfolio of 15 to 20 digital images of a recent body of work
2. An artist statement that directly addresses the portfolio submitted
3. A statement of purpose outlining your educational and professional background, the overall objectives in your studio work, why you want to pursue an MFA, and why you are interested in the program.
4. A resume that includes educational background, exhibition record, awards, grants, reviews, and any other pertinent information
5. Additional supporting statement if applying for a Graduate Assistantship

Degree Requirements

Master of Fine Arts, Visual Arts	
Course Number and Title	Credits
ART 575 Graduate Seminar	6
ART 576 Studio Practices (3-6 credits per semester)	18
ART 577 Graduate Concourse	6
ART 580 Selected Topics: Studio and/or ART 596 Independent Study	12
ART 589 Selected Topics Art History or other graduate level art history	6
Electives at the graduate level	6
Culminating Activity ART 593 Thesis	6
Total	60

Course Offerings

See *Course Numbering and Terminology* for definitions.

ART

ART 501 CONTEMPORARY ISSUES AND RESEARCH IN ART EDUCATION (3-0-3)(S)(Alternate years). Exploration of frameworks for graduate level art education inquiry through use of research methods and/or creative activities. In-depth examination of current contemporary issues affecting both theory and practice in the national and international field of art and art education. PREREQ: Graduate status or PERM/INST.

ART 521 TEACHING THROUGH EXPERIMENTAL ART MEDIA (0-6-3)(SU). Varied and unique experimental art processes and media to be used in conjunction with creative teaching techniques that emphasize critical thinking skills and the development of new or enriched art(s) curricula for K-12. Students will solve procedural problems and adapt art media to teaching experiences. Outside reading and creative exploration will be expected, as well as a final presentation including a written paper. PREREQ: Graduate standing.

ART 551 CURRICULUM DEVELOPMENT AND ASSESSMENT IN ART EDUCATION (3-0-3)(F)(Alternate years). Designed for those teaching or planning to teach art at any level, this course includes the history and rationale of American arts curricula K-12, the development of a selected, viable curriculum in a specific area, and the use of curriculum planning techniques appropriate in current educational settings. PREREQ: Graduate status or PERM/INST.

ART 560 ART AND DESIGN STUDY PROGRAM IN JAPAN (1-3 credits)(SU). A survey of various art and design disciplines of Japan that are an integral part of Japanese culture. Students explore Japanese art through the lens of contemporary visual culture. May be repeated for credit. PREREQ: Graduate standing and PERM/INST.

ART 575 GRADUATE SEMINAR (3-0-3)(F). Students investigate current theories of art and culture and articulate a critical understanding of researched ideas in relation to contemporary art practice. May be repeated for credit.

ART 576 Studio Practices (0-V-V)(F,S). Through intensive group critiques, students develop a body of work. May be repeated for credit. PREREQ: Graduate standing and PERM/INST.

ART 577 Graduate Concourse (3-0-3)(S). Through research, readings, and discussions, students develop their ability to situate their studio practice within the context of contemporary art and culture. May also involve at least one class trip to a destination relevant to the contemporary art world. May be repeated for credit. PREREQ: Graduate standing and PERM/INST.

ART 580 SELECTED TOPICS: STUDIO (0-V-V)(F/S). Work with practicing fine art professionals from a variety of art and design disciplines either in an emphasis area or in other related media. PREREQ: PERM/INST.

ART 588 SELECTED TOPICS: ART EDUCATION (V-0-V)(F/S). Research issues in art and art education through writing assignments, critical discussion, and other appropriate means in order to consider the various possible relations between art education, theory and practice. PREREQ: PERM/INST.

ART 589 SELECTED TOPICS: ART HISTORY (3-0-3)(S). Research issues in art, art history and visual culture through writing assignments and critical discussion in order to consider the various possible relations between history, theory and practice. May be repeated for credit. PREREQ: PERM/INST.

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

Department of Biological Sciences

College of Arts and Sciences

Chair: Kevin Feris
Science Building, Room 107
Phone: (208) 426-5498
Fax: (208) 426-1040
<https://biology.boisestate.edu/>

Graduate Faculty: Albig, Barber, Beard, Bechard, Belthoff, de Graaff, Feris, Forbey, Hampikian, Hayden, Heath, Jorcyk, Koetsier, Mitchell, Morrison, Munger, Novak, Oxford, Robertson, Rohn, Serpe, Smith, Tinker, White, Wingett

Graduate Degrees Offered

- Doctor of Philosophy in Ecology, Evolution, and Behavior
- Master of Arts in Biology
- Master of Science in Biology
- Master of Science in Raptor Biology

Interdisciplinary Programs

- Doctor of Philosophy in Biomolecular Sciences
- Doctor of Philosophy in Materials Science and Engineering
- Master of Science in Hydrologic Sciences

General Information

We offer a comprehensive graduate education that spans the breadth of the contemporary biological sciences and prepares students for real world careers. We have award winning professors who are passionate about mentoring students and conducting cutting edge research. The general requirements of the Boise State Graduate College govern the graduate programs in Biological Sciences.

Doctor of Philosophy in Ecology, Evolution, and Behavior

Graduate Program Coordinator: Julie Heath
Program Manager: Brittany Archuleta
Science Building, Room 217A
Phone: (208) 426-4621
E-mail: eebprogram@boisestate.edu

Participating Departments

- Anthropology
- Biological Sciences
- Geosciences
- Human-Environment Systems

Application and Admission Requirements

An applicant must follow the general application procedures for admission to the Graduate College (see *Graduate Admission Regulations*). Please submit your application and admission materials well in advance of the deadline to ensure that the application is complete by the January 20th deadline. The following items are required to apply:

1. a cover letter that describes the applicants overall academic interests and goals, specific scientific interests, summarizes previous research experience, and gives a situation where

problem solving and creativity helped the applicant overcome a challenge;

2. official GRE scores for general test (subject scores are not required);
3. official transcripts from all undergraduate and graduate institutions;
4. curriculum vitae (CV);
5. three letters of recommendation;
6. provide 1-3 names of EEB advisors whom the applicant would interested in working with during their dissertation.

Individuals admitted to regular status typically have:

- an undergraduate GPA of at least 3.00 on a 4-point system;
- results that average in the 50th or higher percentile in the verbal, quantitative, and analytical writing portions of the GRE exam;
- an undergraduate degree in a closely related field.

Provisional status may be granted to those otherwise promising applicants who do not meet GPA or GRE requirements or who have course work deficiencies.

Student Support

Graduate Assistantships that include a stipend, a tuition and fee waiver, and student health insurance may be available from the EEB program on a competitive basis. Alternatively, students may be supported via Research Assistantships from grants awarded to faculty members. Student support will be awarded on an annual basis with the opportunity to renew.

Other forms of financial aid, such as loans or the Federal Work-Study program, are available to graduate students. Prospective students should contact the Boise State Financial Aid Office.

The application file is reviewed by the EEB Graduate Studies Committee for an admission (either acceptance or denial) and financial support recommendation. Applicants are recommended for acceptance to the Ecology, Evolution and Behavior doctoral program only if they appear qualified academically, a major advisor is identified and willing, and funding is available through a research award, fellowship, or graduate assistantship.

Supervisory Committee

The Supervisory Committee provides general guidance of the doctoral student, including design and approval of the program of study, administration of the comprehensive examination, supervision of the dissertation research, and participation in the dissertation defense. The Supervisory Committee consists of a major advisor who serves as chair, and at least three additional members, two of whom must be members of the University regular or research faculty. Additional members may be appointed when necessary. Student are encouraged to have at least one member of their committee who is external to the advisor's department. Composition of the committee should be based on a reasonable match between student and faculty academic interest.

Degree Requirements

The Ecology, Evolution, and Behavior (EEB) program has two tracts. The Doctor of Philosophy in Ecology, Evolution, and Behavior offers maximum flexibility for student-specific course selection. The second tract, a Doctor of Philosophy in Ecology, Evolution, and Behavior with an Emphasis in Global Change Biology, will give students a strong background in contemporary challenges in Global Change Biology. The optional emphasis in Global Change Biology arises from the growing need to understand how natural and human systems interact in a time of global change. The emphasis is built upon strong core training in EEB with the addition of graduate coursework from the Geosciences, Anthropology, Economics, Public Policy, and other disciplines.

Doctor of Philosophy in Ecology, Evolution, and Behavior	
Course Number and Title	Credits
EEB 601 Principles and Processes in Ecology, Evolution, and Behavior I	4
EEB 602 Principles and Processes in Ecology, Evolution, and Behavior II	4
EEB 603 Science and Communication I	3
EEB 604 Science and Communication II	3
EEB 605 Current Research in EEB	4
Quantitative Requirement (choose at least 1 course from the following): ANTH 504 Statistical Methods in Anthropology BIOL 601 Biometry BIOL 603 Advanced Biometry EEB 607 Quantitative Methods for Population and Habitat Analysis EEB 621 Advanced Ecological Data Analysis GEOPH 522 Data Analysis and Geostatistics GEOS 505 Introduction to Numerical Methods for the Geosciences MATH 572 Computational Statistics MATH 573 Time Series Analysis MATH 574 Linear Models	3-4
Approved electives courses in ANTH, BIOL, BMOL, BOT, EEB, GEOS, ZOO or related fields as approved by the supervisory committee and by the coordinator of the EEB doctoral program.	13-14
EEB 691 Doctoral Comprehensive Examination	1
Culminating Activity EEB 693 Dissertation	30
Total	66

Doctor of Philosophy in Ecology, Evolution, and Behavior Emphasis in Global Change Biology	
Course Number and Title	Credits
EEB 601 Principles and Processes in Ecology, Evolution, and Behavior I	4
EEB 602 Principles and Processes in Ecology, Evolution, and Behavior II	4
EEB 603 Science and Communication I	3
EEB 604 Science and Communication II	3
EEB 605 Current Research in EEB	4
<i>Continued</i>	

<i>Doctor of Philosophy in Ecology, Evolution, and Behavior Emphasis in Global Change Biology continued</i>	
Quantitative Requirement (choose at least 1 course from the following): ANTH 504 Statistical Methods in Anthropology BIOL 601 Biometry BIOL 603 Advanced Biometry EEB 607 Quantitative Methods for Population and Habitat Analysis EEB 621 Advanced Ecological Data Analysis GEOPH 522 Data Analysis and Geostatistics GEOS 505 Introduction to Numerical Methods for the Geosciences MATH 572 Computational Statistics MATH 573 Time Series Analysis MATH 574 Linear Models	3-4
Human Behavior and Ecology (choose 1-2 courses from the following): ANTH 501 Adaptation And Human Behavior ANTH 502 Human Evolutionary History and Development ANTH 521 Human Paleoecology of North America ANTH 530 Advanced Topics in Evolutionary Anthropology ANTH 531 Economic Anthropology ANTH 532 Game Theory and Human Cooperation	3-6
Earth Sciences (choose 1-2 courses from the following): BIOL 628 Geographic Information Systems in Biology GEOG 570 (GEOS 570) Earth System Science and Global Warming GEOS 511 Hydrology: Land-Atmosphere Interaction GEOS 580 Selected Topics in Watershed Hydrology GEOS 585 Selected Topics in Isotope Geoscience GEOS 605 Topics in Geomorphology GEOS 607 Paleoclimatology and Paleoceanography GEOS 620 Coupled Land-Atmosphere Modeling GEOS 621 Global Hydrologic Change GEOS 633 (CE 633) Contaminant Hydrogeology GEOS 636 Stable Isotope Geochemistry GEOS 638 Radiogenic Isotope Geochemistry and Geochronology	3-6
Approved elective courses in ANTH, BIOL, BMOL, BOT, EEB, GEOS, ZOOL or related fields as approved by the supervisory committee and by the coordinator of the EEB doctoral program.	4-5
EEB 691 Doctoral Comprehensive Examination	1
Culminating Activity EEB 693 Dissertation	30
Total	66

Dissertation Proposal

Students must submit to their Supervisory Committee a dissertation proposal describing in sufficient detail the proposed scope of work, anticipated scientific impact, timeline, and a plan for obtaining and utilizing the resources necessary to complete the research. A complete draft of the dissertation proposal must be submitted by the second week of the third semester. The draft proposal is evaluated by the committee and returned to the student with comments and suggestions for revision (if necessary). Then, the student will be required to present a 30-minute oral proposal presentation followed by 15 to 20 minutes for questions. A final dissertation proposal must be submitted by the end of the third semester.

Comprehensive Examination

EEB students must complete a comprehensive examination (EEB 691) prior to the end of their fifth semester in the degree program. The objective of the comprehensive examination is to assess the student's depth and breadth of knowledge in Ecology, Evolution, and Behavior. The examination, which consists of both a written and oral test, is developed and administered by the student's Supervisory Committee. The written portion of the test may consist of either: 1) a review paper on a topic in Ecology, Evolution, or Behavior that has been approved by the Supervisory Committee, or 2) written responses to a series of questions developed by the Supervisory Committee. The Supervisory Committee, with input from the student, will choose the format for the written portion of the exam. The supervisory committee will conduct the oral portion of the exam after successful completion of the written portion of the exam. During the oral exam students are expected to demonstrate solid, in-depth, academic knowledge related to Ecology, Evolution, and Behavior. The decision of whether a student passes or fails the comprehensive examination rests with the committee members. If a student fails the initial examination, the committee has the option of allowing a student to repeat the examination one time. A request for a second attempt must be made in writing to the Graduate Program Coordinator and must be made within 5 working days after the student is notified of the failure (see Failure of Comprehensive Examination). If a repeat examination is granted by the Supervisory Committee, it must occur within 3 months of the initial examination. Failure of the Comprehensive Examination will result in dismissal from the Ph.D. program.

Dissertation Requirement

The Ph.D. in Ecology, Evolution and Behavior is a research-based degree. EEB students are expected to produce a written dissertation based on original research carried out by the student. The dissertation should make significant contributions to the body of scientific knowledge and be of sufficient quality to warrant publications in peer-reviewed scientific journals.

Dissertation Defense

A public defense of the dissertation is scheduled after the Supervisory Committee has reviewed a draft that is considered to be nearly a final version. The defense committee consists of the student's entire supervisory committee plus a graduate faculty representative (GFR). The date of the defense is determined jointly by the Supervisory Committee and the student and must be consistent with any guidelines provided by the Graduate College. The first part of the defense is a public oral presentation of the dissertation. The second part is a final oral examination with the defense committee. At the conclusion of the oral examination, the GFR calls for a vote by the voting members of the defense committee to determine the examination result which must be either pass or fail.

Master of Arts in Biology

Graduate Program Coordinator: Ian Robertson

Program Manager: Brittany Archuleta

Science Building, Room 107

Phone: (208) 426-4621

E-mail: dbsgraduate@boisestate.edu

Application and Admission Requirements

Applications for master's biology programs are due January 15 for fall admission and October 1 for spring admission. Please visit <https://biology.boisestate.edu/graduate-programs/> for instructions on how to apply. For information concerning the department, faculty, and potential projects, visit the department web site (<https://biology.boisestate.edu/>).

Individuals admitted to regular status as graduate students in biology typically have:

- an undergraduate GPA of at least 3.00 on a 4-point system;
- results that average in the 50th or higher percentile in the verbal, quantitative, and analytical writing portions of the GRE exam;
- an undergraduate degree in biology or a closely related field.

Provisional status may be granted to those otherwise promising applicants who do not meet GPA or GRE requirements or who have undergraduate course work deficiencies.

Initial evaluation of applicants will be undertaken by the Biological Sciences Department Graduate Studies Committee; final decisions on admission will depend on qualifications of the candidates and openings that exist.

Each student who has been admitted into our programs will form an advisory committee, which will consist of at least three members: the student's major professor and two other members. Continuing enrollment in the program requires a 3.00 GPA and satisfactory progress toward completing the degree.

The Graduate Studies Committee will, in cooperation with the student's major professor and advisory committee, assess performance and progress in thesis/project research, course work and teaching assistant duties (where applicable). Continuing enrollment in the program requires a 3.00 GPA and satisfactory progress toward completing the degree.

Financial Aid

Financial aid is available for graduate students. Prospective students should contact the Boise State Financial Aid Office.

Degree Requirements

The Master of Arts (M.A.), Project Option is an application-based degree and is considered to be a terminal degree (except for students intending to attend professional school); students wishing to later pursue a Ph.D. should enroll in the M.S. program. In addition to completing substantial course work, the M.A. candidate will complete a project that may be an application or synthesis of original research carried out by others. Examples of such projects include development of biology-based curricula, compilation and analysis of studies on a range of species, review and the synthesis of a body of ideas or data, and development of a resource management plan based on relevant studies. Upon completion of the project the candidate will meet with the committee for an oral review and discussion about the project.

The M.A., Examination Option is a course work-based degree and is considered to be a terminal degree (except for students intending to attend professional school); students wishing to later pursue a Ph.D. should enroll in the M.S. program. The M.A. candidate will complete a wide range of relevant course work. At the end of course work, the candidate will be required to pass a comprehensive examination. The examination will be tailored by each candidate's committee to emphasize the areas covered by course work. After the candidate has completed the written portion of the examination, the candidate will meet with the committee for an oral review prior to final approval or rejection of the written examination.

Completion of each degree program requires an average grade of B or better for all courses applied to the 30-33 credits required. All requirements for the degree and graduation must be completed within a period of seven years.

Master of Arts in Biology, Examination Option	
<i>Course Number and Title</i>	<i>Credits</i>
BIOL 598 Graduate Seminar or BIOL 561-567 "Advanced Topics in" courses	2
BIOL 579 Research in the Biological Sciences (for two semesters)	2
Electives to be chosen in consultation with advisor and committee: Electives for the M.A. may include up to a combined total of 6 credits of workshop credits, practicum/internship credits, directed research credits. A combined total of 9 credits may include approved courses taken outside the biological sciences, workshops, practicum/internship, and directed research. Workshop, directed research, and practicum/internship credits are limited to a maximum of 3 credits each.	28
Culminating Activity BIOL 690 Master's Comprehensive Examination	1
<i>Total</i>	33

Master of Arts in Biology, Project Option	
Course Number and Title	Credits
BIOL 598 Graduate Seminar or BIOL 561-567 "Advanced Topics in" courses	2
BIOL 579 Research in the Biological Sciences (for two semesters)	2
Electives to be chosen in consultation with advisor and committee: Electives for the M.A. may include up to a combined total of 6 credits of workshop credits, practicum/internship credits, directed research credits. A combined total of 9 credits may include approved courses taken outside the biological sciences, workshops, practicum/internship, and directed research. Workshop, directed research, and practicum/internship credits are limited to a maximum of 3 credits each.	23
Culminating Activity BIOL 591 Project Students will be expected to develop a written project proposal and give an oral review and discussion of their project upon completion.	6
Total	33

Master of Science in Biology

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Application and Admission Requirements

Applications for master's biology programs are due January 15 for fall admission and October 1 for spring admission. Please visit <https://biology.boisestate.edu/graduate-programs/> for instructions on how to apply. For information concerning the department, faculty, and potential projects, visit the department web site (<https://biology.boisestate.edu/>).

Individuals admitted to regular status as graduate students in biology typically have:

- an undergraduate GPA of at least 3.00 on a 4-point system;
- results that average in the 50th or higher percentile in the verbal, quantitative, and analytical writing portions of the GRE exam;
- an undergraduate degree in biology or a closely related field.

Provisional status may be granted to those otherwise promising applicants who do not meet GPA or GRE requirements or who have undergraduate course work deficiencies.

Initial evaluation of applicants will be undertaken by the Biological Sciences Department Graduate Studies Committee; final decisions on admission will depend on qualifications of the candidates and openings that exist within the Biology graduate programs.

Each student who has been admitted into our programs will form an advisory committee, which will consist of at least three members: the student's major professor and two other members. The committee

will determine if academic deficiencies exist that must be remedied, help design research project, help guide appropriate graduate course work, evaluate the thesis, and conduct the final defense or comprehensive examination.

The Graduate Studies Committee will, in cooperation with the student's major professor and advisory committee, assess performance and progress in thesis/project research, course work and teaching assistant duties (where applicable). Continuing enrollment in the program requires a 3.00 GPA and satisfactory progress toward completing the degree.

Student Support

Teaching Assistantships that include a stipend, a tuition and fee waiver, and student health insurance may be available to M.S. students on a competitive basis. Additional support for master's research projects may be available from faculty members in the form of research assistantships. Other forms of financial aid, such as loans or the Federal Work-Study program, are available to graduate students. Prospective students should contact the Boise State Financial Aid Office.

Degree Requirements

The Master of Science (M.S.) is a research-based degree. The M.S. candidate will complete a thesis based on original research carried out by the student. Ideally, the thesis should make a significant contribution to the body of scientific knowledge and be of sufficient quality to warrant publication in a peer-reviewed journal.

M.S. students are expected to produce a written thesis proposal and give a presentation of that proposal during their first year at the proposal symposium and, following completion of the thesis, give an oral defense of the thesis, and an exit seminar to present the results to the public.

Completion of each degree program requires an average grade of B or better for all courses applied to the 30-33 credits required. All requirements for the degree and graduation must be completed within a period of seven years.

Master of Science in Biology	
Course Number and Title	Credits
BIOL 601 Biometry	4
BIOL 598 Graduate Seminar or BIOL 561-567 "Advanced Topics in" courses	2
Electives from course offerings that follow: Electives may include a maximum of six credits of Directed Research, must be approved by the student's thesis committee, and may not include workshop, pass/fail or practicum/internship credits.	18
Culminating Activity BIOL 593 Thesis	6
Total	30

Master of Science in Raptor Biology

Graduate Program Coordinator: Ian Robertson
 Program Manager: Brittany Archuleta
 Science Building, Room 107
 Phone: (208) 426-4621
 E-mail: dbsgraduate@boisestate.edu

Application and Admission Requirements

Applications for master's biology programs are due January 15 for fall admission and October 1 for spring admission. Please visit <https://biology.boisestate.edu/graduate-programs/> for instructions on how to apply. For information concerning the department, faculty, and potential projects, visit the department web site (<https://biology.boisestate.edu/>).

Individuals admitted to regular status as graduate students in raptor biology typically have:

- an undergraduate GPA of at least 3.00 on a 4-point system;
- results that average in the 50th or higher percentile in the verbal, quantitative, and analytical writing portions of the GRE exam;
- an undergraduate degree in biology or a closely related field.

Provisional status may be granted to those otherwise promising applicants who do not meet GPA or GRE requirements or who have undergraduate course work deficiencies.

Initial evaluation of applicants will be undertaken by the Biological Sciences Department Graduate Studies Committee; final decisions on admission will depend on qualifications of the candidates and openings that exist within the Raptor Biology graduate programs.

Each student who has been admitted into our programs will form an advisory committee, which will consist of at least three members: the student's major professor and two other members. The committee will determine if academic deficiencies exist that must be remedied, help design thesis/project research, help guide appropriate graduate course work, evaluate the thesis/project, and conduct the final defense or comprehensive examination.

The Graduate Studies Committee will, in cooperation with the student's major professor and advisory committee, assess performance and progress in thesis/project research, course work and teaching assistant duties (where applicable). Continuing enrollment in the program requires a 3.00 GPA and satisfactory progress toward completing the degree.

Student Support

Teaching Assistantships that include a stipend, a tuition and fee waiver, and student health insurance may be available to M.S. students on a competitive basis. Additional support for master's research projects may be available from faculty members in the form of research assistantships. Other forms of financial aid, such as loans or the Federal Work-Study program, are available to graduate students. Prospective students should contact the Boise State Financial Aid Office.

Degree Requirements

The Master of Science (M.S.) in Raptor Biology is a research-based degree. The M.S. candidate will complete a thesis based on original research carried out by the student. Ideally, the thesis should make a significant contribution to the body of scientific knowledge and be of sufficient quality to warrant publication in a peer-reviewed journal.

M.S. students are expected to produce a written thesis proposal and give a presentation of that proposal during their first year at the proposal symposium and, following completion of the thesis, give an oral defense of the thesis, and an exit seminar to present the results to the public.

Completion of each degree program requires an average grade of B or better for all courses applied to the 30-33 credits required. All requirements for the degree and graduation must be completed within a period of seven years.

Master of Science in Raptor Biology	
Course Number and Title	Credits
BIOL 601 Biometry	4
BIOL 605 Applied Raptor Biology	2
BIOL 606 Raptor Ecology	3
BIOL 598 Graduate Seminar or BIOL 561-567 "Advanced Topics in" courses	2
Electives from course offerings that follow: Electives may include a maximum of six credits of Directed Research, must be approved by the student's thesis committee, and may not include workshop, pass/fail, or practicum/internship credits.	13
Culminating Activity BIOL 593 Thesis	6
<i>Total</i>	30

Course Offerings

See *Course Numbering and Terminology* for definitions.

Additional work will be required to receive graduate credit for undergraduate G courses.

BIOL — Biology

BIOL 344G MOLECULAR AND CELL BIOLOGY LABORATORY (0-8-3)(F).

Modern molecular and cellular techniques including cloning, computer analysis of DNA sequences, karyotyping, DNA amplification, and use of Southern and Western blots for transgene detection and expression analysis. Some laboratory time will be arranged. PRE/COREQ: BIOL 310 and PERM/INST.

BIOL 500 ORGANIC EVOLUTION (3-0-3)(S). Philosophical basis of evolutionary theory. Detailed examination of genetic variation, mechanisms of evolutionary change, adaptation, speciation, and phylogeny. Genetics recommended. PREREQ: Graduate standing or PERM/INST.

BIOL 506 SCIENCE AND SOCIETY (3-0-3)(S). Showcases scientific advances made by local biologists from academia, government agencies, and private organizations who conduct research that intersects with societal issues and needs. Offers social opportunities to develop networks with these researchers and gain career advice in a variety of fields and institutions. Upon completing this course, students will understand how biological concepts, theory, and practice link to policy and how to communicate science to the public through outreach activities.

BIOL 509 MOLECULAR ECOLOGY (3-0-3)(F)(Odd years). Theory and methodologies. Use of molecular genetic markers to study ecological phenomena (e.g., mating systems, parentage and kinship, population structure, gene flow, dispersal, natural selection). Emphasis on an hypothesis-

testing approach. Appropriateness of particular molecular techniques to specific research questions. PREREQ: Graduate standing or PERM/INST.

BIOL 510 PATHOGENIC BACTERIOLOGY (2-6-4)(S). Medically important bacteria, rickettsia, and chlamydia are surveyed with emphasis on their pathogenicity, host-parasite relationships, and the clinical and diagnostic aspects of the diseases they produce in humans and animals. PREREQ: BIOL 303 and BIOL 320.

BIOL 511 (BMOL 511) ADVANCED CELL BIOLOGY (3-0-3)(S). Contemporary and frontier topics in the biology of microbial, plant, and animal cells covering signal transduction, protein trafficking, membrane structure and transport, cell to cell communication, cellular compartmentalization, and cell biotechnology applications. May be taken for BIOL or BMOL credit, but not both. PREREQ: BIOL 320 or PERM/INST.

BIOL 512 GENERAL PARASITOLOGY (2-3-3)(intermittently). Study of animal parasites with emphasis on those of man and his domestic animals. Lectures cover general biology, life history, structure, function, distribution, and significance of parasites. Laboratory provides experience in identification and detection. PREREQ: BIOL 320 or PERM/INST.

BIOL 513 SYMBIOSIS (3-0-3)(S)(Odd Years). Explores parasitic, commensalistic, and mutualistic relationships among different organisms. The diversity, evolution and ecology of symbioses will be analyzed through discussion of primary research articles. Students lead discussion sessions and prepare a mini-review essay. PREREQ: Graduate standing.

BIOL 514 (BMOL 514) FLOW CYTOMETRY RESEARCH TECHNIQUES (0-3-1)(F/S/SU). Provides a basic understanding of flow cytometry principles and applications in research and clinical setting. Students gain 'hands-on' experience including staining and separating blood cells, staining of DNA for cell cycle analysis, and purification of rare cell types using a cell sorter. Students apply flow cytometry to a specific research topic. May be taken for BIOL or BMOL credit, but not both. PREREQ: BIOL 320 or equivalent.

BIOL 515 APPLIED AND ENVIRONMENTAL MICROBIOLOGY (3-3-4)(S). Microbial populations and processes in soil and water. Water- and food-borne pathogens. Microbial and biochemical methods of environmental assessment. PREREQ: BIOL 303, and CHEM 301-302 or CHEM 307-308, or PERM/INST.

BIOL 516 MICROBIAL ECOLOGY (3-0-3)(S)(Odd years). Focuses on the relationships among and biogeochemical role of microorganisms in natural communities. Course topics are structured to demonstrate the linkages between microbial ecology, diversity, and evolution; ecological interactions and ecosystem processes catalyzed by microorganisms; and understanding the role of microbial metabolism in controlling elemental cycling on local to global scales. PREREQ: Graduate standing or PERM/INST.

BIOL 520 IMMUNOLOGY (3-0-3)(S). Principles of immunology, host defense mechanisms, the immune response, immune disorders, serology, and related topics. PREREQ: BIOL 320.

BIOL 521 IMMUNOLOGY LABORATORY (0-6-2)(F/S). Modern immunological laboratory techniques including flow cytometry, immune system physiology, antibody-based assays including ELISA, vaccine design, and immuno-bioinformatics. COREQ: BIOL 520.

BIOL 522 CONSERVATION BIOLOGY (3-0-3)(S)(Odd years). An introduction to the field of conservation biology, the applied science concerned with understanding the effects of human activities on natural biological systems and with developing practical approaches to prevent the loss of biodiversity. Topics covered will include conservation genetics, demographic analysis, habitat degradation, overexploitation, and restoration ecology. Discussion of the social, political, and economic aspects of conservation biology. PREREQ: Graduate standing or PERM/INST.

BIOL 524 SENSORY ECOLOGY (2-2-3)(F)(Odd years). Sensory ecology aims to understand how signals are produced, how they travel through the environment, how they are detected, how the receiver responds to them and ultimately how signals have evolved and shaped ecological processes such as trophic interactions and species' distributions. Labs will focus on sensory techniques and experimental design. PREREQ: Graduate standing or PERM/INST.

BIOL 525 BASIC AND APPLIED DATA ANALYSIS IN BIOLOGY (2-2-3)(F)(Odd years). Univariate statistics using computer software (JMP, SAS Institute, Inc.) with applications to biology, natural resources, environmental science, health care, education, industry, and other professional disciplines. PREREQ: Graduate standing or PERM/INST.

BIOL 526 INSECT ECOLOGY (3-0-3)(S)(Even years). An in-depth exploration of insect ecology, evolution and behavior. Topics include life history evolution,

insect-plant interactions, predation and parasitism, reproduction, insect societies, chemical ecology, biodiversity and pest management. PREREQ: Graduate standing or PERM/INST.

BIOL 527 STREAM ECOLOGY (3-3-4)(F)(Odd years). The biology and ecology of flowing waters is emphasized; their biota, management, and ecology at both the community and ecosystem level will be discussed. PREREQ: Graduate standing or PERM/INST.

BIOL 531 PHARMACOLOGY (3-0-3)(F). Basic pharmacological principles including mechanisms of drug action in relation both to drug-receptor interactions and to the operation of physiological and biochemical systems. Pharmacokinetics, metabolism, receptor theory and an examination of major classes of therapeutic agents used in humans. PREREQ: BIOL 227-228 or BIOL 191-192, and BIOL 320.

BIOL 533 BEHAVIORAL ECOLOGY (3-0-3)(F)(Odd years). This course focuses on the evolutionary significance of animal behavior in relation to the ecology of the organisms. Using theoretical background and recent empirical evidence, mating systems, foraging, parental care, selfishness and altruism, competition, territoriality, and other behavioral patterns will be assessed in relation to the survival and reproduction of animals. PREREQ: Graduate standing or PERM/INST.

BIOL 534 PRINCIPLES OF FISHERIES AND WILDLIFE MANAGEMENT (3-0-3)(S). Integrative approach to managing game and non-game populations and habitat. Tools to determine population status, strategies to increase or decrease populations, and the implementing of monitoring programs. Current quantitative approaches within context of the ecosystem-based view of wildlife and habitat management. PREREQ: Graduate standing or PERM/INST.

BIOL 535 ECOSYSTEM ECOLOGY (3-0-3)(F)(Even years). Integrated study of biotic and abiotic components of ecosystems and their interactions. With emphasis on current topics such as global climate change, land-use change and species invasions. PREREQ: Graduate standing or PERM/INST.

BIOL 540 GENERAL AND MOLECULAR TOXICOLOGY (3-0-3)(F/S). General and molecular principles of mammalian toxicology including toxicant disposition, mechanisms of toxicity, target organ toxicity, and major classes of toxic agents. PREREQ: BIOL 320 or PERM/INST.

BIOL 541 MOLECULAR BIOLOGY OF CANCER (3-0-3)(S). A treatment of the basic biology of cancer and the process of tumor progression. Topics examined will include oncogenes, tumor suppressor genes, and the causes of cancer. PREREQ: BIOL 310, BIOL 320.

BIOL 542 MOLECULAR NEUROBIOLOGY (3-0-3)(F). Emphasis will be on the molecular aspects of neurobiology. Topics will include: cells of the nervous system, neurochemical transmission, nerve terminals, membrane structure and function, electrical signaling, neural development, process outgrowth and myelination and glia, and specific neural diseases including Alzheimer's disease, Parkinson's disease, and Lou Gehrig's disease. PREREQ: BIOL 320 and PHYS 112, or PERM/INST.

BIOL 543 ADVANCED DEVELOPMENTAL BIOLOGY (1-6-2)(F)(Odd years). Application of molecular and cellular methods to current topics in developmental biology. Analysis of current literature in biology with emphasis on the coordinated regulation of gene expression, cellular differentiation and migration. Laboratory studies include model systems such as chick, zebrafish, sea urchin and mouse, utilizing cell/tissue culture, histology, immunohistochemistry, RT-PCR, protein purification, SDS-PAGE, western blot and others. Previous enrollment in BIOL 344 and ZOOL 351 recommended.

BIOL 544 VACCINOLOGY (3-0-3)(S). Discussion of the history, safety, epidemiology, molecular biology and immunology of vaccines. Development of the next generation of vaccines to combat infectious disease of global importance, such as HIV, malaria and tuberculosis, also will be discussed. PREREQ: BIOL 320 or PERM/INST.

BIOL 545 HUMAN GENETICS (3-0-3)(S)(Intermittently). Discussion of important aspects of human heredity. Topics include the reproductive system, single gene disorders, chromosome abnormalities, hemoglobinopathies, inborn errors of metabolism, somatic cell and molecular genetics, immunogenetics, gene screening, and human variation and evolution. PREREQ: BIOL 310 or PERM/INST.

BIOL 546 BIOINFORMATICS (2-3-3)(F). Practical training in bioinformatics methods: accessing sequence data bases, BLAST tools, analysis of nucleic acid and protein sequences, detection of motifs and domains of proteins,

phylogenetic analysis, gene arrays, and gene mapping. PREREQ: BIOL 310 or PERM/INST.

BIOL 547 FORENSIC BIOLOGY (3-0-3)(F). Analysis and interpretation of biological evidence in forensic contexts. Topics include entomology, botany, fingerprints, toxicology, DNA, pathology, anthropology and odontology. PREREQ: BIOL 310.

BIOL 548 PERL FOR BIOINFORMATICS APPLICATIONS (3-0-3)(F/S). The PERL programming language is used to introduce skills and concepts to process and interpret data from high-throughput technologies in the biological sciences. Key bioinformatics concepts are reinforced through lectures, computer demonstrations, weekly readings, and programming exercises from biological sequence analysis and real-world problems in proteomics and genetics. PREREQ: BIOL 446 or PERM/INST.

BIOL 549 GENOMICS (3-0-3)(F/S). A fusion of biology, computer science, and mathematics to answer biological questions. Topics include analyzing eukaryotic, bacterial, and viral genes and genomes; locating genes in genomes and identifying their biological functions; predicting regulatory sites; assessing gene and genome evolution; and analyzing gene expression data. PREREQ: BIOL 310 and MATH 254, or PERM/INST.

BIOL 551 DEVELOPMENTAL BIOLOGY (2-6-4)(S)(Odd years). Germ cell development, comparative patterns of cleavage and gastrulation, neurulation and induction, and development of human organ systems with emphasis on molecular and cellular mechanisms. Laboratory studies of sea urchin, frog, chick, and pig development. PREREQ: BIOL 191-192 or PERM/INST.

BIOL 561 ADVANCED TOPICS IN AQUATIC BIOLOGY (1-0-1)(F/S). An exploration of the current primary literature of aquatic biology. Topics vary, and may include community dynamics of algae, fish, zooplankton, and benthic invertebrates; trophic relationships; stream and reservoir management; primary and secondary production; organic matter and nutrient dynamics; and wetland ecology. May be repeated once for credit. PREREQ: Graduate standing or PERM/INST.

BIOL 562 ADVANCED TOPICS IN ANIMAL BEHAVIOR (1-0-1)(F/S). Exploration of current animal behavior and behavioral ecology literature through group discussion and presentations. May be repeated once for credit. PREREQ: BIOL 433 or 533 or ZOO 434 or 534 and PERM/INST.

BIOL 563 ADVANCED TOPICS IN GENETIC ANALYSIS (1-0-1)(S). Presentation and discussion of topics such as human chromosome evolution, forensic DNA analysis, artificial evolution, mutation and disease, genetic patents, drug target development. May be repeated once for credit. PREREQ: BIOL 310 and PERM/INST.

BIOL 564 ADVANCED TOPICS IN MOLECULAR ECOLOGY, EVOLUTION, AND PHYLOGEOGRAPHY (1-0-1)(F/S). Presentations and group discussion of molecular aspects of ecology, evolution, and phylogeography. May be repeated once for credit. PREREQ: BIOL 401 or PERM/INST.

BIOL 565 ADVANCED TOPICS IN MOLECULAR BIOLOGY TECHNIQUES (1-0-1)(F). Discussion of scientific literature with emphasis on modern molecular biology techniques. Students lead discussions and present articles from relevant primary literature. May be repeated once for credit. PREREQ: BIOL 310 and PERM/INST.

BIOL 566 ADVANCED TOPICS IN MOLECULAR, CELLULAR, AND DEVELOPMENTAL BIOLOGY (1-0-1)(S). Discussion of current research. Students lead discussions and present articles, as well as monitor recent relevant primary literature. Previous enrollment in BIOL 465 or BIOL 565 recommended. May be repeated once for credit. PREREQ: BIOL 310 and PERM/INST.

BIOL 567 ADVANCED TOPICS IN EXTRACELLULAR MATRIX IN DEVELOPMENT AND DISEASE (1-0-1)(F/S). Review, presentation and discussion of current literature. Students present original research in context of current literature, including statement of hypothesis, review of literature, analysis and discussion of original data, in written and oral presentation format. May be repeated once for credit. PREREQ: PERM/INST.

BIOL 570 GENETIC ENGINEERING AND BIOTECHNOLOGY (3-0-3)(F/S). Applications of biotechnology, genetic engineering, and recombinant DNA technology in medical diagnosis and therapy, agriculture, microbial biology and environmental systems. The principles and application of recombinant DNA technology in industrial, agricultural, pharmaceutical, and biomedical fields are discussed. PREREQ: BIOL 310.

BIOL 577 (ME 577)(MSE 577) BIOMATERIALS (3-0-3)(F/S). Theory of biomaterials science. Medical and biological materials and their applications.

Selection, properties, characterization, design and testing of materials used by or in living systems. PREREQ: CHEM 112 or MSE 245.

BIOL 579 RESEARCH IN BIOLOGICAL SCIENCES (1-0-1)(F/S). Seminars by biologists on a wide range of subjects. Students will attend seminars, write summaries, and search for relevant literature. May be repeated once for credit. (Pass/Fail.)

BIOL 601 BIOMETRY (4-0-4)(F). An application of statistical methods to problems in the biological sciences. Basic concepts of hypothesis testing; estimation and confidence intervals; t-tests and chi-square tests. Linear and nonlinear regression theory and analysis of variance. Techniques in multivariate and nonparametric statistics. PREREQ: PERM/INST.

BIOL 602 POPULATION AND COMMUNITY ECOLOGY (3-0-3)(F). The structure of populations and communities. Competition, predation, life history strategies, demography, population regulation, and species diversity are examined from experimental and theoretical perspectives. PREREQ: Graduate standing or PERM/INST.

BIOL 603 ADVANCED BIOMETRY (3-3-4)(S)(Even years). A survey of experimental design and selected multivariate techniques. The course is designed to assist students in selecting proper statistical techniques for gathering and analyzing biological data, and correctly interpreting the statistical analysis of their data. Prior experience with Statistical Analysis System (SAS) is helpful. PREREQ: BIOL 601 or PERM/INST.

BIOL 604 TEACHING ASSISTANT SKILLS AND ISSUES (2-0-2)(F). Discussion of learning styles, testing strategies, disability issues, and other topics relevant to being a teaching assistant for undergraduate biology laboratories. (Pass/Fail.) PREREQ: PERM/INST.

BIOL 605 APPLIED RAPTOR BIOLOGY (0-3-2)(F)(Odd years). A study of the techniques appropriate to the study of the ecology, behavior, and physiology of raptors and other birds. Field trips will be taken in addition to regularly scheduled class. PREREQ: Graduate standing in Biology or Raptor Biology or PERM/INST.

BIOL 606 RAPTOR ECOLOGY (3-0-3)(F)(Even years). Theoretical ecology as applied to birds of prey. Strategies of reproduction, habitat selection, foraging and spacing; theory of competition and predator-prey interactions; niche theory and community structure; raptor management. PREREQ: Graduate standing or PERM/INST.

BIOL 613 (BMOL 613) MOLECULAR GENETICS (3-0-3)(F/S). An advanced study of genetics in microbial, animal and plant systems, focused on the biochemical and molecular aspects of genetic structure and function. Information obtained from recent genomic analysis and comparisons will be included as well as discussion of contemporary molecular biology techniques and applications and an introduction to genomics. May be taken for BIOL or BMOL credit, but not both. PREREQ: BIOL 310 or equivalent.

BIOL 617 SPECIES AND SPECIATION (3-0-3)(F)(Odd years). Species definitions are fundamental for all investigations in the biological sciences. This course will investigate the numerous species concepts proposed over the last 100 years with an emphasis on primary literature. Concepts to be discussed will include biological, phylogenetic, genealogical, and evolutionary species concepts. The second part of the course will emphasize the processes involved in speciation, looking at both micro- and macroevolutionary events. PREREQ: BIOL 400 or BIOL 500 or PERM/INST.

BIOL 623 ADVANCED IMMUNOLOGY (1-0-1)(S). Advanced study of the cellular and molecular regulation of the immune response. The course will include formal lectures, student presentations, and in-depth discussion of selected topics using the current literature. PREREQ: BIOL 520 or PERM/INST.

BIOL 628 GEOGRAPHIC INFORMATION SYSTEMS IN BIOLOGY (3-0-3)(S). Discussion of the use of Geographic Information Systems to apply spatial data to ecological problems. Analysis of the ways that spatial relations affect patterns, processes, and decision making at multiple scales. Specific topics covered include GAP analysis, habitat modeling, spatially-explicit population modeling, landscape ecology, home range analysis, interpretation of satellite imagery, and natural resource issues. PREREQ: Graduate standing or PERM/INST.

BIOL 629 MODERN METHODS IN ECOLOGY AND BEHAVIOR (2-3-3)(S)(Odd years). Instruction in the theory, practice, and analysis of modern methods used in ecological and evolutionary studies will be provided. Methods to be covered include: cytology, isozyme electrophoresis, DNA restriction site analysis, DNA sequencing, and RAPD analysis. PREREQ: PERM/INST.

BIOL 650 WRITING FOR BIOMEDICAL SCIENCES (1-0-1)(F/S). This writing course is designed for graduate students in biomedical science disciplines who are ready to begin, or who are currently working on, a manuscript. Examination of principles and practice of writing research manuscripts, articles, abstracts, and oral presentations will be included. Detailed examination of scientific publication process includes issues of style, organization, and ethics. Students draft, critique, and revise their own manuscripts and learn to review the manuscripts of others. PREREQ: PERM/INST.

BOT — Botany

BOT 302G PLANT ANATOMY AND MICROTECHNIQUE (3-3-4)(S) (Odd years). A study of the structure and development of vascular plant tissues, regions, and organs. Emphasis will be placed on the Angiosperms. Laboratory work includes preparation of hand and paraffin sections, staining, and observation of plant tissues using various types of light microscopy. PREREQ: BIOL 191-192.

BOT 305G SYSTEMATIC BOTANY (2-6-4)(S). Fundamental problems of taxonomy. Discussion of historical development of classification systems and comparison of recent systems. Instruction on use of keys and manuals. PREREQ: BIOL 191-192 or PERM/INST.

BOT 330G MYCOLOGY (3-3-4)(F). A study of the biology of fungi with emphasis on their classification, morphology and development, identification, ecology, and economic significance. Laboratory work will include projects and field trips. PREREQ: BIOL 191-192 or PERM/INST.

BOT 501 PLANT PHYSIOLOGY (3-3-4)(F)(Odd years). A study of plant biophysical and biochemical processes. Includes coverage of cell, tissue, and organ function, photosynthesis, water relations, mineral nutrition, transport mechanisms, growth and development, secondary metabolites, and plant responses to the environment. PREREQ: BIOL 191-192 and BIOL 320.

BOT 524 PLANT COMMUNITY ECOLOGY (3-6-5)(F)(Even years). Properties, structure, method of analysis, classification, and dynamic nature of plant communities. Strengths and weaknesses of various sampling techniques, role of disturbance events and succession on community structure, and role of biological interaction as factors influencing assembly of communities. Vegetation sampling methods and habitat type classification of local plant communities. Methods of analyzing and reporting data. BOT 305 highly recommended. PREREQ: Graduate standing or PERM/INST.

BOT 530 MOLECULAR AND CELLULAR BIOLOGY OF PLANTS (3-0-3)(S) (Odd Years). Discussion of plant development, plant responses to abiotic factors, and interactions between plants and other organisms from a molecular and cellular perspective. Examination of molecular approaches used to improve plant traits that facilitate sustainable agriculture and remediation of environmental problems. Students conduct a long term experiment to gain experience in plant transformation. PREREQ: BIOL 320 or PERM/INST.

BOT 541 PLANT DEVELOPMENTAL BIOLOGY (3-3-4)(S)(Even years). A description of plant development from a molecular and cellular perspective. Topics discussed include gene expression and cell signaling pathways, and their roles in the control of embryogenesis, plant growth, flowering, and fruit maturation. Examination of techniques and model systems used in the study of plant development. Each student will complete a project. PREREQ: BIOL 320.

EEB — Ecology, Evolution, and Behavior

EEB 501 SENSORY ECOLOGY AND EVOLUTION (3-0-3)(F/S). Examination of how information transmission, via various sensory systems, mediates animal behavior and shapes biological processes, such as predator/prey interactions and species' distributions. Discussion of the impacts of anthropogenic sensory pollution on ecological function.

EEB 601 PRINCIPLES AND PROCESSES IN ECOLOGY, EVOLUTION, AND BEHAVIOR I (3-3-4)(F). Discusses principal ecological processes and interactions, both biotic and abiotic, that organisms rely on and perform to acquire the necessary energy, water, carbon, and nutrients for growth, metabolism, and reproduction. Mechanisms driving evolutionary responses at the species and population levels are discussed in the context of how evolutionary processes influence ecosystem level responses to a variety of factors, including changing climate, anthropogenic use patterns, species invasions, and nutrient cycles.

EEB 602 PRINCIPLES AND PROCESSES IN ECOLOGY, EVOLUTION, AND BEHAVIOR II (3-3-4)(S). Builds on the principles and processes of ecology and

evolution discussed in EEB 601. Expands and explores in the context of contemporary responses of ecosystems and organisms to changing anthropogenic influences on ecosystems. PREREQ: EEB 601.

EEB 603 SCIENCE AND COMMUNICATION I (3-0-3)(F). Focuses on philosophy and process of conducting science, concept development, and experimental design. Emphasizes practical skills in sampling schemes, data management, metadata, accessing publicly available data, and using research-related software. Development of written and oral skills through preparing proposals and papers and delivering presentations. Application of different strategies for communicating with other scientists, collaborators, decision-makers, media, and the public.

EEB 604 SCIENCE AND COMMUNICATION II (3-0-3)(S). Continues the focus, skills development and practice begun in EEB 604. PREREQ: EEB 603.

EEB 605 CURRENT RESEARCH IN EEB (2-0-2)(F/S). Invited and contributed presentations on current topics in ecology, evolution, and behavior. Examines presentation style and effective techniques. Examination of literature on current topics, contributing to speaker scheduling and hosting. May be repeated for credit.

EEB 606 SCIENCE AND SOCIETY IN THE GREAT BASIN (3-0-3)(F/S). Case studies by local biologists from academia, government agencies, and private organizations using science to solve ecological problems in the Great Basin. Examines how different stakeholders study, manage, and conserve the wildlife, plants, soils and climate that shape the Great Basin. Includes applied communication of science to the public through outreach that promotes management of healthy landscapes and wildlife in local ecosystems.

EEB 607 QUANTITATIVE METHODS FOR POPULATION AND HABITAT ANALYSIS (2-2-3)(F/S). Theory and methods of how to use empirical data to make valid inferences about populations and habitats. Uses software and literature applied to various types of analyses of population and habitat data and models, including traditional, Bayesian, and hierarchical models that explain survival, occupancy, and abundance. Focus on reliable estimation of population parameters, measures of precision for estimates, and use of covariates to explain population patterns.

EEB 608 SPATIAL ECOLOGY (3-0-3)(F/S). Focuses on both techniques (geospatial mapping and modeling) and problems (landscape connectivity, animal movement strategies associated with spatial ecology). Examination of mechanisms that can cause spatial pattern formation in species distributions and of metapopulation dynamics and dispersal strategies. Selection and use of appropriate software for spatial analyses. Includes both theoretical sessions and computer exercises.

EEB 609 ADVANCED COMMUNITY ECOLOGY (3-0-3)(F/S). Fundamentals of community ecology and current theories and quantitative tools for determining community assembly rules, describing diversity patterns, and linking community structure to community functions.

EEB 610 MICROBIAL ECOLOGY (3-0-3)(F/S). Focuses on the relationships among and biogeochemical role of microorganisms in natural communities. Topics structured to demonstrate the linkages between microbial ecology, diversity, and evolution. Strengths, limitations, and caveats of modern microbial methods for assessing ecological interactions. Role of microbial metabolism in controlling elemental cycling on local to global scales.

EEB 611 CHEMICAL ECOLOGY AND EVOLUTION (3-0-3)(F/S). Surveys topics related to the chemical ecology and co-evolutionary interactions between plant and herbivores. Material focuses on quantifying doses of chemical defenses in plants and responses of herbivores to those defenses from an evolutionary, physiological, pharmacological and ecological perspective. Design, conduct, analyze and present an experiment testing an hypothesis related to chemical ecology and evolution.

EEB 612 PLANT ECOPHYSIOLOGY (3-0-3)(F/S). Responses of plants in terrestrial ecosystems to, and interaction with, environmental conditions. Physiological responses of plants and their ecosystems to environmental factors and stressful conditions. Interaction of plants with environment to capture, use and cycle resources such as carbon, water and nutrients. Emphasis on plant responses and plant-soil-atmosphere interactions from a global environmental change perspective such as increased carbon dioxide concentration and temperature and altered precipitation patterns.

EEB 613 LANDSCAPE AND CONSERVATION GENOMICS (3-0-3)(F/S). Application of evolutionary analysis to real-world biological problems. Use of large data sets and diverse computational approaches in analyzing population structure, signatures of natural selection, and demographic and disease-related processes. Emphasizes human-driven global changes that accentuate

or disrupt natural evolutionary processes and linkages at the individual, population, community, and species levels. Includes a focus on the consequences of landscape-level patterns to the spatial genetic structure of populations.

EEB 614 PHYLOGENETICS AND ADVANCED EVOLUTION (3-0-3)(F/S). Explores the basics of phylogenetics, applications, and current software used to generate histories of organisms. Interpretation of macro-evolutionary processes using phylogenetic history. Topics include multiple sequence alignment, genomic data analysis, generation of phylogenetic trees via parsimony, likelihood and Bayesian methods as well as networks. Examines phylogenetic trees for ancestral character state reconstruction, molecular dating, biogeography, climate shifts, and species trees.

EEB 615 BIODIVERSITY AND ECOSYSTEM FUNCTION (3-0-3)(F/S). Quantifies patterns of biodiversity and discusses the ecological implications of biodiversity loss at the level of the community, ecosystem and landscape. Community ecology focus on biotic interactions such as competition, trophic interactions, bottom-up and top-down control and stability of food webs. Biodiversity impacts on interactions between organisms and the abiotic environment. Landscape level focus on effects of changes in biodiversity on structure and dynamics of natural and cultural landscapes.

EEB 616 THE CARBON DILEMMA (3-0-3)(F/S). Explores tradeoffs between different ecosystem functions and services provided by carbon. Several (interlinked) scientific questions important for resolving or managing carbon are discussed and novel research questions are identified.

EEB 617 ECOSYSTEM ECOLOGY (3-0-3)(F/S). Influence of biological, ecological and physical processes on energy and elemental cycling (C, N, P). Consideration of roles of microorganisms, plants and animals and whole ecosystems. Factors regulating the ecosystem function, including soils, climate, disturbance, and human activities, are considered from the molecular to the global scale.

EEB 618 EARTH'S BIOGEOCHEMICAL CYCLES AND CLIMATE CHANGE (3-0-3)(F/S). Examines the underlying natural science of global change. Presents and evaluates major processes affecting C, N, and P cycles at ecosystem levels with biogeochemical ecosystem models. At the global scale level, the C, N, and P cycles are examined across the Earth's compartments. Emphasizes how these cycles are linked and how regulation among cycles takes place. Functioning of natural cycles and the anthropogenic effects on these cycles are assessed.

EEB 619 MODELING SOCIAL BEHAVIOR (3-0-3)(F/S). A survey of modeling approaches used to analyze social behavior from an evolutionary/ecological perspective. Focus on analytical, agent-based, and statistical modeling.

EEB 620 POPULATION GENETICS (3-0-3)(F/S). Theoretical population genetics and its relationship to natural and experimental populations. Single locus and multilocus systems, history of a gene in a population, diffusion approximations, suitability of models to natural and experimental populations. Theories of selection, neutrality, drift, recombination, mutation, and isolation and statistical tests and experimental methods for detecting these forces.

EEB 621 ADVANCED ECOLOGICAL DATA ANALYSIS (3-0-3)(F/S). Utilizes existing datasets. Provides 'hands-on' training in data analysis with goal of publishable article. Focuses on data issues, selection of appropriate models and problems of interpretation. Topics vary by participants, but may include mixed models, non-linear modeling, scripting, and manipulating data.

ZOOL — Zoology

ZOOL 301G COMPARATIVE VERTEBRATE ANATOMY (2-6-4)(F). The evolutionary development of vertebrate anatomy, fishes through mammals. Dissection of the shark, salamander, and cat plus demonstrations of other vertebrate types. PREREQ: BIOL 191-192 or PERM/INST.

ZOOL 305G ENTOMOLOGY (3-3-4)(F). The general anatomy, physiology, and developmental biology of insects, and ecological and evolutionary relationships and interactions of insects with humans. Field trips to collect and identify local species. PREREQ: BIOL 191-192 or PERM/INST.

ZOOL 341G ORNITHOLOGY (2-3-3)(S)(Odd years). Birds as examples of biological principles: classification, identification, ecology, behavior, life histories, distribution, and adaptations of birds. Two weekend field trips. PREREQ: BIOL 191-192 and PERM/INST.

ZOOL 500 VERTEBRATE HISTOLOGY (2-6-4)(S)(Even years). Microscopic anatomy of cells, tissues, and organ systems of vertebrates. Major emphasis will be on mammalian systems. PREREQ: BIOL 320 or ZOOL 301.

ZOOL 501 HUMAN PHYSIOLOGY (3-3-4)(S). Functional aspects of human tissues and organ systems with emphasis on regulatory and homeostatic mechanisms. PREREQ: BIOL 320 or PERM/INST.

ZOOL 503 (KINES 503) HEAD AND NECK ANATOMY (2-2-3)(F,S). Use of human cadavers to study dissections of head and neck with emphasis on clinical relevance. Integument, osteology, myology, circulatory systems, lymphatics, oral and dental tissues, neuroanatomy, cranial nerves, general innervation, and salivary glands. May be taken for KINES or ZOOL credit but not both. PREREQ: BIOL 191-192 or BIOL 227-228 or PERM/INST.

ZOOL 509 GENERAL AND COMPARATIVE PHYSIOLOGY (3-3-4)(S). Physiological principles common to all forms of animal life are discussed. Physiological adaptations required to live in a variety of environments are presented. PREREQ: Graduate standing or PERM/INST.

ZOOL 521 MAMMALOLOGY (2-3-3)(S)(Even years). The biology of mammals: ecology, life histories, reproduction, classification, identification, distribution, and adaptations. One weekend field trip. PREREQ: Graduate standing or PERM/INST.

ZOOL 525 AQUATIC ENTOMOLOGY (3-3-4)(F)(Even years). The taxonomy and ecology of the insects most commonly encountered in freshwater environments. Emphasis on identification and biology of individual taxa, aquatic insect community ecology, environmental pollution assessment, and natural resource management. PREREQ: Graduate standing or PERM/INST.

ZOOL 534 ANIMAL BEHAVIOR (3-3-4)(F)(Even years). This course focuses on the concepts and processes of animal behavior, with particular emphasis on proximate perspectives. The history of the study of animal behavior, behavioral genetics, the nervous system and behavior, hormones and behavior, ontogeny of behavior, learning and motivation, and other aspects of behavior such as migration, orientation, and navigation will be presented. PREREQ: Graduate standing or PERM/INST.

ZOOL 615 AVIAN PHYSIOLOGY (3-0-3)(F)(Odd years). The physiology of flight, cardiovascular, pulmonary, digestive, water and electrolyte, egg, and reproductive physiology are covered. Correlations between unique aspects of avian structure and function are emphasized. PREREQ: Graduate standing or PERM/INST.

ZOOL 635 BEHAVIORAL ENDOCRINOLOGY (3-0-3)(F)(Even years). An examination of the endocrine system and the hormonal mechanisms associated with social behavior and aggression, reproductive and parental behavior, biological rhythms, etc. Each student is expected to investigate and lead a discussion on an assigned topic. PREREQ: Graduate Standing or PERM/INST.

SPECIAL TOPICS. Courses are offered in response to student interest and are in addition to formal courses listed above.

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

Biomolecular Sciences Programs

College of Arts and Sciences

Science Building, Room 105A
 Phone: (208) 426-2844
 Fax: (208) 392-1430
 E-mail: biomolecularphd@boisestate.edu

Graduate Degrees Offered

- Doctor of Philosophy in Biomolecular Sciences
- Master of Science in Biomolecular Sciences

Participating Departments

- Biological Sciences
- Chemistry and Biochemistry
- Physics

Doctor of Philosophy in Biomolecular Sciences

Program Director: Denise Wingett
 Program Administrator: Beth Gee
 Science Building, Room 105A
 Phone: (208) 426-2844
 Fax: (208) 392-1430
 E-mail: biomolecularphd@boisestate.edu

General Information

The interdisciplinary program leading to the degree of Doctor of Philosophy (Ph.D.) in Biomolecular Sciences is delivered by faculty members drawn from the Departments of Biological Sciences, Chemistry and Biochemistry, and Physics. This degree requires completion of a prescribed course of study, satisfactory performance on preliminary and comprehensive examinations, and completion of a dissertation representing an original and significant research contribution in the biomolecular sciences. Each student works under the guidance of a supervisory committee chaired by the student's major advisor.

Application and Admission Requirements

An applicant must follow the general application procedures; see *Graduate Admission Regulations* for a description of the general application procedures and minimum admission requirements of the Graduate College. Additional application procedures and admission requirements associated with this program are described below.

Application Procedures The applicant must complete the general application procedures of the Graduate College and must submit the following additional applications materials: 1) Three letters of recommendation from academic or professional references, 2) A brief personal statement (no more than 1750 words) describing the applicant's academic and professional background, career goals, and faculty members that you are most interested in working with, 3) A scientific writing sample, and 4) A resume listing educational training, awards, publications, poster presentations, grants, etc. Official scores for the GRE General Test are submitted by the Educational Testing Service to the university upon request by the applicant. Evaluation of completed applications will begin on January 10th for fall admission of the next academic year. Applicants

desiring spring admission should contact the program administrator for instructions.

Minimum Admission Requirements An applicant must satisfy the minimum admission requirements of the Graduate College. In addition, an applicant must hold a baccalaureate or graduate degree in an appropriate scientific discipline, and should have undergraduate course work that includes cell biology, biochemistry, calculus, and general physics. The program director can provide more detailed guidance to interested students on academic preparation. Admission is competitive and achievement of minimum admission requirements does not guarantee admission to the program.

Degree Requirements

Doctor of Philosophy in Biomolecular Sciences	
Course Number and Title	Credits
Core Sequence	
BMOL 601 Biomolecules I	4
BMOL 602 Biomolecules II	4
BMOL 603 Biophysical Instrumentation and Techniques	4
Additional Required Courses	
BMOL 511 (BIOL 511) Advanced Cell Biology	3
BMOL 516 Responsible Conduct in Research	1
BMOL 598 Graduate Seminar	4
BMOL 605 Current Scientific Literature	2
BMOL 606 Proposal Writing	2
BMOL 607 Graduate Research Presentation	1
PHYS 504 Molecular and Cellular Biophysics	4
BMOL 598 and BMOL 605 are one-credit courses that can be applied to meet degree requirements. No more than two credits of BMOL 605 and four credits of BMOL 598 can be applied towards degree requirements.	
Approved Electives	5
Examinations	
BMOL 687 Doctoral Preliminary Examination	1
BMOL 691 Doctoral Comprehensive Examination	1
Culminating Activity	
BMOL 693 Dissertation	30
<i>Total</i>	66

Preliminary and Comprehensive Examinations

The student must pass a preliminary examination and a comprehensive examination. The preliminary examination is a written examination that measures achievement by the student of an acceptable breadth and depth of knowledge in the biomolecular sciences. The comprehensive examination is a defense of a research proposal on a topic that is distinct from the anticipated dissertation research, and may be taken only after successful completion of the preliminary examination.

Dissertation

The dissertation must be the result of independent and original research by the student, and must constitute a significant contribution to current knowledge in the biomolecular sciences, equivalent to multiple peer-reviewed publications. The dissertation is defended at the final oral examination which is conducted according to the procedures of the Graduate College.

Master of Science in Biomolecular Sciences

Program Director: Denise Wingett
 Program Administrator: Beth Gee
 Science Building, Room 105A
 Phone: (208) 426-2844
 Fax: (208) 392-1430
 E-mail: biomolecularphd@boisestate.edu

General Information

The interdisciplinary program leading to the degree of Masters of Science (M.S.) in Biomolecular Sciences is delivered by faculty members drawn from the Departments of Biological Sciences, Chemistry and Biochemistry, and Physics. This degree requires completion of a prescribed course of study, and completion of an approved culminating activity in biomolecular sciences. Each student works under the guidance of a supervisory committee chaired by the student's major advisor.

Application and Admission Requirements

An applicant must follow the general application procedures; see *Graduate Admission Regulations* for a description of the general application procedures and minimum admission requirements of the Graduate College. Additional application procedures and admission requirements associated with this program are described below.

Application Procedures The applicant must complete the general application procedures of the Graduate College and must submit the following additional applications materials: 1) Three letters of recommendation from academic or professional references, 2) A brief personal statement (no more than 1750 words) describing the applicant's academic and professional background, career goals, and faculty members that you are most interested in working with, 3) A scientific writing sample, and 4) A resume listing educational training, awards, publications, poster presentations, grants, etc. Official scores for the GRE General Test are submitted by the Educational Testing Service to the university upon request by the applicant. Evaluation of completed applications will begin on January 10th for fall admission of the next academic year. Applicants desiring spring admission should contact the program administrator for instructions.

Minimum Admission Requirements An applicant must satisfy the minimum admission requirements of the Graduate College. In addition, an applicant must hold a baccalaureate degree in an appropriate scientific discipline, and should have undergraduate course work that includes cell biology, biochemistry, calculus, and general physics. The program director can provide more detailed guidance to interested students on academic preparation. Admission is competitive and achievement of minimum admission requirements does not guarantee admission to the program.

Degree Requirements

Master of Science in Biomolecular Sciences	
Course Number and Title	Credits
Core Sequence	
BMOL 601 Biomolecules I	4
BMOL 602 Biomolecules II	4
BMOL 603 Biophysical Instrumentation and Techniques	4
Additional Required Courses	
BMOL 511 (BIOL 511) Advanced Cell Biology	3
BMOL 516 Responsible Conduct in Research	1
BMOL 598 Graduate Seminar	2
BMOL 605 Current Scientific Literature	1
PHYS 504 Molecular and Cellular Biophysics	4
Culminating Activity	
Additional graduate courses and a culminating activity chosen from one of the following options:	7
Project	
BMOL 591 Project (7 cr)	
Thesis	
BMOL 593 Thesis (7 cr)	
Comprehensive Examination (Ph.D. Track Only)	
BMOL 606 Proposal Writing (2 cr)	
BMOL 607 Graduate Research Presentation (1 cr)	
BMOL 687 Doctoral Preliminary Examination (1 cr)	
BMOL 691 Doctoral Comprehensive Examination (1 cr)	
Approved electives (2 cr)	
Total	30

Course Offerings

See *Course Numbering and Terminology* for definitions.

BMOL — Biomolecular Sciences

BMOL 511 (BIOL 511) ADVANCED CELL BIOLOGY (3-0-3)(S). Contemporary and frontier topics in the biology of microbial, plant, and animal cells covering signal transduction, protein trafficking, membrane structure and transport, cell to cell communication, cellular compartmentalization, and cell biotechnology applications. May be taken for BIOL or BMOL credit, but not both. PREREQ: BIOL 320 or PERM/INST.

BMOL 514 (BIOL 514) FLOW CYTOMETRY RESEARCH TECHNIQUES (0-3-1)(F/S/SU). Provides a basic understanding of flow cytometry principles and applications in research and clinical setting. Students gain 'hands-on' experience including staining and separating blood cells, staining of DNA for cell cycle analysis, and purification of rare cell types using a cell sorter. Students apply flow cytometry to a specific research topic. May be taken for BIOL or BMOL credit, but not both. PREREQ: BIOL 320 or equivalent.

BMOL 516 RESPONSIBLE CONDUCT IN RESEARCH (1-0-1)(F). Basic concepts, principles and practices governing research compliance and Responsible Conduct for Research (RCR) in the biomolecular and biomedical areas. The course will utilize on-line Collaborative Institutional Training Initiative (CITI) training modules and group discussions of case studies or lectures presented by professionals in the field. PREREQ: Graduate standing.

BMOL 555 APPLIED CALCULUS FOR BIOMOLECULAR SCIENCES (1-0-1)(S). Review and practice of calculus methods and techniques relevant to qualitative and quantitative descriptions of complex phenomena in the biomolecular sciences. PREREQ: MATH 170; and PHYS 112 or PHYS 112.

BMOL 601 BIOMOLECULES I (4-0-4)(F). An in-depth study of the metabolism of both DNA and RNA at the molecular/mechanistic level. This course will cover the mechanisms of DNA replication, transcription, translation, transposition and repair, as well as those for RNA interference, catalysis, silencing and splicing. Molecular genetics and bioinformatics approaches for studying DNA/RNA and their interactions with proteins will be discussed. PREREQ: BIOL 320; CHEM 431 or CHEM 350 and PHYS 307; MATH 170, PHYS 112.

BMOL 602 BIOMOLECULES II (4-0-4)(S). An in-depth study of proteins focusing on amino acid chemistry, protein structure, protein folding, protein function, membrane biochemistry as well as small molecules, lipids and carbohydrates. This course will discuss modern methods of protein

characterization and the use of bioinformatics in understanding the chemistry/function of proteins. Recent developments in proteomics and high-throughput approaches to identifying and assessing protein function will be presented. PREREQ: BIOL 320; CHEM 431 or CHEM 350 and PHYS 307; MATH 170, PHYS 112; or BMOL 601 or BMOL 603.

BMOL 603 BIOPHYSICAL INSTRUMENTATION AND TECHNIQUES (3-3-4)(F/S). Applications and principles of key physical methods and instruments used for the characterization of the structural, functional, and dynamical properties of biological molecules and their interactions. Methods include single-molecule detection and manipulation; mass spectroscopy; X-ray, electron, and neutron diffraction; spectroscopy (optical, IR, UV, Raman); magnetic resonance (NMR, EPR, MRI); plasmon resonance; birefringence; electrophoresis; and hydrodynamic techniques. PREREQ: BIOL 320; CHEM 431 or CHEM 350 and PHYS 307; MATH 170, PHYS 112; or BMOL 601 or BMOL 602.

BMOL 605 CURRENT SCIENTIFIC LITERATURE (1-0-1)(F). Written and oral presentation of current topics from the published literature in areas of Biomolecular Sciences aimed at integrating material from the various related disciplines. Course will be multidisciplinary involving in depth discussion and critical analysis of current literature by the students. May be repeated for credit. PREREQ: Admitted to program.

BMOL 606 PROPOSAL WRITING (0-2-2)(F/S). Written and oral presentation of a research proposal in an area of biomolecular sciences related to the student's proposed dissertation research project. PREREQ: Admitted to program and BMOL 601.

BMOL 607 GRADUATE RESEARCH PRESENTATION (1-0-1)(S). Oral presentation on research activity by third year students in the Biomolecular Sciences program. PREREQ: BMOL 601, BMOL 602, BMOL 603.

BMOL 613 (BIOL 613) MOLECULAR GENETICS (3-0-3)(F/S). An advanced study of genetics in microbial, animal and plant systems, focused on the biochemical and molecular aspects of genetic structure and function. Information obtained from recent genomic analysis and comparisons will be included as well as discussion of contemporary molecular biology techniques and applications and an introduction to genomics. May be taken for BIOL or BMOL credit, but not both. PREREQ: BIOL 310 or equivalent.

BMOL 615 RESEARCH IN THE BIOMOLECULAR SCIENCES (0-3-1)(F). Research conducted by graduate students under the supervision of faculty in Biomolecular Sciences. Students rotate through different research laboratories during the semester to learn new research techniques, review relevant scientific literature, experience different mentoring styles and laboratory environments, and contribute to a research team's generation of hypotheses and data interpretation. PREREQ: PERM/INST.

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

Master of Business Administration Programs

College of Business and Economics

Graduate Studies Director: Zeynep Hansen
Micron Business and Economics Building, Room 3136
Phone: (208) 426-2391
Fax: (208) 426-1135
<https://cobe.boisestate.edu/graduate-programs-overview/>
E-mail: graduatebusiness@boisestate.edu

General Information

The College of Business and Economics offers four separate routes to a Master of Business Administration (MBA) degree.

- The Career Track MBA is for individuals who have recently graduated with a non-business major who have little or no work experience.
- The MBA for Working Professionals is for early to mid-career individuals with at least two years of significant work experience who wish to complete an MBA program at night while continuing to work full-time.
- The Online MBA is for early career individuals with at least two years of significant work experience who wish to complete an MBA program completely online.
- The Executive MBA program is for mid-career individuals or entrepreneurs who wish to complete an MBA program with similarly-experienced individuals while continuing to work full-time.

Master of Business Administration Full Time Program (Career Track)

Graduate Studies Director: Zeynep Hansen
Program Administrator: Trisha Stevens Lamb
Micron Business and Economics Building, Room 4104
Phone: (208) 426-1120
E-mail: graduatebusiness@boisestate.edu
<https://cobe.boisestate.edu/careerstartmba/>

General Information

The Career Track MBA is a full-time, cohort-based program designed for high-potential individuals with limited work experience or career changers looking to go to school full-time. The unique design provides graduates with tools to get their career going and to move up more quickly in an organization.

First year courses provide a foundation in business as students learn about marketing, finance, accounting, operations, etc. Classroom material is reinforced through interactions and applications with operating businesses to prepare the student for a full-time summer internship. Students earn course credit and gain valuable work experience during their summer internship.

Second year courses emphasize a hands-on approach as students gain experience by developing new products for operating businesses or working on their own ideas. Individuals have the opportunity to learn the process of commercialization and to immerse in areas of particular interest, such as marketing, finance, operations, etc.

Application and Admission Requirements

Successful applicants to the Career Track MBA full-time program typically bring at least a 3.30/4.00 GPA on their last 30 college credits and a GMAT score of 550 or better. We also accept GRE scores with minimum target scores of 155 in both the verbal and math categories. A higher GPA can offset a lower test score and vice versa. Contact the program administrator for details.

English proficiency is required. International students must score 587/240/95 or better on the TOEFL exam or 6.5 on the IELTS exam.

No work experience is required for this program. Applicants are evaluated based on motivation level, prior academic performance, GMAT or GRE test scores, managerial potential, reference letters, essays, and a personal interview. Details can be found on the Career Track MBA website: <https://cobe.boisestate.edu/careerstartmba/>

Degree Requirements

Career Track MBA students complete 51 semester credit-hours over two academic years. Courses are offered during the day. The program emphasizes teamwork, business skills, project management, and real world experience. Three-credit summer internships are required.

Master of Business Administration Full Time Program	
Course Number and Title	Credits
Year 1— Business Fundamentals	
MBA 501 Accounting for Managers	3
MBA 502 Fundamentals of Marketing	3
MBA 503 Managing Successful Projects	3
MBA 507 Statistical Thinking and Business Analytics	3
MBA 508 Corporate Financial Management	3
MBA 509 Data Management and Analytics	3
MBA 510 Operations and Supply Chain Management	3
MBA 512 Management and Oral Communications	3
MBA 590 Practicum/Internship	3
Year 2— Business Applications	
MBA 505 Strategy for Competitive Advantage	3
MBA 506 Discipline Integration: Live Cases	3
MBA 511 Business Law and Social Responsibility	3
MBA 514 Innovation Driven Advantage	3
MBA 522 Managing Human Resources	3
MBA 526 Business Economics	3
MBA 527 Applied Capstone Start	3
MBA 528 Applied Capstone Project	3
Total	51
Students will need to meet with Program Coordinator to coordinate summer internship.	

**Master of Business Administration
Part Time Program (Working Professionals)**

Graduate Studies Director: Zeynep Hansen
 Program Administrator: Brian O'Morrow
 Micron Business and Economics Building, Room 4105
 Phone: (208) 426-3168
<https://cobe.boisestate.edu/parttimemba/>
 E-mail: graduatebusiness@boisestate.edu

General Information

The MBA for Working Professionals is a part-time, cohort-based program designed for high-potential individuals with at least two years of significant work experience. The program is designed for early to mid-career individuals who wish to create career options or move up more quickly in an organization while continuing to work full-time.

Students learn and experience the process organizations use to commercialize ideas. Courses are coordinated with the commercialization process throughout the three academic years. First-year student teams develop at least two potential business ideas to work on during their program of study. First-year coursework gives a foundation in methods to evaluate the commercial viability of that intellectual property. Second-year courses focus on feasibility and planning for the chosen opportunity and the final year provides the opportunity to integrate all aspects into a business plan and to seek startup funds. The pace is reasonable for those working full-time but aggressive enough to keep you busy. Summer breaks provide a chance to rejuvenate.

Courses are offered only at night. They provide a foundation in all aspects of business including marketing, finance, accounting, supply chain, operations, etc. Classroom material is reinforced through interactions and applications with operating businesses designed to prepare the student for a career in management.

Application and Admission Requirements

Successful applicants to the MBA for Working Professionals part-time program typically bring at least a 3.00/4.00 GPA on their last 60 college credits and a GMAT score of 500 or better. We also accept GRE scores with minimum target scores of 145 in both the verbal and math categories. A higher GPA can offset a lower test score and vice versa. No GMAT/GRE required for application with 7 years professional work experience and a 3.00 in the last 60 credits. Contact the program administrator for details.

English proficiency is required. Foreign students must score 587/240/95 or better on the TOEFL exam or 6.5 on the IELTS exam.

Successful applicants have at least two years of significant work experience. Applicants are evaluated based on motivation level, prior academic performance, GMAT or GRE test scores, managerial potential, reference letters, essays, and a personal interview. Details can be found on the MBA for Working Professionals website.

Applicants must demonstrate proficiency in math, Microsoft Excel, statistics, economics, and financial accounting prior to enrolling in courses. Self-paced study materials and proficiency exams are available on line. Details can be found on the MBA for Working Professionals website.

Degree Requirements

Students enrolled in the MBA for Working Professionals program complete 50 semester credit-hours over three academic years (32-months). Courses are offered only at night and cohorts start each fall semester. The program emphasizes teamwork, business skills, project management, and the real world experience of commercializing intellectual property.

Master of Business Administration Part Time Program	
Course Number and Title	Credits
Year 1— Opportunity Assessment	
MBA 531 Strategic Perspectives	3
MBA 540 Marketing Strategy	3
MBA 542 Developing Successful Teams	1
MBA 543 Managing Corporate Finance	3
MBA 544 Global Economics: Policy and Trade	3
MBA 548 Opportunity Assessment I	1
MBA 549 Successful Project Management	3
MBA 550 Opportunity Assessment II	1
Year 2— Feasibility and Planning	
MBA 551 Managerial Accounting's Role in Decision Management and Control	2
MBA 554 Managing People in Organizations	2
MBA 555 Organizational Issues	2
MBA 556 Feasibility and Planning I	1
MBA 558 Managers and the Legal Environment of Business	3
MBA 559 Issues in Supply Chain Management	3
MBA 560 Feasibility and Planning II	1
MBA 562 Business Modeling	3
MBA 565 Feasibility and Planning III	1
Year 3— Business Plan Development	
MBA 546 Strategic Management	3
MBA 567 Business Plan Development	4
MBA 568 Managerial Communication	3
MBA 569 Information Technology and Process Management	3
MBA 570 Business Plan Capstone	1
<i>Total</i>	50

Master of Business Administration Part Time Program (Working Professionals) Concurrent with University of Idaho Juris Doctorate

Graduate Studies Director: Zeynep Hansen
Program Administrator: Brian O'Morrow
Micron Business and Economics Building, Room 4105
Phone: (208) 426-3168
<https://cobe.boisestate.edu/parttimemba/>
E-mail: graduatebusiness@boisestate.edu

General Information

Students may elect to concurrently pursue a Boise State MBA degree while also matriculating towards a Juris Doctorate degree from the University of Idaho's School of Law. Admission to the concurrent program requires admission to each of the two individual programs under their respective criteria. Interested students are encouraged to contact our Program Administrator for details since careful planning is required if one is to earn both degrees in only four academic years.

Concurrent students become part of a cohort of students in our MBA for Working Professionals Program, taking classes with others who are exclusively pursuing an MBA degree. This program is designed for early to mid-career individuals with at least two years of significant work experience who wish to create career options or move up more quickly in an organization.

Students learn and experience the process organizations use to commercialize ideas. Courses are coordinated with the commercialization process throughout the program and provide a foundation in all aspects of business including marketing, finance, accounting, supply chain, operations, etc. Classroom material is reinforced through interactions and applications with operating businesses designed to prepare the student for a career in management.

Application and Admission Requirements

Successful applicants to the MBA for Working Professionals part-time program typically bring at least a 3.00/4.00 GPA on their last 60 college credits and a GMAT score of 500 or better. We also accept GRE scores with minimum target scores of 145 in both the verbal and math categories. LSAT scores may also be accepted. A higher GPA can offset a lower test score and vice versa. Contact the Program Administrator for details.

English proficiency is required. If your first language is not English you must score 587/240/95 or better on the TOEFL exam or 6.5 on the IELTS exam.

Successful applicants have at least two years of significant work experience. Applicants are evaluated based on motivation level, prior academic performance, standardized test scores, managerial potential, reference letters, essays, and a personal interview. Details can be found on the MBA for Working Professionals website.

Applicants must demonstrate proficiency in math, statistics, economics, and financial accounting prior to enrolling in courses. Self-paced study materials and proficiency exams are available online. Details can be found on the MBA for Working Professionals website.

Degree Requirements

Students enrolled in the MBA for Working Professionals Program complete 50 semester credit-hours over four academic years (44 months). Courses are offered only at night and cohorts start each fall semester.

Master of Business Administration Part Time Program Concurrent with University of Idaho Juris Doctorate	
Course Number and Title	Credits
MBA 531 Strategic Perspectives	3
MBA 540 Marketing Strategy	3
MBA 542 Developing Successful Teams	1
MBA 543 Managing Corporate Finance	3
MBA 544 Global Economics: Policy and Trade	3
MBA 546 Strategic Management	3
MBA 549 Successful Project Management	3
MBA 551 Managerial Accounting's Role in Decision Management and Control	2
MBA 554 Managing People in Organizations	2
MBA 555 Organizational Issues	2
MBA 559 Issues in Supply Chain Management	3
MBA 562 Business Modeling	3
MBA 567 Business Plan Development	4
MBA 568 Managerial Communication	3
Approved Directed Electives from UI School of Law	12
<i>Total</i>	50

Master of Business Administration Online

Graduate Studies Director: Zeynep Hansen
Program Administrator: Brian O'Morrow
Phone: (855) 290-3840
E-mail: onlinemba@boisestate.edu
<https://cobe.boisestate.edu/onlinemba/>

General Information

The Online MBA is designed for high-potential individuals who desire to complete their degree entirely online. The program is particularly well-suited for early to mid-career individuals who wish to create career options or move up more quickly in an organization while continuing to work full-time.

This program focuses on general management. Students gain a foundation in all aspects of business including marketing, finance, accounting, supply chain, operations, etc. Team projects in four of the twelve courses require students to work in a distributed work group—a common scenario today. Eight of the twelve courses require students to apply concepts to a current issue from their workplace.

Students have the flexibility to finish in as short as 12 months or to pace their progress as desired. The program supports six start dates in each calendar year so students can begin the program at any time. All students must enroll in BUSMBA 500 and BUSMBA 501 during their first semester and BUSMBA 555 during their last semester but can take any of the other ten courses in any order.

Application and Admission Requirements

Successful applicants to the Online MBA program typically bring at least a 3.00/4.00 GPA on their last 60 college credits and a GMAT score of 500 or better. We also accept GRE scores with minimum target scores of 145 in both the verbal and math categories. A higher GPA can offset a lower test score and vice versa. No GMAT/GRE scores are required for applicants with at least seven years professional work experience and a 3.00/4.00 GPA in their last 60 credits of college coursework. Contact the program administrator for details. English proficiency is required. International students must score 587/240/95 or better on the TOEFL exam or 6.5 on the IELTS exam.

Successful applicants have at least two years of significant work experience. Applicants are evaluated based on motivation level, prior academic performance, GMAT or GRE test scores, managerial potential, reference letters, and essays. Details can be found on the Online MBA website.

Applicants must demonstrate proficiency in Microsoft Excel, statistics, economics, and financial accounting prior to enrolling in courses. Self-paced study materials and proficiency exams are available online.

Degree Requirements

Students enrolled in the Online MBA program complete 49 semester credit-hours. Courses are offered in six, eight-week sessions during the calendar year. Students may start at any time during the year.

Master of Business Administration Online Program	
Course Number and Title	Credits
BUSMBA 500 Introduction and Business Foundations	1
BUSMBA 501 Design Thinking and Strategic Management	4
BUSMBA 505 Marketing Strategy	4
BUSMBA 510 People and Organizations	4
BUSMBA 515 Corporate Finance	4
BUSMBA 520 Global Economics: Policy and Trade	4
BUSMBA 525 Managerial Accounting	4
BUSMBA 530 Managerial Communication	4
BUSMBA 535 Information Technology and Business Alignment	4
BUSMBA 540 Managing Successful Projects	4
BUSMBA 545 Legal Issues in Business	4
BUSMBA 550 Operations and Supply Chain Management	4
BUSMBA 555 Business Plan Development	4
<i>Total</i>	49

Executive Master of Business Administration

Graduate Studies Director: Zeynep Hansen
 Program Information: David Knipping
 Micron Business and Economics Building, Room 4103
 Phone: (208) 426-4034
 E-mail: emba@boisestate.edu
<https://cobe.boisestate.edu/emba/>

General Information

The Executive MBA program is designed for mid-career individuals aspiring to senior management positions who wish to complete an MBA degree while continuing to work full-time.

The curriculum helps prepare individuals for senior positions by providing a solid grounding in business processes, extensive work on interpersonal skills, and exposure to creative processes and innovative problem-solving methods. Individual coaches provide one-on-one development of leadership and communication skills. Courses are integrated to better reflect the interconnected world of business and were developed with the assistance of many local organizations.

The program lasts two academic years (21 months) including a summer break. Courses meet once per month, typically for three or four consecutive days. Two week-long residencies, one of which is international, are included. Classroom material is reinforced through interactions with many guest speakers and business leaders. The pace is reasonable for those working full time but quite challenging.

Application and Admission Requirements

Successful applicants to the Executive MBA program have at least twelve years of professional work experience, six years of managerial work experience, and a work history of increasing responsibility. An undergraduate degree is required and a letter of support from the applicant's direct supervisor is also required in place of GMAT or GRE test scores.

Applicants are evaluated based on motivation level, prior academic performance, managerial experience, reference letters, essays, and a personal interview. The process favors those who can contribute to the education of all participants. Details can be found on the Executive MBA website.

Degree Requirements

Students enrolled in the Executive MBA program begin in the fall and complete 40 semester credit-hours over two academic years (21-months). The program is designed to help create flexible, innovative leaders.

Executive Master of Business Administration	
Course Number and Title	Credits
First Year Courses	
EMBA 511 Business Perspectives	2
EMBA 512 Assessing Business Opportunities	5
EMBA 513 Creating Competitive Advantage I	3
EMBA 514 Creating Competitive Advantage II	3
EMBA 515 Fostering Innovation	4
EMBA 516 Leadership and Teamwork Skills	2
EMBA 517 Issues in Leadership I	1
Second Year Courses	
EMBA 521 Business in a Global Environment	5
EMBA 522 Rescuing Distressed Business Units	2
EMBA 523 Management of Products and Services	2
EMBA 524 Partnerships, Acquisitions, and Divestitures	2
EMBA 525 Issues in Leadership II	1
Culminating Activity (Second Year)	
EMBA 591 Project	8
Total	40

Executive Master of Business Operational Excellence

Graduate Studies Director: Zeynep Hansen

Program Information: Brian O'Morrow

Micron Business and Economics Building, Room 4101

Phone: (208) 426-3168

<https://cobe.boisestate.edu/emboe>

E-mail: emboe@boisestate.edu

General Information

The Executive Master of Business Operational Excellence (EMBOE) program is designed for high-potential individuals with at least five years of professional operations work experience. Students are typically mid-career individuals aspiring to senior operations positions or to positions responsible for operational efficiency throughout an organization.

The curriculum provides a solid grounding in lean processes, statistical analysis, change management, and methods to sustain operational gains. Students may optionally complete their six sigma black belt as part of the program. Courses are co-taught by faculty and trainers from the Kaizen Institute. Work projects are integrated into the curriculum to provide instant application and immediate return on investment.

The pace is reasonable for those working full time but quite challenging. The program lasts 12 months. Classroom attendance is required for five weeks, with approximately two months between each week of classes. Homework assignments and projects are due during intervals between class weeks. Week three is conducted in Japan so that participants might benchmark their own organizations against the very best. All other class sessions are conducted on campus at Boise State University.

Application and Admission Requirements

Successful applicants to the EMBOE program typically bring at least five years of operations experience and a work history of increasing responsibility. An undergraduate degree is required and a letter of support from the applicant's direct supervisor is also required in place of GMAT or GRE test scores.

Applicants are evaluated based on motivation level, prior academic performance, work experience, and a personal interview. The process favors those who can contribute to the education of all participants. Details can be found on the EMBOE website.

Degree Requirements

Students enrolled in the EMBOE program complete 30 semester credit-hours over a 12 month period.

Executive Master of Business Operational Excellence	
Course Number and Title	Credits
MBOE 501 DNA of Excellence	3
MBOE 502 Statistical Thinking	3
MBOE 511 Financial Measurement	3
MBOE 512 Design and Structure of Processes, Products, and Services	3
MBOE 521 Improvement Tools and Skills	3
MBOE 522 Critical Components of Change Management	3
MBOE 531 Study Mission and Diagnostic Practice	6
MBOE 541 Understanding and Managing the Entire Value Stream	3
MBOE 692 Capstone: Change Management as a Strategic Initiative	3
<i>Total</i>	30

Course Offerings

See *Course Numbering and Terminology* for definitions.

BUSCOM — Business Communication

BUSCOM 538 MANAGING TECHNICAL COMMUNICATION (3-0-3)(F/S). An advanced study of technical communication for managers and technical professionals who must originate, specify, and/or approve technical instructions, proposals, reports, and related documents. Students will acquire proficiency in writing and designing these documents by applying syntactic, semantic, and pragmatic theory and visual design principles to applied problems in document design, information access, and human information processing.

BUSMBA — Master of Business Administration Online

BUSMBA 500 INTRODUCTION AND BUSINESS FOUNDATIONS (0-0-1)(F/S/SU). Provides self-paced initial foundation or refresher in basic financial accounting, micro-economics, statistics, and spreadsheets. Also includes an introduction to the online learning environment, the learning management system used by the students, and Boise State University academic policies and resources. (Pass/Fail.) PREREQ: ADM/PROG. COREQ: BUSMBA 501.

BUSMBA 501 DESIGN THINKING AND STRATEGIC MANAGEMENT (4-0-4)(F/S/SU). Examines collaborative innovation processes that are transforming business and driving industry life cycles. Includes a first exposure to the creation of functional, business-level, and corporate-level strategies. Special consideration of organizational design, diversification, mergers and acquisitions, and measures of strategic performance including use of Balanced Scorecards. Interpersonal skills enhanced via online collaboration with classmates. PREREQ: ADM/PROG. COREQ: BUSMBA 500.

BUSMBA 505 MARKETING STRATEGY (4-0-4)(F/S/SU). Focuses on revenue-generating opportunities with special emphasis on evaluating opportunities for new products or services. Includes segment analysis, customer choice behavior, branding, marketing tactics, personal selling, and the evaluation of market opportunities. Includes opportunity assessment project in industry sector of student's choosing. PRE/COREQ: BUSMBA 501.

BUSMBA 510 PEOPLE AND ORGANIZATIONS (4-0-4)(F/S/SU). Emphasizes integrated manager-employee relations in an organization. Includes HR planning, employee recruitment, selection, performance appraisal, discipline, coaching, compensation, and termination issues. Also focuses on collaboration, group dynamics, motivation, leadership, problem-solving, negotiation, and self-management. Interpersonal skills enhanced via online collaboration with classmates. PRE/COREQ: BUSMBA 501.

BUSMBA 515 CORPORATE FINANCE (4-0-4)(F/S/SU). Examines the three major decisions in corporate finance affecting value of the firm: investment, financing and cash distribution. Includes the methods used to measure corporate value and evaluate financial performance. Issues in each of the three

decision areas are examined within the context of their impact on the valuation model and financial performance metrics. Includes financial modeling project in industry sector of student's choosing. PRE/COREQ: BUSMBA 501.

BUSMBA 520 GLOBAL ECONOMICS: POLICY AND TRADE (4-0-4)(F/S/SU). Reviews how economies work, the differences between economic systems, factors that influence international trade, exchange rates, labor economics, and government policies related to trade. Includes a survey on the economies of the world, current topics in global economics, data sources for international economic trends, and an introduction to major international trade agencies/associations. Includes application project in industry sector of student's choosing. PRE/COREQ: BUSMBA 501.

BUSMBA 525 MANAGERIAL ACCOUNTING (4-0-4)(F/S/SU). Examines various cost-based accounting concepts and practices. Particular emphasis on the challenges involved in using them to evaluate past performance and plan future deployment of firm resources. Interpersonal skills enhanced via online collaboration with classmates to solve managerial accounting problems. PRE/COREQ: BUSMBA 501.

BUSMBA 530 MANAGERIAL COMMUNICATION (4-0-4)(F/S/SU). A hands-on introduction to written and oral managerial communication including informal exchanges, elevator pitches, meetings, and persuasive formal presentations. Emphasis placed on team-oriented and supervisory communication tactics. Interpersonal skills enhanced via online collaboration with classmates. PRE/COREQ: BUSMBA 501.

BUSMBA 535 INFORMATION TECHNOLOGY AND BUSINESS ALIGNMENT (4-0-4)(F/S/SU). Examines the role of information technology in business process integration, strategic alignment, and business analytics. Includes application project in industry sector of student's choosing. PRE/COREQ: BUSMBA 501.

BUSMBA 540 MANAGING SUCCESSFUL PROJECTS (4-0-4)(F/S/SU). Introduces and provides experience in the front-end issues of project management such as team formation, communication strategies, conflict management, project constraints, and risk analysis. Includes use of the project management tools: PERT/Critical Path, resource utilization, project monitoring and tracking, and critical chain analysis. Includes application project in industry sector of student's choosing. PRE/COREQ: BUSMBA 501.

BUSMBA 545 LEGAL ISSUES IN BUSINESS (4-0-4)(F/S/SU). Introduces future managers to the major legal issues involved in the business environment. Covers legal reasoning and the legal system, agency and business associations, torts, contracts, intellectual property, employment law, sales, and product liability. Includes application project in industry sector of student's choosing. PRE/COREQ: BUSMBA 501.

BUSMBA 550 OPERATIONS AND SUPPLY CHAIN MANAGEMENT (4-0-4)(F/S/SU). Introduces product and service movement within the firm and between the firm and its partners up and down the supply chain. Focus on logistics management, supplier relationships, and creating operational excellence within the firm. Includes operations modeling project in industry sector of student's choosing. PRE/COREQ: BUSMBA 501.

BUSMBA 555 BUSINESS PLAN DEVELOPMENT (4-0-4)(F/S/SU). Integrates previous coursework via development of a business plan in industry sector of the student's choosing. PRE/COREQ: BUSMBA 501, BUSMBA 505, BUSMBA 510, BUSMBA 515, BUSMBA 520, BUSMBA 525, BUSMBA 530, BUSMBA 535, BUSMBA 540, BUSMBA 545, and BUSMBA 550.

EMBA — Executive Master of Business Administration

Courses with the EMBA prefix are available only to students enrolled in the EMBA program, and are offered according to a schedule determined by the start semester of each cohort.

EMBA 511 BUSINESS PERSPECTIVES (V-V-2)(F). Provides an introduction to how managers can assess business opportunities, create competitive advantage, and foster innovation throughout the life cycle of products and organizations. PREREQ: EMBA Program Admission.

EMBA 512 ASSESSING BUSINESS OPPORTUNITIES (V-V-5)(F). Provides an integrated foundation in accounting, economics, operations management, marketing, and strategic planning in the context of assessing business opportunities while operating in a global environment. PREREQ: EMBA 511.

EMBA 513 CREATING COMPETITIVE ADVANTAGE I (V-V-3)(S). Provides an initial integrated foundation in finance, human resource management, marketing, operations management, and strategic planning in the context of

creating competitive advantage while operating in a global environment. PREREQ: EMBA 512.

EMBA 514 CREATING COMPETITIVE ADVANTAGE II (V-V-3)(S). Continues the integrated foundation in finance, human resource management, marketing, operations management, and strategic planning in the context of creating competitive advantage while operating in a global environment. PREREQ: EMBA 513.

EMBA 515 FOSTERING INNOVATION (V-V-4)(S). Provides a foundation in methods managers can use to foster innovation within organizations. Emphasis is on the early stages of innovation including brainstorming, idea generation, and rough estimations of viability. PREREQ: EMBA 514.

EMBA 516 LEADERSHIP AND TEAMWORK SKILLS (V-V-2)(F). Examines personal styles in the workplace with emphasis on group dynamics. Also includes a personalized assessment of each participant's leadership strengths and weaknesses followed by the creation of a customized development plan. (Pass/Fail.) PREREQ: EMBA Program Admission.

EMBA 517 ISSUES IN LEADERSHIP I (V-V-1)(S). Continues execution of the leadership development goals identified in EMBA 516. (Pass/Fail.) PREREQ: EMBA 516.

EMBA 521 BUSINESS IN A GLOBAL ENVIRONMENT (V-V-5)(F). Builds a foundation in U.S. business law, ethics, corporate governance, and critical thinking. Includes the opportunity to solve business problems with executives from other cultures and learn about their legal and ethical issues. Requires a passport and travel out of the United States for one week. PREREQ: EMBA 515 and EMBA 517.

EMBA 522 RESCUING DISTRESSED BUSINESS UNITS (V-V-2)(F). Builds skill in creating strategies to return distressed business units to effectiveness. Project based with particular emphasis on finance and bankruptcy law. PREREQ: EMBA 521

EMBA 523 MANAGEMENT OF PRODUCTS AND SERVICES (V-V-2)(F). Builds broad skill in product management, new product development, branding, qualitative marketing research, pricing, and portfolio analysis. Case-based with particular emphasis on business strategy and marketing issues. PREREQ: EMBA 521.

EMBA 524 PARTNERSHIPS, ACQUISITIONS, AND DIVESTITURES (V-V-2)(S). Builds skill in examining growth strategies founded upon business partnerships, acquisitions, and divestitures. Project based with particular emphasis on financial considerations, legal aspects, and issues surrounding the blending of company cultures. PREREQ: EMBA 521.

EMBA 525 ISSUES IN LEADERSHIP II (V-V-1)(S). Continues execution of the leadership development goals identified in EMBA 516. (Pass/Fail.) PREREQ: EMBA 517.

MBA — Master of Business Administration

MBA 501 ACCOUNTING FOR MANAGERS (3-0-3)(F). An in-depth examination of financial statement use in business decision-making. A user's perspective focuses study on interpreting the output of the accounting system rather than on details of statement preparation. Examines various cost-based accounting concepts and practices. Particular emphasis is directed to the challenges involved in using cost data to evaluate past performance and plan future deployment of firm resources. PREREQ: ADM/PROG

MBA 502 FUNDAMENTALS OF MARKETING (3-0-3)(S). Focuses on strategies to generate revenue for the firm. Includes segment analysis, customer choice behavior, branding, marketing tactics, personal selling, and the development of marketing plans. PREREQ: ADM/PROG.

MBA 503 MANAGING SUCCESSFUL PROJECTS (3-0-3)(S). Introduces the front-end issues of project management including team formation, communication strategies, conflict management, project constraints, risk analysis, and tools for project planning. Hands-on experience with the tools of project management including PERT/Critical Path, resource utilization, project monitoring and tracking, and critical chain analysis. PREREQ: ADM/PROG

MBA 505 STRATEGY FOR COMPETITIVE ADVANTAGE (3-0-3)(F). A first exposure to the analyses and processes used to create functional, business-level, and corporate-level strategies. Special consideration of organizational design, diversification, mergers and acquisitions, and measures of strategic performance including use of Balanced Scorecards. PREREQ: ADM/PROG.

MBA 506 DISCIPLINE INTEGRATION: LIVE CASES (3-0-3)(F). Integrates current course topics via application to operating businesses. PREREQ: ADM/PROG.

MBA 507 STATISTICAL THINKING AND BUSINESS ANALYTICS (3-0-3)(F). Introduces descriptive business analytics techniques for transforming data into information decision-makers can use including visual techniques and numerical measures tools for presenting statistical data, using probability to measure uncertainty, sampling techniques, statistical inference, and predictive business analytics tools. PREREQ: ADM/PROG.

MBA 508 CORPORATE FINANCIAL MANAGEMENT (3-0-3)(F). A framework to analyze investment opportunities and identify appropriate financing strategies. Emphasizes the key techniques of corporate financial decision-making, including risk and return, capital budgeting, discounted cash flow valuation, capital structure, and payout policy PREREQ: ADM/PROG, MBA 501.

MBA 509 DATA MANAGEMENT AND ANALYTICS (3-0-3)(S). Explores the development, use and management of databases in an organization. Provides an overview of the analytics process from business and data understanding through modeling and evaluation. Introduces fundamental data and text modeling techniques that can be incorporated into the analytics process. PREREQ: ADM/PROG.

MBA 510 OPERATIONS AND SUPPLY CHAIN MANAGEMENT (3-0-3)(S). Explores the flow of products and services from suppliers, within the firm, and to customers. Topics include forming strategic supplier and customer relationships, developing operations excellence through continuous improvement, lean methodologies, and logistics management. PREREQ: ADM/PROG.

MBA 511 BUSINESS LAW AND SOCIAL RESPONSIBILITY (3-0-3)(S). Introduces legal concepts that are important for business decision-making, including agency and business associations, torts, contracts and sales, product liability, and employment law. Addresses current trends in corporate social responsibility and the triple bottom line of social, environmental, and economic responsibility. PREREQ: ADM/PROG.

MBA 512 MANAGEMENT AND ORAL COMMUNICATION (3-0-3)(F). A hands-on introduction to managerial oral communication including informal exchanges, elevator pitches, meetings, and persuasive formal presentations. Addresses OB concepts such as negotiation, leadership, and team dynamics. PREREQ: ADM/PROG.

MBA 514 INNOVATION DRIVEN ADVANTAGE (3-0-3)(F). Introduces Design Thinking, a hands-on, technique-based training in the process of creating new, market-viable products and services. Special focus on disruptive technologies, reconstructing market boundaries, ethnographic research, and needs-based product positioning strategies. Examines the start-up phase of business, whether an entirely new entity or within an existing organization. Emphasis on opportunity recognition, commercialization, and business plan development. PREREQ: ADM/PROG.

MBA 522 MANAGING HUMAN RESOURCES (3-0-3)(F). Examines best practices for managing the employee life-cycle into, through, and out of organizations from a strategic perspective. Includes employee recruitment, selection, performance appraisal, discipline, coaching, compensation, and termination issues. Addresses OB issues of motivation, diversity, and conflict resolution. PREREQ: ADM/PROG.

MBA 526 BUSINESS ECONOMICS (3-0-3) (S). A structured approach to thinking through trends, cycles, and fluctuations in market prices and quantities, as well as the economic conduct of consumers, suppliers, producers and competitors. Includes consideration of the classical perfectly competitive market and the implications of restricted competition, imperfect information, and externalities on the practical application to production and marketing decisions. Relates government economic and international trade policies to aggregate economic activity such as inflation, unemployment, GDP, exchange rates, and trade balances. Draws managerial implications for demand forecasting, anticipating interest rates, and understanding costs. PREREQ: ADM/PROG.

MBA 527 APPLIED CAPSTONE PROJECT START (3-0-3)(S). Initiates team capstone project for a client organization. Provides hands-on experience in project planning and design PREREQ: ADM/PROG.

MBA 528 APPLIED CAPSTONE PROJECT FINISH (3-0-3)(S). Completes execution of capstone project for a client organization. Provides real-world experience. PREREQ: ADM/PROG. COREQ: MBA 527.

MBA 531 STRATEGIC PERSPECTIVES (3-0-3)(F). Examines the major forces transforming business that enable creativity and innovation, and that drive industry life cycle and evaluation. A novel business plan is developed using

collaborative, structured innovation processes. Defines what constitutes a sustainable competitive strategy. PREREQ: ADM/PROG or PERM/INST.

MBA 540 MARKETING STRATEGY (3-0-3)(F). Focuses on revenue-generating opportunities with special emphasis on evaluating opportunities for new products or services. Includes segment analysis, customer choice behavior, branding, marketing tactics, personal selling, and the development of marketing plans. PREREQ: ADM/PROG or PERM/INST.

MBA 542 DEVELOPING SUCCESSFUL TEAMS (1-0-1)(F). Introduces team formation and group dynamics issues and strategies. PREREQ: ADM/PROG.

MBA 543 MANAGING CORPORATE FINANCE (3-0-3)(S). Examines the three major decisions in Corporate Finance affecting the value of the firm: Investment, Financing and Cash Distribution. Includes the methods used to measure corporate value and evaluate financial performance. Issues in each of the three decision areas are examined within the context of their impact on the valuation model and financial performance metrics. PREREQ: ADM/PROG.

MBA 544 GLOBAL ECONOMICS: POLICY AND TRADE (3-0-3)(S). Reviews how economies work, the differences between economic systems, factors that influence international trade, exchange rates, and government policies related to trade. Includes a survey on the economies of the world, current topics in global economics, data sources for international economic trends, and an introduction to major international trade agencies/associations. PREREQ: ADM/PROG or PERM/INST.

MBA 546 STRATEGIC MANAGEMENT (3-0-3)(F). Analysis, formulation, and implementation of business and corporate strategies. Integrates prior functional area coursework. PREREQ: ADM/PROG, MBA 531, MBA 559.

MBA 548 OPPORTUNITY ASSESSMENT I (1-0-1)(S). Small groups develop an initial pre-market estimate of the revenue potential for a unique IP-based commercialization opportunity. PREREQ: ADM/PROG, MBA 542.

MBA 549 SUCCESSFUL PROJECT MANAGEMENT (3-0-3)(SU). Introduces and provides experience in the front-end issues of project management such as team formation, communication strategies, conflict management, project constraints, risk analysis, or tools for project planning. Also explores use of the tools of project management including PERT/Critical Path, resource utilization, project monitoring and tracking, and critical chain analysis. PREREQ: ADM/PROG or PERM/INST.

MBA 550 OPPORTUNITY ASSESSMENT II (1-0-1)(SU). Small groups complete their pre-market estimate of the revenue potential for a unique IP-based commercialization opportunity. PREREQ: ADM/PROG, MBA 548.

MBA 551 MANAGERIAL ACCOUNTING'S ROLE IN DECISION MANAGEMENT AND CONTROL (2-0-2)(F). Analyzes the nature of costs and how costs can be used to manage and control the activities of firms. Particular emphasis is placed on the uses of accounting numbers to motivate employees and managers. PREREQ: ADM/PROG.

MBA 554 MANAGING PEOPLE IN ORGANIZATIONS (2-0-2)(F). An applied approach to managing people in organizations. Topics include legal constraints, strategic HR planning, recruiting and selecting talent, managing employee performance and rewards, and discipline and organizational exit. PREREQ: ADM/PROG or PERM/INST.

MBA 555 ORGANIZATIONAL ISSUES (2-0-2)(F). Application of behavioral science principles and skills in an organizational setting. Emphasis is on an interactionist perspective (individual, group, and organizational dynamics), towards understanding behavior in organizations. Topics include ethical decision making and reasoning, understanding people, negotiation and conflict, and change management. PREREQ: ADM/PROG or PERM/INST.

MBA 556 FEASIBILITY AND PLANNING I (1-0-1)(F). Team-based gross margin estimation for a chosen commercialization opportunity. Includes pricing, costing, and production planning issues. PREREQ: ADM/PROG, MBA 550.

MBA 558 MANAGERS AND THE LEGAL ENVIRONMENT OF BUSINESS (3-0-3)(S). Introduces future managers to the major legal issues involved in the business environment. Covers legal reasoning and the legal system, agency and business associations, torts, contracts, intellectual property, employment law, sales, and product liability. PREREQ: ADM/PROG.

MBA 559 ISSUES IN SUPPLY CHAIN MANAGEMENT (3-0-3)(S). Introduces product and service movement within the firm and between the firm and its partners up and down the supply chain. Focus on logistics management, supplier relationships, and creating operational excellence within the firm. PREREQ: ADM/PROG or PERM/INST.

MBA 560 FEASIBILITY AND PLANNING II (1-0-1)(S). Teams resolve finance, supply chain, and legal issues relative to their commercialization opportunity. PREREQ: ADM/PROG, MBA 556.

MBA 562 BUSINESS MODELING (3-0-3)(SU). Advanced development and interpretation of optimization models using spreadsheets and computer simulation tools. Applications integrate finance, operations, and supply chain issues. PREREQ: ADM/PROG, MBA 543, MBA 559 or PERM/INST.

MBA 565 FEASIBILITY AND PLANNING III (1-0-1)(SU). Teams develop an execution timeline for their commercialization opportunity. Includes an examination of risks, assumptions, and potential partnerships. PREREQ: ADM/PROG, MBA 560.

MBA 567 BUSINESS PLAN DEVELOPMENT (4-0-4)(F). Teams develop full business plans for their chosen IP commercialization project. PREREQ: ADM/PROG, MBA 565.

MBA 568 MANAGERIAL COMMUNICATION (3-0-3)(S). A hands-on introduction to managerial oral communication including informal exchanges, elevator pitches, meetings, and persuasive formal presentations. Emphasis placed on team-oriented communication tactics and change communication strategies. PREREQ: ADM/PROG or PERM/INST.

MBA 569 INFORMATION TECHNOLOGY AND PROCESS MANAGEMENT (3-0-3)(S). Explores state of the art approaches to capturing, storing, retrieving, and representing enterprise data. Introduction to management of the IT function. Introduction to process management approaches for enhancing efficiency, insuring compliance, and managing to ISO and certification standards. PREREQ: ADM/PROG or PERM/INST.

MBA 570 BUSINESS PLAN CAPSTONE (1-0-1)(S). Teams present their IP commercialization projects to gain seed funding. PREREQ: ADM/PROG, MBA 567. COREQ: MBA 568.

MBOE — Master of Business Operational Excellence

Courses with the MBOE prefix are available only to students enrolled in the MBOE program, and are offered according to a schedule determined by the start semester of each cohort.

MBOE 501 DNA OF EXCELLENCE (3-0-3)(S). Examines the need to continuously challenge existing processes and drive them to higher levels of performance. Introduces fundamental tools used for project selection including Hoshin planning, the voice of the customer, and value stream mapping. Includes an introduction to the Toyota Production System (TPS). PREREQ: ADM/PROG.

MBOE 502 STATISTICAL THINKING (3-0-3)(S). Overview of statistics and probability, including quantitative analysis and data collection, with a special emphasis on understanding and eliminating variation. Introduces Six Sigma philosophy and tools. Students apply concepts to work projects. PREREQ: ADM/PROG.

MBOE 511 FINANCIAL MEASUREMENT (3-0-3)(S). Examines the selection and measurement of financial outcomes for lean organizations. A user's perspective emphasizes organizational management and control via financial

measurement choices made. Students apply concepts to work projects. PREREQ: ADM/PROG.

MBOE 512 DESIGN AND STRUCTURE OF PROCESSES, PRODUCTS, AND SERVICES (3-0-3)(S). Emphasizes that all work is a process and that flexibility and creativity are critical to achieving optimal work flow within an organization. Introduces various tools to help align process components into a lean organization. Students apply concepts to work projects. PREREQ: ADM/PROG.

MBOE 521 IMPROVEMENT TOOLS AND SKILLS (3-0-3)(SU). Provides the knowledge and diagnostic tools required to identify and understand cause-and-effect relationships. Lean, Six Sigma, and related concepts are introduced and reinforced with value stream simulations. Connects these concepts with the successful deployment of the Plan-Do-Check-Act cycle. Students apply concepts to work projects. PREREQ: ADM/PROG.

MBOE 522 CRITICAL COMPONENTS OF CHANGE MANAGEMENT (3-0-3)(SU). Explores leadership styles, including the leader's role of change agent, with emphasis on training, coaching, team building and empowerment. Focuses on gaining commitment to change while overcoming complacency and resistance. Covers the successful deployment of standard work, project management, communication, knowledge management, and planning. Students apply concepts to work projects. PREREQ: ADM/PROG.

MBOE 531 STUDY MISSION AND DIAGNOSTIC PRACTICE (6-0-6)(F). Provides on-site opportunity to benchmark world-class organizations. Observation of operational excellence concepts in the field including the role leaders play and the interaction of all stakeholders: customers, suppliers, employees, and owners. Emphasizes the deployment of diagnostic tools in these organizations. Opportunities provided to practice these tools in real-life simulations. Requires a passport and travel outside of the United States. PREREQ: ADM/PROG.

MBOE 541 UNDERSTANDING AND MANAGING THE ENTIRE VALUE STREAM (3-0-3)(S). Reviews efforts to lead internal operational excellence efforts and then expands those concepts to include interactions with external organizations, with special emphasis on suppliers. Emphasis on aligning philosophies and the flow of information and materials needed to meet or exceed customer expectations. Students apply concepts to work projects. PREREQ: ADM/PROG.

MBOE 692 CAPSTONE: CHANGE MANAGEMENT AS A STRATEGIC INITIATIVE (3-0-3)(S). Final integration of the program concepts via completion of a capstone project that aligns an organization's mission, vision, values, policies, processes, procedures and behaviors into a strategic initiative of operational excellence. Focuses on understanding the voice of the customer and the role of all stakeholders in developing a culture of excellence. Includes leveraging creativity, flexibility, and innovation to nurture the growth of people, products, and processes in an environmentally responsible way. PREREQ: ADM/PROG.

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

Department of Chemistry and Biochemistry

College of Arts and Sciences

Chair: Owen McDougal
 Science Building, Room 153-154
 Phone: (208) 426-3000
 Fax: (208) 426-1311 or (208) 426-3027
 E-mail: chemistry@boisestate.edu
<https://chemistry.boisestate.edu>

Graduate Faculty: Ausman, Brown, Callahan, Charlier, Cornell, Dumais, Lee, LeMaster, McDougal, Nagarajan, Novak, Oxford, Rudin, Russell, Schimpf, Shadle, D. Warner, L. Warner

Graduate Degree Offered

- Master of Science in Chemistry

Interdisciplinary Participation

- Doctor of Philosophy in Biomolecular Sciences
- Master of Science in Biomolecular Sciences
- Master of Science in Hydrologic Sciences

Master of Science in Chemistry

Program Coordinator: Michael Callahan
 Science Building, Room 312
 Phone: (208) 426-1031
 E-mail: chemgrad@boisestate.edu

General Information

The Master of Science in Chemistry program provides students with advanced training in modern chemical research methods. The intended audience is students needing further education and research experience prior to seeking a Ph.D. in Chemistry (or another physical science) or for advancement in their current career.

Application and Admission Requirements

An applicant must follow the general application procedures for admission to a graduate program (see *Graduate Admission Regulations*). The general online application will require applicants to provide program specific information:

1. A letter of application describing his/her background, academic interests, career goals and how our program will help them achieve these goals.
2. Two letters of recommendation from academic faculty or recent employers submitted directly to the graduate program coordinator.
3. GRE General Test scores.

4. TOEFL scores, for a prospective student whose native language is not English. These individuals may be interviewed if applying for a graduate teaching assistantship.

Once the file for an applicant is complete, it will be evaluated by the Chemistry Graduate Committee and an admission recommendation (regular, provisional, or denial) will be forwarded to the Dean of the Graduate College who will make the final admission decision and notify the applicant.

Conditions for Admission The conditions for admission are the minimum admission requirements of the Graduate College (see *Graduate Admission Regulations*) where the required baccalaureate degree must be in chemistry, biochemistry or a closely related field involving substantial course work in chemistry. These conditions are necessary for admission to the program but do not guarantee admission.

Degree Requirements

The Master of Science in Chemistry degree requires completion of a minimum of 30 credits, including five lecture courses from at least three of the five chemical subdisciplines (analytical, biochemistry, inorganic, organic and physical) as well as 9 credits of thesis work. All courses must be approved for application to the degree requirements by the supervisory committee working within constraints developed by the Chemistry Graduate Committee. When a student has completed 9 credits of course work and one semester of thesis work (typically at the end of their first year), he/she will meet with their supervisory committee for a thesis proposal examination to assess the student's progress to date and discuss the student's planned thesis work. At the end of the thesis work, the student will write a thesis based on his/her research and orally defend it to their supervisory committee.

Master of Science in Chemistry	
Course Number and Title	Credits
Core Course	
CHEM 500 Research Methods in Chemistry and Biochemistry	1
One course each from three different subdisciplines of Chemistry (CHEM 580-589, CHEM 597 or any dual-listed course cannot be used for the above requirement.)	9
CHEM 598 Seminar	4
Electives Course	
Any 500 or 600 level Chemistry or Biochemistry course	3
Any 500 or 600 level Science, Math or Engineering electives approved by the supervisory committee	3
Thesis Proposal	
CHEM 688 Thesis Proposal	1
Culminating Activity	
CHEM 593 Thesis	9
Total	30

Course Offerings

See *Course Numbering and Terminology* for definitions.

BIOCHEM — Biochemistry

BIOCHEM 510 ADVANCED PROTEIN CHEMISTRY (3-0-3)(S)(Alternate years).

An in-depth study of proteins that focuses on amino acid chemistry, protein structure, protein folding, and protein function. This course will discuss modern methods of protein characterization and the use of bioinformatics in understanding the chemistry/function of proteins. Given the recent developments in the proteomics, several of the high-throughput approaches to identifying proteins assessing function will also be investigated. Students will make extensive use of primary literature. PREREQ: CHEM 322 and CHEM 432 or PERM/INST.

BIOCHEM 511 NUCLEIC ACID METABOLISM (3-0-3)(S)(Alternate years).

An in-depth study of the metabolism of both DNA and RNA at the molecular/mechanistic level. This course will cover the mechanisms DNA replication, transcription, translation, transposition and repair, as well as those for RNA splicing, catalysis, silencing and interference RNA. Bioinformatics approaches and modern techniques for studying DNA/RNA and their interactions with proteins will be discussed. Students will make extensive use of primary literature. PREREQ: CHEM 432 or PERM/INST.

BIOCHEM 512 INTERMEDIARY METABOLISM (3-0-3)(S)(Alternate years).

An investigation into several anabolic, catabolic, and signaling processes in the cell. Special attention will be given to molecular mechanisms and regulation. Students will make extensive use of primary literature. PREREQ: CHEM 432 or PERM/INST.

BIOCHEM 513 ADVANCED ENZYMOLOGY (3-0-3)(S)(Alternate years).

A deeper look into the catalytic and kinetic mechanisms of enzymes. Modern methods for studying enzymes will be included as well as learning strategies for studying steady state and transient enzyme kinetics. Students will make extensive use of primary literature. PREREQ: CHEM 322 and CHEM 433 or PERM/INST.

CHEM — Chemistry

CHEM 500 RESEARCH METHODS IN CHEMISTRY AND BIOCHEMISTRY (1-0-1)(F).

An introduction to project planning, literature assessment, report writing, and data management. PREREQ: Admission to chemistry graduate program.

CHEM 501 ADVANCED INORGANIC CHEMISTRY (3-0-3)(F). Atomic structure, molecular structure using valence bond and molecular orbital theories, elementary group theory, transition metal coordination chemistry, acids and bases, descriptive transition and nontransition metal chemistry. PREREQ: CHEM 322 or PERM/INST.

CHEM 507 PHYSICAL ORGANIC CHEMISTRY (3-0-3)(S)(Alternate years).

Mechanisms of organic chemical reactions, stereochemistry, and conformational analysis. The important types of organic reactions are discussed. Basic principles are emphasized; relatively little attention is paid to the scope and synthetic applications of the reactions. PREREQ: CHEM 309 and CHEM 322 or PERM/INST.

CHEM 508 SYNTHETIC ORGANIC CHEMISTRY (3-0-3)(F)(Alternate years).

The scope and limitations of the more important synthetic reactions are discussed within the framework of multistep organic synthesis. PREREQ: CHEM 309 or PERM/INST.

CHEM 509 INTRODUCTION TO POLYMER CHEMISTRY (3-0-3)(F)(Alternate years).

An introduction to the concepts of polymer synthesis, characterization, structure, properties, and basic fabrication processes. Emphasis is on practical polymer preparation, on the fundamental kinetics and mechanisms of polymerization, and on structure-property relationship. PREREQ: CHEM 309 or PERM/INST.

CHEM 510 ORGANIC POLYMER SYNTHESIS (3-0-3)(S)(Alternate years). A study of the synthesis and reactions of polymers. Emphasis is on practical polymer preparation and on the fundamental kinetics and mechanisms of polymerization reactions. Topics include relationship of synthesis and structure, characterization of polymer structure, step-growth polymerization, chain-growth polymerization via radical, ionic and coordination intermediates, copolymerization. PREREQ: CHEM 309 or PERM/INST.

CHEM 511 ADVANCED ANALYTICAL CHEMISTRY (3-0-3)(F). Stoichiometry involved in separations and instrumental methods of analysis. The course will be flexible in nature to adapt to the varied background of the students. PREREQ: CHEM 322 or PERM/INST.

CHEM 521 QUANTUM CHEMISTRY (3-0-3)(F)(Alternate years). Formal introduction to quantum mechanics, Dirac notation, angular momentum and operator algebra. Emphasis will be placed on electronic structure theory, reaction mechanisms and the use of modern quantum chemistry theoretical packages. PREREQ: CHEM 322, or PHYS 309 and PHYS 432, or PERM/INST.

CHEM 522 SPECTROSCOPY (3-0-3)(F)(Alternate years). Concepts and practical usage of modern chemical spectroscopic techniques, including electronic absorption, infrared/Raman, X-Ray/EXAFS, magnetic resonance and magnetic circular dichroism. Emphasis will be placed on the application of these techniques to the structure/function characterization of chemical and biochemical systems. PREREQ: CHEM 521 or PERM/INST.

CHEM 523 CHEMICAL KINETICS (3-0-3)(F)(Alternate years). A comprehensive study of the role of quantum chemistry and thermodynamics in chemical reactions. Emphasis will be placed on determining reaction coordinates and transition states. Extensive use will be made of modern computational chemical computer programs for calculating potential energy surfaces and transition states. PREREQ: CHEM 322, or PHYS 309 and PHYS 432, or PERM/INST.

CHEM 540 SPECTROMETRIC IDENTIFICATION (3-0-3)(S). Identification of compounds using modern spectrometric techniques. PREREQ: CHEM 309 and CHEM 321.

CHEM 551 BIOINORGANIC CHEMISTRY (3-0-3)(S)(Alternate years).

Exploration of the vital roles that metals play in biochemical systems. Emphasis is on transition metals in biology. Course will focus on structural, regulatory, catalytic, transport and redox functions of bioinorganic systems. PREREQ: CHEM 322 or PERM/INST.

CHEM 552 ORGANOMETALLIC CHEMISTRY (3-0-3)(S)(Alternate years). An examination of the organometallic chemistry of the main group and transition elements. Topics to include structure and bonding of complexes having pi ligands; transition metal mediated organic synthesis; homogeneous catalysis. PREREQ: CHEM 401 or 501 or PERM/INST.

CHEM 560 INTRODUCTION TO NMR SPECTROSCOPY (1-3-2)(On demand).

This course will instruct students on the theory and practice of one- and two-dimensional NMR spectroscopy. Emphasis will be placed on using the NMR spectrometer to solve a variety of chemical and biological problems. PREREQ: CHEM 322, or PHYS 309 and PHYS 432, or PERM/INST.

CHEM 561 INTRODUCTION TO MOLECULAR MODELING AND COMPUTATIONAL CHEMISTRY (1-3-2)(On demand). Overview of modern computational chemistry. Use of computational chemistry tools and their application to problems of chemical and biological interest. PREREQ: CHEM 322, or PHYS 309 and PHYS 432, or PERM/INST.

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

Department of Civil Engineering

College of Engineering

Chair: Mandar Khanal

Environmental Research Building, Room 1134

Phone: (208) 426-3743

<https://coen.boisestate.edu/ce>

Graduate Faculty: Chittoori, Farid, Hamilton, Hernandez, Khanal, Lu, Miller, Mishra, Sadegh

Graduate Degrees Offered

- Master of Engineering in Civil Engineering
- Master of Science in Civil Engineering

Interdisciplinary Participation

- Master of Science in Hydrologic Sciences

General Information

The Department of Civil Engineering offers two distinct graduate degree programs. The program leading to the Master of Science in Civil Engineering (M.S. CE) is a thesis-based program designed to prepare students for research, professional-development, and further study at the doctoral level. The program leading to the Master of Engineering in Civil Engineering (M.Engr. CE) is a non-thesis program with a focus on professional development. Once admitted to one of the programs, any student who desires to change the program of study (from M.S. to M.Engr. or M.Engr. to M.S.) will need to submit a written request to the graduate coordinator with the approval of the major advisor.

Application and Admission Requirements

Admission Requirements An applicant must satisfy the minimum admission requirements of the Graduate College (see *Graduate Admission Regulations*). In addition, the applicant must hold a Bachelor of Science (B.S.) degree in civil engineering from an ABET-accredited program or a baccalaureate degree in a closely related field and must satisfy the following requirement.

1. For “regular admission,” a minimum cumulative GPA of 3.00 computed for all undergraduate credits or a 3.00 GPA computed for the last 60 undergraduate credits is required.
2. Applicants who do not satisfy regular-admission requirements may be “admitted provisionally.”

Admission to the graduate program is competitive and the achievement of minimum requirements does not guarantee admission.

Application Procedures Applicants are strongly encouraged to apply ahead of the deadlines. A prospective student who is seeking a graduate assistantship must apply by February 1st for fall and summer admission and by July 1st for spring admission. A prospective student who is not seeking financial aid must apply by the application deadlines of the Graduate College (see Application Deadlines for Degree-Seeking Students). Applications that are complete yet submitted past the above-mentioned deadlines will not be evaluated. Those applicants should reapply by the deadline for the next semester. Applicants should follow the general graduate application procedure for degree-seeking students (see Applying as

a Degree-Seeking Student). In addition to the application materials required by the Graduate College, the applicant must also submit the following application materials to the Department of Civil Engineering by the aforementioned deadlines.

1. A cover letter and a resume.
2. A statement of purpose that describes the applicant’s educational and professional background, career goals, the area of specialization, and degree program (i.e., M.S., M.Engr., or M.S. in Hydrological Sciences) to be sought, as well as his/her motivation for graduate study.
3. GRE General Test scores submitted directly from the Educational Testing Service (www.ets.org) to Boise State University (code R4018). GRE scores are not required for applicants with an overall undergraduate GPA above 3.5 holding a BS degree in Civil Engineering at Boise State University.
4. Three letters of recommendation from professionally related references (at least two from academic sources) submitted directly by the references to the Graduate College. Recommendation letters should address the applicant’s qualification and suitability for graduate study. Letters of recommendation are not required of graduates from the Civil Engineering program at Boise State University.

The letters of recommendation as well as the cover letter should be addressed to:

ATTN: Graduate Program Coordinator
Department of Civil Engineering
Boise State University

Questions on application procedure, status, or the graduate program in general should be e-mailed to cegradapps@boisestate.edu. Once the applicant’s file is complete, it will be evaluated by the Civil Engineering Graduate Studies Committee and an admission recommendation (regular, provisional, or denial) will be forwarded to the Dean of the Graduate College. In order to ensure proper mentoring of all graduate students, a recommendation for admission will not be forwarded unless a faculty member of the Department of Civil Engineering is available to serve as the major advisor. The graduate dean will make the final admission decision and notify the applicant and the Civil Engineering Graduate Coordinator. Applicants whose applications are either denied or found to be incomplete will need to reapply if interested.

Graduate Teaching and Research Fellowships Graduate assistantships within the department are highly competitive and may consist of a stipend and a tuition and fee waiver. Typical assignments include research assistantships, teaching assistantships, or assignments related to specific areas. Graduate assistantships are awarded for one year and may be renewed for an additional year upon availability of funds, satisfactory performance, and a GPA over 3.00. Prospective students are encouraged to contact individual faculty members for further information about research projects and research assistantship.

Advisor and Supervisory Committee

For a student admitted to the M.S. C.E. program, a supervisory committee (including a major advisor who serves as chair) will be assigned. The role of the supervisory committee is to guide the student in all aspects of his or her graduate study. A supervisory committee will also be assigned for a student admitted to the M. Engr. CE program.

Master of Engineering in Civil Engineering

Graduate Program Coordinator: Arvin Farid
Environmental Research Building, Room 3133
Phone: (208) 426-4827
E-mail: arvinfarid@boisestate.edu

Degree Requirements

Students must complete at least 31 graduate credits distributed as shown in the degree requirements table. A maximum of 3 credits of CE 696 Directed Research may be applied to meet the degree requirements.

The comprehensive examination cannot be attempted prior to the last semester of the program. If the comprehensive examination is failed on the first attempt, a Report of Failure of a Comprehensive Examination form along with the appropriate grade for CE 690 Master's Comprehensive Examination (see Failure of a Comprehensive Examination in the Master's Program Regulations section) will be submitted to the Graduate College. A comprehensive exam failed on the first attempt can be repeated once, but only if a second attempt is requested by the student within five working days, and approved by the CE department and the Graduate Program Coordinator.

Department Policy: If the second attempt is not requested by the student, or it was requested but not approved, a grade of F is submitted, which will be grounds for dismissal. If the request for the second exam is approved, the exam must occur within twelve months of the first exam. Failure on the second attempt will result in dismissal from the program.

Master of Engineering in Civil Engineering	
Course Number and Title	Credits
Core Graduate Courses Core courses vary by focus area*; all courses to be selected and approved by the advisor or supervisory committee.	12
Elective Civil Engineering Courses Elective civil engineering courses vary by focus area*; all courses to be selected with student input and approved by the advisor or supervisory committee.	6-18
Other Elective Courses Other elective courses in civil engineering or related fields; vary by focus area*; all courses to be selected with student input and approved by the advisor or supervisory committee.	0-12
Culminating Activity CE 690 Master's Comprehensive Examination	1
Total	31
*Focus Areas: Environmental Engineering, Geotechnical/Geoenvironmental Engineering, Sustainable Infrastructure Materials, Transportation Geotechnics, Transportation Systems, or Water Resource Engineering	

Student Guidance The graduate program coordinator will serve as the faculty advisor for each student admitted to the program. By the end of the second semester, the graduate coordinator may appoint a major advisor to the student. In addition, by the end of the third semester, the graduate coordinator, with concurrence of the chair of the department, will recommend a supervisory committee, which

will mentor and guide the student through the program and conduct the design of the CE 690 Master's Comprehensive Examination.

Master of Science in Civil Engineering

Graduate Program Coordinator: Arvin Farid
Environmental Research Building, Room 3133
Phone: (208) 426-4827
E-mail: arvinfarid@boisestate.edu

Degree Requirements

Students must complete at least 30 graduate credits distributed as shown in the degree requirements table. A written thesis proposal with oral presentation to the supervisory committee is required prior to the completion of 15 credits applicable to the degree requirements. Work on the thesis can only be undertaken after approval of the thesis proposal by the supervisory committee. The thesis must constitute an original contribution to the body of knowledge in civil engineering and be successfully defended at a final oral examination along with the submission of a thesis to be approved by the graduate committee. All work directly related to the thesis must be represented by at least 6 credits of CE 593 Thesis.

Master of Science in Civil Engineering	
Course Number and Title	Credits
Core Graduate Courses Graduate courses in civil engineering; all courses to be selected with student input and approved by the supervisory committee.	12
Elective Civil Engineering Courses Elective civil engineering courses vary by focus area*; all courses to be selected with student input and approved by the advisor or supervisory committee.	3-12
Other Elective Courses Other elective courses in civil engineering or related fields; vary by focus area*; all courses to be selected with student input and approved by the advisor or supervisory committee.	0-9
Culminating Activity CE 593 Thesis	6
Total	30
*Focus Areas: Environmental Engineering, Geotechnical/Geoenvironmental Engineering, Sustainable Infrastructure Materials, Transportation Geotechnics, Transportation Systems, or Water Resource Engineering	

Student Guidance The graduate program coordinator will serve as the initial faculty advisor for all students admitted into the program. By the end of the second semester, the coordinator will appoint a major advisor to the student. The major advisor, with concurrence of the coordinator and the chair of the department, will appoint a minimum three-person supervisory committee that will guide and mentor the student.

Special Rule on Transfer Credit The normal transfer credit policies of the Graduate College hold except that up to 15 transfer credits earned in combination at the University of Idaho and Idaho State University may be applied to either degree program (M.S. or M.Engr.) with the approval of the supervisory committee.

Course Offerings

See *Course Numbering and Terminology* for definitions.

Additional work will be required to receive graduate credit for undergraduate G courses.

CE — Civil Engineering

CE 502 COMPUTATIONAL TECHNIQUES (3-0-3)(F/S). Introduction of numerical methods to solve Civil Engineering problems with emphasis on Geotechnical Engineering problems. In-depth treatment of finite difference and integrated finite difference. Brief introduction to finite element methods and programming using MATLAB. PREREQ: CE 360, MATH 333, or PERM/INST.

CE 510 ENGINEERING HYDROLOGY (3-0-3)(F). Integrated approach to hydrology, using the hydrologic/system or control volume as a mechanism for analyzing hydrologic problems and hydrologic processes - water cycle, atmospheric water, surface and subsurface water, hydrologic analysis and design, design storms and peak flow and design flow estimation; hydrologic design methods; snowmelt runoff and evapotranspiration. PREREQ: CE 330, MATH 275 or PERM/INST.

CE 512 (GEOS 512) HYDROGEOLOGY (3-0-3)(S). Introduction to the hydrologic cycle focusing on subsurface water and its relationship to surface water. Physics of flow through porous media, physical properties of aquifer systems, methods to determine aquifer characteristics, groundwater modeling and relationships between groundwater and streamflow. May be taken for CE or GEOS credit, but not both. PREREQ: CE 330 or ME 330 or MATH 175.

CE 520 ENVIRONMENTAL PROCESS CHEMISTRY (3-0-3)(S)(Even years). Chemical principles of water and wastewater treatment processes and reactions in receiving waters. Topics include chemical thermodynamics, reaction kinetics, acid-base equilibria, mineral precipitation/dissolution, and electrochemistry. PREREQ: CE 320 or PERM/INST.

CE 522 HAZARDOUS WASTE ENGINEERING (3-0-3)(F/S). Physical, chemical, and biological treatment of hazardous wastes. Consideration of legal and political issues. PREREQ: CHEM 112.

CE 523 AIR POLLUTION CONTROL ENGINEERING (3-0-3)(F/S). Surveys the sources, fates, effects and control of air pollutants. Covers industrial, agricultural, and municipal contributions to acid rain, smog, and toxic air pollutants in fish and humans. Students demonstrate skill in the use of mathematical and computer predictions for the fate of air pollutants in the design of air pollution control systems and communicate engineering concepts in oral presentations and in writing. PREREQ: CE 320 or PERM/INST.

CE 524 WATER TREATMENT PLANT SYSTEMS AND DESIGN (3-0-3)(S)(Odd years). Theoretical and practical engineering aspects of advanced chemical and physical phenomena and processes applicable to the design for removal of impurities from ground and surface water sources, including experimental problem analysis, conveyance systems and optimal treatment solution reporting. PREREQ: CE 320, and CE 330 or ME 330 or PERM/INST.

CE 525 WASTEWATER TREATMENT PLANT SYSTEMS AND DESIGN (3-0-3)(F)(Odd years). Theoretical and practical engineering aspects of advanced chemical, physical and biological phenomena and processes applicable to the design for removal of impurities from wastewater and industrial wastes and to their transformation in receiving waters, including experimental problem analysis, collection system conveyance and optimal treatment solution reporting. PREREQ: CE 320, and CE 330 or ME 330 or PERM/INST.

CE 526 (GEOS 526) AQUEOUS GEOCHEMISTRY (3-0-3)(F/S). Basic tools and topics of aqueous geochemistry with an emphasis on low temperature processes in natural waters. Essentials of thermodynamics, kinetics, aqueous speciation, mineral-water interaction, and elemental cycling in the context of surficial earth processes and environmental challenges. May be taken for CE or GEOS credit, but not both. PREREQ: PERM/INST.

CE 536 HYDRAULICS (3-0-3)(F)(Even years). Applied principles of fluid mechanics, pipe flow, open channel flow, flow nets, and hydraulic machinery. PREREQ: CE 330 or ME 330.

CE 537 GIS IN WATER RESOURCES (3-0-3)(F/S)(Odd years). Applications of Geographic Information Systems (GIS) in pre- and post-processing of model inputs and outputs, digital elevation models, flow direction and flow accumulation, spatial analysis and interpretation, Model Builder, data model, tools, functionality and examples of real-world water and natural resource problems and integration of external models (e.g. SWAT). PREREQ: CE 416, GEOG 360, or PERM/INST.

CE 538 WATER RESOURCES ENGINEERING (2-3-3)(F/S). Flood frequency analysis, reservoir characteristics and design, open channel flow applications, water project design, model studies, pump and turbine hydraulics and other water resources engineering topics. PREREQ: CE 330 or ME 330.

CE 540 PAVEMENT ANALYSIS AND DESIGN (3-0-3)(F/S). Pavement design processes, materials selection and characterization methods, analysis and design of flexible pavements, analysis and design of rigid concrete pavements, pavement condition survey and ratings, distress evaluation and maintenance and rehabilitation techniques. PREREQ: CE 340 and CE 370, or PERM/INST.

CE 551 STRUCTURAL DYNAMICS (3-0-3)(F/S). Examines free vibration and response to harmonic and general dynamic loading of the single degree of freedom system, Fourier analysis and response in the frequency domain, response spectra, framed structures modeled as discrete multi-degree-of-freedom systems, dynamic analysis of nonlinear systems. Response of structural systems to earthquake excitation. PREREQ: ME 472.

CE 552 STRUCTURAL STEEL DESIGN (2-3-3)(F/S). Design of steel structures, such as beams and columns, in accordance with latest AISC Manual of Steel Construction, LRFD edition. PREREQ: CE 352.

CE 554 TIMBER DESIGN (3-0-3)(F/S). Design of wood, and wood composite, structures and systems based on mechanical and structural characteristics and specifications. PREREQ: CE 352.

CE 555 STRUCTURES II (3-0-3)(F/S). Analysis and design of structural systems. Stiffness method including the development of element properties, coordinate transformations, and global analysis theory. Three-dimensional building systems and an introduction to the Finite Element Method. PREREQ: CE 352.

CE 556 MASONRY DESIGN (3-0-3)(F/S). Design of masonry structures and systems based on mechanical and structural characteristics and specifications. PREREQ: CE 352.

CE 560 GEOTECHNICAL ENGINEERING DESIGN (3-0-3)(F/S). Subsoil exploration and site investigation methodologies. Soil mechanics in design of earth retaining structures, shallow and deep foundations, embankments, slopes, and excavations. PREREQ: CE 360 and CE 361.

CE 562 FOUNDATION DESIGN (3-0-3)(F/S). Design of foundations, slope stabilization, and retaining structures. PREREQ: CE 460.

CE 564 SEEPAGE, DRAINAGE, FLOW NETS AND EMBANKMENTS (3-0-3)(F/S). Emphasis on the applied aspects of groundwater flow and seepage through porous media from a theoretical point of view; examination and development of governing field equations; flow net construction, modeling techniques, filter design, construction dewatering; simplified design of small earthfill dams and slope stability of embankments. PREREQ: CE 360, CE 361.

CE 570 HIGHWAY SYSTEMS DESIGN (3-0-3)(F/S). Design of urban and rural highway systems. Use of computer-aided-design software is required. PREREQ: CE 360, CE 370, or PERM/INST.

CE 572 TRANSPORTATION PLANNING (3-0-3)(F/S). Theory and practice of transportation planning at the metropolitan as well as regional levels. Use of software and completion of a project is required. Recent advances in transportation planning will be introduced. PREREQ: CE 370 or PERM/INST.

CE 575 TRAFFIC SYSTEMS DESIGN (3-0-3)(F/S). Design of operations, control, and management of traffic systems. Use of software and completion of a project is required. PREREQ: CE 370 or PERM/INST.

CE 623 (GEOPH 623)(GEOS 623) ADVANCED HYDROGEOLOGY (3-0-3)(F). Treatment of groundwater occurrence and flow, theory fundamental mechanisms, hydrologic parameters, flow regimes and systems, geologic controls. May be taken for credit in GEOS, GEOPH, or CE, but not for more than one department. PREREQ: MATH 275, MATH 333, and GEOS 412 or GEOS 512 or CE 412 or CE 512 or PERM/INST.

CE 624 (GEOPH 624)(GEOS 624) APPLIED HYDROGEOLOGY (3-0-3)(S). Quantitative determination of hydrologic parameter values and groundwater flow conditions. Conceptual models and geologic context, boundary condition, analytical and numerical solution techniques, measurement methods, applications to engineering and environmental problems. May be taken for credit in CE, GEOPH, or GEOS, but not for more than one department. PREREQ: CE 623 or GEOPH 623 or GEOS 623 or PERM/INST.

CE 630 (GEOS 630) VADOSE ZONE HYDROLOGY (3-0-3)(F)(Even years). Laboratory and field methods for characterizing physical and hydraulic properties of soils, solution of variably saturated flow problems using analytical and numerical techniques. Computer simulations of flow and transport in variably saturated soils. May be taken for CE or GEOS credit, but not for both. PREREQ: CE 412, GEOS 412, CE 512, or GEOS 512 or PERM/INST.

CE 633 (GEOS 633) CONTAMINANT HYDROGEOLOGY (3-0-3)(F)(Odd years). The fate and transport of dissolved solutes and non-aqueous phase liquids in groundwater systems. Students will analyze field data and develop conceptual models for contaminated sites. The role of engineers and hydrologists in environmental litigation will be addressed through case studies. May be taken for CE or GEOS credit, but not for both. PREREQ: CE 412 or CE 512 or GEOS 412 or GEOS 512, or PERM/INST.

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

Graduate Certificate in College Teaching

Graduate College

Graduate Program Coordinator: Megan Frary
Micron Engineering Center Room 403G
Phone: (208) 426-1061
E-mail: meganfrary@boisestate.edu

Graduate Program Coordinator: Tasha Souza
Interactive Learning Center, Room 315
Phone: (208) 426-3704
E-mail: tashasouza@boisestate.edu

General Information

The Graduate Certificate in College Teaching is designed to enhance teaching effectiveness of graduate teaching assistants and provide marketable skills for graduate students wishing to seek employment in higher education as instructors. The Graduate Certificate in College Teaching is open to all current graduate students who are considering employment in higher education, as well as others who have previously earned a master's or doctoral degree.

Through the required coursework, students will demonstrate skill in course design; demonstrate the ability to effectively teach a course including planning lessons/lectures and assessing student learning; and engage in ongoing faculty development through teaching workshops.

Application Procedures

An applicant must follow the general application procedures for admission to a graduate program (see *Graduate Admission Regulations*). The applicant must also submit the following items:

1. Program application form;
2. A minimum of two letters of recommendation from individuals who can speak the applicant's potential as a college teacher;
3. A personal statement describing the applicant's interest in the program, any previous teaching experiences, and professional goals. Include in the statement how the program would benefit the applicant's future teaching. The personal statement should also specify which track the applicant would like to pursue (i.e., the teaching track or the pedagogy track);
4. A proposal regarding the possible course(s) the applicant would like to teach as part of GCOLL 514 (teaching two weeks), GCOLL 512 (co-teaching a course), or GCOLL 513 (full course responsibility). The course taught as part of GCOLL 512 or GCOLL 513 should be a minimum of 3 credits; ideally the course is a non-laboratory course, but some lab courses may be suitable for one of the two tracks with prior approval. Also include names of any mentors who might serve as the mentor teacher for this course;
5. If applying for the teaching track, a letter from the department chair saying that they will support the applicant's teaching in the department.

College Teaching

For students applying for the teaching track, successful completion of GCOLL 511 and support from GCOLL 511 instructor(s) is needed to continue in the teaching track. Where those conditions do not apply, or if the student cannot secure a suitable teaching assignment, students may switch to the pedagogy track.

Additional details regarding application materials are available at <https://ctl.boisestate.edu/gcct/>. Applications should be submitted by October 1 of each year the Graduate College's admission page. For additional information, contact the program coordinator.

Certificate Requirements

All participants in the Graduate Certificate in College Teaching must complete GCOLL 511 (Teaching in Higher Education) and GCOLL 517 (College Teaching Portfolio). The capstone course (GCOLL 517) for the certificate requires that students have previously attended the graduate student Teaching Assistant Orientation, offered each fall by the Center for Teaching and Learning (CTL), and have participated in at least three (3) professional development workshops offered through the CTL (or the equivalent elsewhere, e.g., disciplinary conferences with sessions on pedagogy in the discipline, etc.). The remaining 3-4 credits can be earned in one of two tracks:

Pedagogical Development Track The pedagogical track includes a small teaching component (through GCOLL 514) where the student will have the experience of planning and facilitating lessons and assessments. This track includes more time spent on exploring pedagogical strategies and their potential use and through GCOLL 516.

Teaching Track The teaching track includes the mentored teaching or co-teaching of a 3-credit course (minimum) in the student's home department or a closely related discipline. In order to be accepted for this track, the student must have identified a course to be taught prior to admission and have the support of the department chair in the department offering the course. In the semester before the student will enroll in GCOLL 512 or GCOLL 513, final approval of the course to be taught must be granted by the certificate program coordinator and the department chair of the department offering the course. It is expected that the teaching experience gained through GCOLL 513 will be compensated appropriately (e.g., that the student will be hired as a teaching assistant or adjunct).

Graduate Certificate in College Teaching	
Course Number and Title	Credits
GCOLL 511 Teaching in Higher Education	3
GCOLL 517 College Teaching Portfolio	2
Select one of the following Tracks: Pedagogical Development Track GCOLL 514 Field Experience in College Teaching GCOLL 516 Exploration of Pedagogy Teaching Track GCOLL 512 Internship in College Teaching or GCOLL 513 Practicum in College Teaching	3-4
Total	8-9

Course Offerings

See *Course Numbering and Terminology* for definitions.

GCOLL—Graduate College

GCOLL 511 TEACHING IN HIGHER EDUCATION (3-0-3)(S). A study of the nature of learning. Students explore all aspects of course design, including structuring and facilitation of classroom learning, assessment methods, how to increase student engagement, and the use of technology in enhancing learning. Overview of academic careers. PREREQ: Admission to Graduate Certificate in College Teaching or PERM/INST.

GCOLL 512 INTERNSHIP IN COLLEGE TEACHING (1-2-3)(F/S/SU). Provides qualified graduate students with an opportunity to develop as university teachers by co-teaching a college course. Includes planning lessons/lectures and assessment of student learning during the co-teaching experience. Workload must be in accordance with university guidelines for internships. In the semester when students enroll, students are required to have a teaching assignment which has been approved by the program coordinator, instructor of record for the course, and the chair of the department offering the course. PREREQ: GCOLL 511 and PERM/INST.

GCOLL 513 PRACTICUM IN COLLEGE TEACHING (1-3-4)(F/S/SU). Provides qualified graduate students with an opportunity to develop as university teachers. Includes planning the lessons/lectures and assessment of student learning during the mentored teaching experience; students enrolled in the practicum have full responsibility for a course. In the semester when students enroll, they are required to have a teaching assignment which has been approved by the program coordinator and chair of the department offering the course. Offered through collaboration between Boise State University and collaborating institutions. Open to all qualified graduate students, but primarily intended for doctoral students. PREREQ: GCOLL 511 and PERM/INST.

GCOLL 514 FIELD EXPERIENCE IN COLLEGE TEACHING (1-1-1)(F/S/SU). Provides qualified graduate students with an opportunity to develop as university teachers by teaching in a college course. Includes planning and facilitating class sessions, as well assessment of student learning during those class periods. In the semester when students enroll, students are required to have arranged with an instructor who is willing to let them plan and facilitate two weeks of instruction; the arrangement must be approved by the program coordinator. PREREQ: GCOLL 511 and PERM/INST.

GCOLL 516 EXPLORATION OF PEDAGOGY (1-1-1)(F/S). Provides graduate students an opportunity to learn more about pedagogy, best teaching practices, how technology is incorporated in the classroom, and other strategies for engaging and working with students with diverse backgrounds through workshops and other programs offered by the Center for Teaching and Learning. With instructor's approval, students may pursue other pedagogical areas of interest. May be repeated for credit.

GCOLL 517 COLLEGE TEACHING PORTFOLIO (1-2-2)(F/S). Development of a professional teaching portfolio and teaching philosophy statement. Reflection on teaching experiences and professional development experiences. Exploration of careers in higher education. Prior to enrollment, students must have completed the Graduate TA Orientation. PREREQ: GCOLL 512 or GCOLL 513 or GCOLL 514, and PERM/INST.

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

Department of Communication

College of Arts and Sciences

Department Head: Todd Norton
 Communication Building, Room 100
 Phone: (208) 426-3320
<https://communication.boisestate.edu>

Graduate Faculty: Ashley, Cannon, Casper, Cho, Hicks, Isbell, Lane, e. mcclellan, J. McClellan, Moore, Most, Norton, Reeder, Roberts, Rossetto, Souza, Traynowicz, Wood

Master of Arts in Communication

Graduate Program Coordinator: John G. McClellan
 Communication Building, Room 103
 Phone: (208) 426-2450
 E-mail: johnmcclellan@boisestate.edu

General Information

The M.A. in Communication provides opportunities for students to pursue advanced study of human communication to understand, critique, and actively engage contemporary interpersonal, organizational, cultural, social, and media-related issues. With a focus on both the theory and practice of communication, the program seeks to develop engaged scholars, critical thinkers, and leaders capable of practicing communicative perspectives in a variety of contexts. Supported by graduate faculty advisors and committees, graduate students develop their scholarship and independent research and writing abilities while learning to critically examine the complexities of communication, social interaction, and media. The program encourages students to connect their study of communication with their professional interests, civic engagements, or life aspirations.

The program offers a vibrant intellectual community and supportive graduate culture. While earning a Master's degree in Communication, students choose courses across three interrelated and mutually-supportive areas of study: (1) Relational and Organizational Studies—exploring communication among individuals, groups, and organizations to enhance personal relationships and improve the ways we live and work well with others; (2) Critical/Cultural Studies—critiquing social, political, and cultural practices to examine issues of power, difference, and rhetoric in everyday life; and (3) Media Studies—examining the cultural and political influences of media to better engage in the production and consumption of news, information, and entertainment in a democratic society. While some gravitate toward a particular area of interest, graduate students take course across all areas of study to gain a broad-based mastery of the field of communication and promote a collaborative and inclusive graduate community.

Application and Admission Requirements

Application and Admission Procedures Prospective students are welcome to discuss their interests and goals with the Graduate Program Coordinator prior to submitting an application. Applications are due February 15 for fall admission. Applicants must follow the general application procedures for admission to the Graduate College (see *Graduate Admission Regulations*). In addition, applicants for the MA in Communication must also provide:

1. A statement of purpose describing the applicant's background, academic interests, academic or professional goals, and how the program will help fulfill these interests and achieve these goals.
2. An original scholarly paper.
3. A list of completed undergraduate communication theory courses and social science research methods courses.
4. Three letters of recommendation (preferably at least two from academic references) that assess the applicant's qualifications and likelihood for success in a graduate course of study.
5. GRE General Test scores. GRE scores are not required for undergraduate communication majors with an overall 3.50/4.00 GPA or higher.

Once the file for an applicant is complete, it will be evaluated by the Graduate Program Coordinator and the Communication Graduate Program Committee, and an admission recommendation (regular, provisional, or denial) will be forwarded to the Dean of the Graduate College who will make the final admission decision and notify the applicant.

Conditions for Admission Applicants must satisfy the minimum admission requirements of the Graduate College (see *Graduate Admission Regulations*). The required baccalaureate degree must be in communication or a related field. Admission is competitive and achievement of minimum requirements does not guarantee acceptance to the program.

Graduate Assistantships

A limited number of Graduate Assistantships that include a stipend, tuition and fee waiver, and student health insurance may be available to M.A. students on a competitive basis. Graduate assistants typically serve as Graduate Teaching Assistants with faculty or teach stand-alone communication courses. Occasionally Graduate Research Assistantships are available for students to support faculty research or creative projects. Graduate Assistants must enroll in a minimum of nine credit hours each semester and must meet other requirements as set by the Graduate College. Applicants interested in this opportunity must apply for a Graduate Assistantship per the instructions in the online application system.

Degree Requirements

Master of Arts in Communication	
Course Number and Title	Credits
Core Sequence	
COMM 501 Research Methods	3
COMM 505 Theory and Philosophy of Communication	3
COMM 598 Seminar	1
Elective Courses 18-21	
COMM 506 Interpersonal Communication	
COMM 507 Organizational Communication	
COMM 508 Media Theory and Criticism	
COMM 509 Media Law and Ethics	
COMM 510 Communication, Community and Politics	
COMM 511 Critical Theories	
COMM 512 Culture and Communication	
COMM 520 Collaboration and Conflict	
COMM 521 Discourse and Identity	
COMM 522 Communication Pedagogy and Training	
COMM 530 Media, Politics, and Power	
COMM 531 Media and Institutions	
COMM 532 Media Aesthetics and Culture	
COMM 540 Communication, Gender, and Difference	
COMM 541 Rhetoric and Civic Life	
COMM 590 Practicum/Internship	
COMM 595 Reading and Conference	
COMM 596 Independent Study	
COMM 597 Special Topics in Communication	
Culminating Activity 3-6	
COMM 591 Project (6 cr) or	
COMM 593 Thesis (6 cr) or	
COMM 690 Master's Comprehensive Examination (3 cr)	
Total	31

Elective Substitutions. Elective Substitutions. A student may substitute up to two courses totaling no more than 6 credits to meet the elective requirements. These courses may be from departments outside of the Department of Communication. Approval is required by the supervisory committee and the graduate program coordinator, and the substitutions must be consistent with all applicable regulations of the Graduate College.

Course Offerings

See *Course Numbering and Terminology* for definitions.

COMM — Communication

COMM 501 RESEARCH METHODS (3-0-3)(F). Provides an overview of foundational methodological approaches to research in the field of communication and media studies. Introduces students to issues of epistemology, scholarly inquiry, and criticism as aligned with common approaches to the study of communication.

COMM 505 THEORY AND PHILOSOPHY OF COMMUNICATION (3-0-3)(S). Provides an overview of leading theoretical traditions in communication studies and the philosophy of communication. Emphasizes meta-theoretical issues and understanding communication theory and theorizing as a lens for understanding everyday communication practices.

COMM 506 INTERPERSONAL COMMUNICATION (3-0-3)(F/S). Explores contemporary theory and research related to the practice of interpersonal communication. Addresses contemporary issues with relational development, maintenance, and decline as well as varied types of relationships and relational contexts.

COMM 507 ORGANIZATIONAL COMMUNICATION (3-0-3)(F/S). Explores contemporary theory and research associated with the practice of organizational communication. Emphasizes communication as constitutive of organization and communication as essential in creating, maintaining, and changing organizational structures, cultures, identities, and power relations.

COMM 508 MEDIA THEORY AND CRITICISM (3-0-3)(F/S). Examines a broad range of theoretical perspectives on media institutions, practices, and effects. Emphasis is given to the implications of media theory and research for citizens, members of civic or professional organizations who work with media, as well as media practitioners.

COMM 509 MEDIA LAW AND ETHICS (3-0-3)(F/S). Examines varied legal and ethical issues facing media practitioners and the public as consumers of media. Topics include First and Fourth Amendment, the right to privacy, censorship, libel and slander, copyright, and media and national security considerations.

COMM 510 COMMUNICATION, COMMUNITY AND POLITICS (3-0-3)(F/S). Explores the connections between theory and practice in communication studies, community organizing, and politics. Examines the exercise of power, conflicts between autonomy and control, and intersections between political and social life.

COMM 511 CRITICAL THEORIES (3-0-3)(F/S). Provides an overview of critical perspectives of media, society, and organizations by exploring the work of the Frankfurt School, postmodern perspectives, as well as feminist and other critical theories in the field of communication.

COMM 512 CULTURE AND COMMUNICATION (3-0-3)(F/S). Examines current issues and theoretical perspectives in the study of communication within particular cultural contexts. Topics include the history of the terms "culture" and "communication," and the evolution of theoretical perspectives on both terms.

COMM 520 COLLABORATION AND CONFLICT (3-0-3)(F/S). Explores contemporary communication theory and research on collaboration and conflict. Attends to issues of conflict, conflict suppression, decision making, participatory practices, and workplace democracy.

COMM 521 DISCOURSE AND IDENTITY (3-0-3)(F/S). Examines discourse as a way to explore the intersections of communication and identity. Addresses the ways communicative practices create knowledge of the self with attention to issues of gender, race, ethnicity, disciplinary power, bio-politics, consent, and control.

COMM 522 COMMUNICATION PEDAGOGY AND TRAINING (3-0-3)(F/S). Explores teaching and learning scholarship focusing on communication pedagogy and the practice of teaching communication. Helps prepare students to teach in academic and other organizational settings.

COMM 530 MEDIA, POLITICS, AND POWER (3-0-3)(F/S). Explores the role of media in politics, governance and citizenship, with emphasis on the American media system. Focuses on the institutional relationships that control and influence media coverage of politics, campaigns, elections and policymaking, and examines the impact of digital technology and the Internet on participatory democracy.

COMM 531 MEDIA AND INSTITUTIONS (3-0-3)(F/S). Explores the influences of social forces and institutions on media organizations. Topics include the ways advertising, public relations, social media, and legal, regulatory, and political systems influence media economics, content, and competition.

COMM 532 MEDIA AESTHETICS AND CULTURE (3-0-3)(F/S). Explores the philosophical and cultural implications of media theory through the lens of aesthetics. With attention to the historical progression of theory addressing the moving image, this course focuses on the mutually dependent relationship between form and content in understanding, analyzing, and interpreting visual media texts.

COMM 540 COMMUNICATION, GENDER, AND DIFFERENCE (3-0-3)(F/S). Explores the intersections of communication and gender. Attends to difference and diversity as communicative accomplishments and examines issues of identity, language, power, and hegemony.

COMM 541 RHETORIC AND CIVIC LIFE (3-0-3)(F/S). Examines the intersections of rhetorical theory and practice with civic life. Addresses issues of civic engagement, public sphere(s), rhetorical performance, citizenship, and the construction of (im)possibility.

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

Department of Community and Environmental Health

College of Health Sciences

Chair: Lillian Smith
Health Science Riverside, Room 117
Phone: (208) 426-3929
<https://hs.boisestate.edu/mhs>

Graduate Faculty: Baker, Curl, Esp, Hannah, McDonald, Toevs, Reischl, Stephenson

Graduate Degrees Offered

- Master of Health Science, Health Policy
- Master of Health Science, Health Promotion
- Master of Health Science, Health Services Leadership
- Graduate Certificate in Health Services Leadership

General Information

Housed in the School of Allied Health Sciences the Department of Community and Environmental Health partners with the Departments of Kinesiology and Public Policy and Administration to provide comprehensive graduate degree programs that utilize the public health, social, and behavioral sciences to support students as they develop and apply critical thinking, problem-solving, and leadership skills.

Master of Health Science

Graduate Program Director: Sarah E. Toevs
Health Sciences Riverside Building, Room 106
Phone: (208) 426-3922
<https://hs.boisestate.edu/mhs>
E-mail: mhsinfo@boisestate.edu

General Information

The mission of the Master of Health Science (MHS) program is to prepare recent undergraduate students and established professionals for leadership positions in public health, public and private health agencies, and health care institutions. The MHS degree provides the foundational knowledge and practical dimensions necessary for students to be effective advocates, strategists, and administrators in a variety of public health and health care settings. Students in the MHS program can study in one of three important emphasis areas: health policy, health promotion and health services leadership. Students can also pursue a Graduate Certificate in Health Services Leadership.

The curriculum is designed to serve the working professional without interrupting their employment, yet meet the rigorous standards of graduate level work. Although the MHS program is administered by the College of Health Sciences, graduate faculty are drawn from several programs across campus, including Public Policy and Administration, Economics, Kinesiology, and Nursing. The Master of Public Administration (MPA) program, with lead responsibility in the area of public policy, is a key partner in the health policy area of concentration.

Application and Admission Procedures

Applicants must satisfy the minimum admission requirements for the Boise State Graduate College. Admission is competitive and the achievement of minimum Graduate College and MHS requirements does not guarantee admission into the program (see *Graduate Admission Regulations*). Applicants are required to have a bachelor's degree from a regionally accredited institution and must comply with the following application procedures.

Interested students must meet with the MHS Director to discuss the admission process, the applicant's academic and professional goals. To apply, applicants must submit all application materials by March 1 to be considered for acceptance in the summer/fall, and by October 1 for the following spring term. Admission decisions are made shortly after these deadlines and an admission recommendation (regular, provisional, or denial) will be forwarded to the Dean of the Graduate College who will make the final decision and notify the applicant.

Admission to the Master in Health Science program is competitive and requires:

1. Apply to the Graduate College, with the requisite transcripts and test scores as applicable, and satisfy the minimum admissions requirements of the Graduate College.
 - International applicants must satisfy the international admission requirements.
 - International students must submit a TOEFL score of at least 80 internet-based (or 550 paper-based) or an IELTS score of at least 6.0. Please contact the International Admissions Office for further information on English Proficiency test requirements.
2. Applicant resume
3. Three letters of reference
4. A formal statement of at least 250 words explaining the applicant's educational and career objectives and how those objectives correspond with the MHS program.
5. Complete a proctored writing examination. This exam is scheduled by contacting the program via mhsinfo@boisestate.edu or (208)426-3929.

Advisor and Supervisory Committee

The MHS director will serve as the academic advisor for each student admitted to the program and is responsible for maintaining oversight for each student's academic progress. Each student who chooses to complete a thesis or project will be responsible for forming a supervisory committee consisting of a major advisor who serves as chair and at least two additional members. The role of the supervisory committee is to guide the student in all aspects of his or her thesis or project research. For thesis and project students, the major advisor also replaces the program director as academic advisor.

Graduate Assistantships

Graduate assistantships covering tuition and fee waivers may be available through research grants and contracts. Contact the MHS director for information on assistantships.

Community and Environmental Health

Degree Requirements

A minimum of 36 credits is required for graduation. The MHS student who attends full time will normally be enrolled for a two-year sequence including summers. Typically, however, students maintain employment positions and attend the program part-time, thereby extending the length of time required to obtain the degree.

The curriculum (36-39 credits) is comprised of required core courses of 18 credits with an additional 18-21 credits of required area of concentration courses, and a thesis, project, or elective courses. The expectation of the program is that students earn grades of B or better in their coursework. A student is allowed to receive a grade that is less than B (B- or C) in a single course, however; at the time they will be placed on academic probation. A grade of less than B in a second course will result in that student being dismissed from the program. Retaking a class in which a student earned a grade of less than B may not remove a student from academic probation (see Academic Performance, Cumulative GPA Requirement section) or lead to reinstatement in the program. All courses must be approved for application to the degree requirements by the supervisory committee and/or the program director in consultation with the major advisor. Elective courses may be chosen from any approved graduate courses at Boise State University and selected courses from Idaho State University's Master of Public Health program. An individual program may include no more than 18 credits representing dual-listed courses and G-courses or 3 credits of internship.

Master of Health Science, Graduate Core	
Course Number and Title	Credits
MHLTHSCI 505 Health Science Research Methods	3
MHLTHSCI 520 Population Health and Delivery Systems	3
MHLTHSCI 535 Ethics and Health Policy	2
MHLTHSCI 552 (KINES 552) Applied Statistical Methods	3
*MHLTHSCI 555 Program Evaluation in the Health Settings	3
**MHLTHSCI 579 Managerial Epidemiology	3
MHLTHSCI 692 Capstone Course	1
*Prerequisites include MHLTHSCI 505	
**Prerequisites include introductory course in epidemiology and MHLTHSCI 552 or equivalent.	
Total	18

Master of Health Science, Health Policy	
Course Number and Title	Credits
MHS Graduate Core	18
ECON 540 Health Economics or MHLTHSCI 504 Health Care Economics, Financing and Delivery	3
MHLTHSCI 550 Current Issues in Health Policy	3
PUBADM 500 Administration in the Public Sector	3
PUBADM 501 Public Policy Process	3
Culminating Activity	6-9
Project	
MHLTHSCI 591 Project (6 cr)	
Thesis	
MHLTHSCI 593 Thesis (5 cr)	
MHLTHSCI 688 Thesis Proposal (1 cr)	
Course Work	
9 credits of elective course work	
Total	36-39

Master of Health Science, Health Promotion	
Course Number and Title	Credits
MHS Graduate Core	18
MHLTHSCI 550 Current Issues in Health Policy	3
MHLTHSCI 570 (KINES 570) Health Promotion	3
MHLTHSCI 529 Marketing for Health Professionals	9
MHLTHSCI 571 Fundamentals of Healthy Aging	
MHLTHSCI 572 (KINES 572) Grant Writing	
MHLTHSCI 574 Health Promotion and Optimal Aging	
PUBADM 504 Public Budgeting and Financial Administration	
SOC 502 Qualitative Social Research Methods	
Culminating Activity	6-9
Project	
MHLTHSCI 591 Project (6 cr)	
Thesis	
MHLTHSCI 593 Thesis (5 cr)	
MHLTHSCI 688 Thesis Proposal (1 cr)	
Course Work	
9 credits of elective course work	
Total	39-42

Master of Health Science, Health Services Leadership	
Course Number and Title	Credits
MHS Graduate Core	18
DISPUT 501 Human Factors in Conflict Management	1
DISPUT 502 Negotiation Theory and Practice	1
DISPUT 505 Culture and Conflict	1
ECON 540 Health Economics or MHLTHSCI 504 Health Care Economics, Financing and Delivery	3
MHLTHSCI 522 Management for Health Professionals	3
MHLTHSCI 525 Leadership for Health Professionals	3
Culminating Activity	6-9
Project	
MHLTHSCI 591 Project (6 cr)	
Thesis	
MHLTHSCI 593 Thesis (5 cr)	
MHLTHSCI 688 Thesis Proposal (1 cr)	
Course Work	
9 credits of elective course work	
Total	36-39

Thesis/Project Options

The thesis or project provides Health Science graduate students an opportunity to consolidate the knowledge and skills gained during their graduate studies and to carry out an independent scholarly inquiry of a health science topic. Total credits for thesis or project vary from 4 to 6 and are determined by requirements of the emphasis area. No student may enroll for thesis or project credits until successfully completing MHLTHSCI 505 Health Science Research Methods, MHLTHSCI 555 Program Evaluation in the Health Sciences, and being advanced to candidacy following completion of at least 18 credits of selected course work.

Graduate Certificate in Health Services Leadership

Graduate Program Director: Sarah E. Toevs
 Health Sciences Riverside Building, Room 106
 Phone: (208) 426-3922
<https://hs.boisestate.edu/mhs>
 E-mail: mhsinfo@boisestate.edu

The postgraduate Certificate in Health Services Leadership is designed for health professionals employed in state and local health agencies, health care institutions and in private practice. The goal of the certificate program is to prepare students for a variety of leadership and management positions in health related organizations.

Application and Admission Requirements

Students interested in the Graduate Certificate in Health Services Leadership must first submit a graduate admission application to the Graduate College (see *Graduate Admission Regulations*).

Applicants admitted to the Graduate College who wish to apply to the Graduate Certificate in Health Services Leadership program must meet the following requirements prior to enrollment in certificate courses:

1. Possess a baccalaureate degree in a health-related field from an accredited institution.
2. Demonstrate satisfactory academic competency by attaining an overall GPA of at least 3.00 in previous college-level course work.
3. Meet with the MHS Program Director to discuss the admission process, the applicant's career interests, and reasons for seeking admission to the certificate program.
4. Submit three letters of reference, in which the applicant's academic potential is evaluated, to the Director, Master of Health Science Program, Boise State University, 1910 University Drive, Boise, ID 83725-1800. (For applicants whose academic record predates the application by five years or more, supervisors may submit letters of recommendation.)
5. Submit letter of interest and resume to MHS Program Director.
6. Complete a proctored writing examination (contact MHS Program Director to arrange for such an examination to be completed).
7. Provide evidence to the MHS Program Director or individual course instructors that course prerequisites are met.

Applicants who do not meet all of the above requirements may be allowed to enroll in the certificate program with provisional graduate status. However, these students must satisfy all of the conditions of their provisional status before they will be recommended for regular graduate status.

Certificate Requirements

Graduate Certificate in Health Services Leadership	
Course Number and Title	Credits
DISPUT 501 Human Factors in Conflict Management	1
DISPUT 502 Negotiation Theory and Practice	1
DISPUT 505 Culture and Conflict	1
MHLTHSCI 522 Management for Health Professionals	3
MHLTHSCI 525 Leadership for Health Professionals	3
Select 6 credits from the following: ECON 540 Health Economics or MHLTHSCI 504 Health Care Economics, Financing and Delivery MHLTHSCI 520 Population Health and Delivery Systems MHLTHSCI 529 Marketing for Health Professionals MHLTHSCI 550 Current Issues in Health Policy	6
Total	15

Disclosure

The Graduate Certificate in Health Services Leadership program is subject to gainful employment disclosure requirements as prescribed by federal regulation 34 CFR 668.6(b) (2) (iv). The required disclosure is given at the following website: <https://graduatecollege.boisestate.edu/programs2017/Gedt%20Health%20Services%20Leadership%202016%202017/51.2299-Gedt.html>

Course Offerings

See *Course Numbering and Terminology* for definitions.

Additional course work will be required to receive graduate credit for undergraduate G courses.

HLTHST — Health Science

HLTHST 480G EPIDEMIOLOGY (2-3-3)(F/S). Study of the distribution and determinants of disease within human populations. PREREQ: Upper-division standing and MATH 254 or KINES 301 or PSYC 295 or SOC 310 or PERM/INST.

MHLTHSCI — Master of Health Science

MHLTHSCI 504 (NURS 504) HEALTH CARE ECONOMICS, FINANCING AND DELIVERY (3-0-3)(F/S/SU). Differentiates health care economics, financing and payment systems as context for fiscal management and budgeting; examines health care delivery from organizational and operational perspectives, all of which are applied in writing proposals. May be taken for MHLTHSCI or NURS credit, but not both. PREREQ: Admission to Graduate Program in Master of Health Science or Nursing.

MHLTHSCI 505 HEALTH SCIENCE RESEARCH METHODS (3-0-3)(F/S). Inquiry into the history of health science research and the scientific method. Research strategies and methodologies will be discussed. Students will each develop a prospectus of study. The course is to be completed before a project or thesis is undertaken. PREREQ: Completion of an undergraduate statistics course and admission to MHS program or PERM/INST.

MHLTHSCI 520 POPULATION HEALTH AND DELIVERY SYSTEMS (3-0-3)(F). Explores the social determinants of health and the question of why the richest and most powerful country in world history is not the healthiest. Examines the history, organization, and comparative effectiveness of United States health care and public health systems PREREQ: Admission to MHS program or PERM/PROG DIR.

MHLTHSCI 522 MANAGEMENT FOR HEALTH PROFESSIONALS (3-0-3)(F/SU). In-depth discussion of management strategies as they apply to healthcare, with emphasis on communication, program planning, organization, staff development, program coordination, and evaluation of results.

MHLTHSCI 525 LEADERSHIP FOR HEALTH PROFESSIONALS (3-0-3)(S/SU). An overview of various approaches to leadership, authority, motivation, adaptation, and organizational conflict as they relate to the health care supervisor's role in accomplishing organizational goals and objectives.

Community and Environmental Health

MHLTHSCI 529 MARKETING FOR HEALTH PROFESSIONALS (3-0-3)(F/S). Examination of marketing models used in health and health care including identification of consumer needs, market segmentation, and designing a balanced marketing program. PREREQ: Admission to MHS program or HSL Graduate Certificate program or PERM/INST.

MHLTHSCI 535 ETHICS AND HEALTH POLICY (2-0-2)(S). Systematic examination of ethics as it relates to decision making in health policy. Discussion includes the moral issues of health care quality, right to life and right to death. PREREQ: Admission to MHS program or PERM/INST.

MHLTHSCI 550 CURRENT ISSUES IN HEALTH POLICY (3-0-3)(F/S). Examines current issues in health care policy in the United States health care system. The structure, administration and financing of the health care system are reviewed and recent changes and their effects on cost, quality, and access to health care are discussed. Some attention is given to health policy issues in other countries as they influence and impact policy in the United States. PREREQ: Admission to MHS program or PERM/INST.

MHLTHSCI 552 (KINES 552) APPLIED STATISTICAL METHODS (3-0-3)(F,S). An introduction to statistical techniques utilized in the treatment of data. The techniques to be covered include measures of central tendency and variability, correlation measures, probability, analysis of variance, and regression analysis. May be taken for KINES or MHLTHSCI credit, but not both. PREREQ: Completion of an undergraduate statistics course and graduate standing in MHS or Kinesiology, or PERM/INST.

MHLTHSCI 555 PROGRAM EVALUATION IN HEALTH DELIVERY SETTINGS (3-0-3)(S). Topics include evaluation overview, models, and evaluative study objectives, methodological design, interpretation of data, and final report preparation. The course includes a thorough review of statistics and sampling as they apply to program evaluation methodologies. PREREQ: Undergraduate statistics, MHLTHSCI 505 and admission to MHS program, or PERM/INST.

MHLTHSCI 560 PUBLIC HEALTH DISASTER PREPAREDNESS PLANNING – RISK MANAGEMENT (3-0-3)(F)(Even years). Risk assessment or risk management methods in public health disaster preparedness planning will be presented in context of natural and human-caused disasters. The environmental, economic, and social consequences for communities will be studied. PREREQ: Graduate standing or PERM/INST.

MHLTHSCI 566 COMPLEMENTARY AND ALTERNATIVE THERAPIES (2-0-2)(F/S). An exploration of the ethical, legal and policy issues surrounding non-conventional medical practices. Discussion on current research of efficacy and consumer acceptance will accompany clinical demonstrations of selected modalities, such as acupuncture and massage therapy.

MHLTHSCI 570 (KINES 570) HEALTH PROMOTION (3-0-3)(F/S). Coverage of individual, interpersonal, and group/community theories of health behavior change, with emphasis on designing, implementing, and evaluating theory-based interventions. Other topics include studying the impact of diversity and social and economic factors on health, and improving the effectiveness of health behavior change programs for underserved groups. May be taken for KINES or MHLTHSCI credit, but not both.

MHLTHSCI 571 (COUN 571)(SOCWRK 571) FUNDAMENTALS OF HEALTH AGING (3-0-3)(F,S,SU). Overview of gerontology presented by examining major issues related to aging. Content includes theories of aging; the impact of an aging population; and future implications at local, national, and international levels. May be taken for COUN, MHLTHSCI, or SOCWRK credit, but only from one department.

MHLTHSCI 572 (KINES 572) GRANT WRITING (3-0-3)(SU). Examination of the process of securing resources from external entities. Students will learn and apply a variety of techniques employed in proposal development and grant authorship. May be taken for KINES or MHLTHSCI credit, but not both.

MHLTHSCI 574 (KINES 574) HEALTH PROMOTION AND OPTIMAL AGING (3-0-3)(F)(Even years). Focus on promoting healthful behavior and quality of life among older adults. Application of theory, research, and practice to gerontological health promotion and wellness. May be taken for KINES or MHLTHSCI credit, but not both.

MHLTHSCI 579 MANAGERIAL EPIDEMIOLOGY (3-0-3)(F/S). Use of epidemiologic research to manage and enhance the delivery of health services and manage health care organizations. Practical applications of epidemiology to health services management including identification of different sources of epidemiologic data, management of population health, financial implications of poor health, health services planning, quality monitoring, policy development and clinical practice improvement. PREREQ: HLTHST 480-480G and MHLTHSCI 552, or PERM/INST.

MHLTHSCI 580 SELECTED TOPICS IN RESEARCH (3-0-3)(F/S/SU). Exploration of research in topical areas of the health sciences and related disciplines.

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

Department of Computer Science

College of Engineering

Chair: Nader Rafla

City Center Plaza, Room 364

Phone: (208) 426-5766

<https://coen.boisestate.edu/cs/>

E-mail: computerscience@boisestate.edu

Graduate Faculty: Andersen, Buffenbarger, Conrad, Cutchin, Dagher, Dit, Ekstrand, Fails, Hou, Jain, Kennington, Long, Mehrpouyan, Olschanowsky, Pera, Serra, Sherman, Spezzano, Xiao, Xu, Yeh

Graduate Degrees Offered

- Master of Science in Computer Science
- Graduate Certificate in Computer Science Teacher Endorsement

Interdisciplinary Participation

- Doctor of Philosophy in Computing

Master of Science in Computer Science

Graduate Program Coordinator: Jerry Fails

City Center Plaza, Room 257

Phone: (208) 426-5783

E-mail: jerryfails@boisestate.edu

General Information

The Master of Science in Computer Science program has been designed for people who have a good background in computer science at the undergraduate level—that is, either:

- a baccalaureate degree in computer science, or
- a degree in a related field with significant course work in computer science.

The Computer Science Graduate Committee may grant provisional admission to promising students with limited computer science background.

Application and Admission Requirements

Applicants must have either a baccalaureate degree in computer science, or a baccalaureate degree in a related field plus substantial course work and/or professional experience in computer science, with an undergraduate GPA of 3.00 or higher.

A prospective student should follow the general graduate application procedure for degree-seeking students (see Applying as a Degree-Seeking Student in this catalog). The applicant must also arrange to have GRE General Test scores submitted by the Educational Testing Service (www.ets.org) directly to Boise State University

(code R4018). Applicants holding a baccalaureate degree from Boise State University are not required to submit GRE scores. Application materials should include resume, official transcripts, three letters of recommendation, and an optional statement of interests.

Regular and Provisional Status Completed applications will be reviewed by the Computer Science Graduate Committee.

- Applicants who meet the stated requirements and whose computer science background is deemed sufficient will be recommended for admission to the program with Regular status.
- Applicants whose computer science background is deemed deficient may be recommended for admission with Provisional status. In this case the applicant will be required to pass specific undergraduate computer science courses in order to remove the deficiency and be granted Regular admission status.
- Unless otherwise specified, all deficiencies must be removed within two years of Provisional admission to the program. Time spent in Provisional status counts toward the limit of five years (or up to seven years if an extension is granted) allowed for completion of the degree.

Degree Requirements

The degree requirements described below allow the student a fair amount of flexibility in designing a program to fit his or her needs. The course work is to be chosen by the student, in consultation with his/her advisor and the Computer Science Graduate Committee. The Master of Science in Computer Science requires a minimum of 30 credit hours, as specified in the table below. The student can take up to three credits of independent study. The student can also take up to three credits of Practicum (industrial internship). In addition, the student's advisor and the Computer Science Graduate Coordinator must approve the student's proposed degree plan to ensure that it meets these criteria and forms a coherent program of study. All requirements for the degree must be completed within five years of initial enrollment in the program, unless the Computer Science Graduate Committee grants an explicit extension of time. In no event will more than seven years be allowed for completion of the degree.

Master of Science in Computer Science	
<i>Course Number and Title</i>	<i>Credits</i>
Graduate Courses related to Computer Science	21-27
Graduate courses in computer science or a related field; all courses to be selected with student input and approved by the supervisory committee.	
Culminating Activity CS 591 Project (3-6 cr) or CS 593 Thesis (6-9 cr)	3-9
Total	30

Graduate Certificate in Computer Science Teacher Endorsement

Graduate Program Coordinator: Jyh-haw Yeh
 City Center Plaza, Room 247
 Phone: (208) 426-3034
 E-mail: jhyeh@boisestate.edu

General Information

Students who complete this program and who hold an Idaho State Teaching Certificate will be eligible to apply for the Idaho State Computer Science Teacher Endorsement. This Graduate Certificate is intended for students who want to develop professional skills and knowledge to successfully teach Computer Science in High School. The program will enable students to develop expertise to teach computer science courses in high school, including “Exploring Computer Science” and “AP Computer Science Principles.”

Application and Admission Requirements

Admission to the certificate program requires a baccalaureate degree from an accredited college or university and admission to the Graduate College (see *Graduate Admission Regulations*). In addition, the academic background of the applicant must be judged by the Graduate Program Coordinator to be adequate for enrollment in graduate courses designed for this certificate. However, meeting these minimum requirements does not guarantee admission to the certificate program.

The applicant must also submit a letter of interest to the Graduate Program Coordinator briefly summarizing his or her background and motivation for enrolling in the certificate program. Once the applicant's file is complete, it will be reviewed by the Graduate Program Coordinator who will provide an admission recommendation to the Dean of the Graduate College. The Dean will make the final admission decision and notify the applicant.

Special Relationships with Other Programs

A student may be simultaneously enrolled in the Master of Science in STEM Education and the Graduate Certificate, Computer Science Teacher Endorsement program subject to the approval of the graduate program coordinators of both programs. Please note that admission to the certificate program does not guarantee admission to the degree program and vice versa. Simultaneous enrollment in more than two graduate certificate programs is prohibited by the Graduate College. Credits earned in this certificate program may be counted towards the Master of Science in STEM Education.

Certificate Requirements

Graduate Certificate in Computer Science Teacher Endorsement	
Course Number and Title	Credits
CS 501 Computer Science Principles	3
CS 503 Teaching and Learning Computer Science I	5
CS 505 Teaching and Learning Computer Science II	4
CS 518 Inclusive Strategies for Teaching Computer Science to Women and Minorities	2
CS 321 Data Structures CS 516 Introduction to Web Development CS 517 Mobile Application Development	6
Total	20

Course Offerings

See *Course Numbering and Terminology* for definitions.

CS — Computer Science

CS 501 COMPUTER SCIENCE PRINCIPLES (3-0-3)(SU). Introduction to the central ideas, practices and impact of computer science and computational thinking. Covers the big ideas in computer science: creativity, abstraction, data and information, algorithms, programming, the Internet, and global impact. Computational thinking practices: connecting computing, creating computational artifacts, abstracting, analyzing problems and artifacts, communicating, and collaborating. In-depth projects using at least one visual and one text-based programming language. Adapting content to high school courses. PREREQ: Admission to Master of Science in STEM Education or Graduate Certificate in Computer Science Teacher Endorsement.

CS 503 TEACHING AND LEARNING COMPUTER SCIENCE I (4-3-5)(F/S). Problem solving and object-oriented programming. Software development process. Data and expressions, conditionals and loops, arrays and lists, and classes and interfaces. Introduction to graphical user interfaces and UML diagrams. Approaches and techniques to teach CS I material in grades 6-12. PREREQ: Admission to Master of Science in STEM Education or Graduate Certificate in Computer Science Teacher Endorsement.

CS 505 TEACHING AND LEARNING COMPUTER SCIENCE II (4-0-4)(F/S). Program correctness, testing and analysis of time and space complexity. Graphical user interfaces. Object-oriented programming and design, including hierarchy and inheritance. Basic data structures: lists, collections, stacks and queues. Basic searching and sorting. Approaches and techniques to teach CS II material in grades 6-12. PREREQ: Admission to Master of Science in STEM Education or Graduate Certificate in Computer Science Teacher Endorsement, and CS 503.

CS 507 COMPUTING FOUNDATIONS FOR COMPUTATIONAL SCIENCE (3-0-3)(F/S). Introduction to the basic techniques, tools and principles of writing high-quality code in scientific computing. Topics include: overview of relevant compiled and interpreted languages, data structures, algorithms, complexity of algorithms, sorting and searching, writing, testing, and debugging scientific code, profiling and improving performance, portability and scalability. PREREQ: Regular admission to the Computational Science and Engineering emphasis of the Doctor of Philosophy in Computing program or PERM/INST.

CS 510 DATABASES (3-0-3)(S). Foundations of database management systems. Database models: relational, object and other models. Database design: entity relationship modeling, logical relational schema design, physical design, functional dependencies and normalization, and database tuning. Database application development using database interfaces embedded in host languages. PREREQ: CS 321 or regular admission to Doctor of Philosophy in Computing or Master of Science in Computer Science.

CS 512 ADVANCED TOPICS IN DATABASES (3-0-3)(F/S). Parallel and distributed database system architectures, distributed database design, client/server database systems. Selected topics from new developments in: extended relational databases, multimedia databases, information retrieval systems, object-oriented databases, temporal databases. PREREQ: CS 410 or CS 510 or regular admission to Doctor of Philosophy in Computing or Master of Science in Computer Science.

CS 516 INTRODUCTION TO WEB DEVELOPMENT (3-0-3)(F/S). An introduction to the technologies used for client-side and server-side web development. Learn fundamentals behind competing web technologies, best practices for design and usability, and build rich, dynamic, n-tier secure web applications. Tools used are mainly open source such as PHP, Javascript, XML, HTML, CSS, MySQL, and the Apache web server. PREREQ: Admission to the Master of Science in STEM Education or Graduate Certificate in Computer Science Teacher Endorsement program, and CS 505.

CS 517 MOBILE APPLICATION DEVELOPMENT (3-0-3)(F/S). A project-intensive course on mobile development using either iOS or Android as a platform. Overview of mobile platforms and their characteristics, mobile interface design and best practices using such technologies as GPS, camera, persistence, notifications and others. Platform will be announced before the beginning of each semester. PREREQ: Admission to the Master of Science in STEM Education or Graduate Certificate in Computer Science Teacher Endorsement program, and CS 505.

CS 518 INCLUSIVE STRATEGIES FOR TEACHING COMPUTER SCIENCE TO WOMEN AND MINORITIES (2-0-2)(S). Readings and discussions of methodologies and teaching CS to women and minorities in group settings. (Pass/Fail.) PREREQ: Admission to Master of Science in STEM Education or Graduate Certificate in Computer Science Teacher Endorsement.

CS 521 DESIGN AND ANALYSIS OF ALGORITHMS (3-0-3)(F/S). Asymptotic analysis, recurrences, and amortized analysis. Divide-and-conquer, dynamic programming, greedy algorithms, back tracking, and heuristic search. Advanced graph algorithms and network flows. NP-hardness and beyond. Approximation algorithms. PREREQ: Regular admission to Doctor of Philosophy in Computing or Master of Science in Computer Science.

CS 525 COMPUTER NETWORKS (3-0-3)(F/S). OSI reference model. Performance analysis of protocols—mathematical modeling and simulation. Quality of Service, flow control, and scheduling. MAC and routing in wireless networks. PREREQ: CS 425, and MATH 361 or MATH 360, or regular admission to Doctor of Philosophy in Computing or Master of Science in Computer Science.

CS 530 PARALLEL COMPUTING (3-0-3)(F)(Even Years). Models of parallel computation. Fundamental design patterns used in parallel algorithms: embarrassingly parallel, partitioning, divide and conquer, software pipelining, synchronous computations and load balancing. Implementation of parallel programs using MPI, GPUs and Map-Reduce on parallel clusters. PREREQ: CS 253 and CS 321, or regular admission to Doctor of Philosophy in Computing or Master of Science in Computer Science.

CS 531 ADVANCED PROGRAMMING LANGUAGES (3-0-3)(F/S). Advanced topics in programming-language theory, design, and implementation. Topics include: data types; binding, scope, and extent; abstraction, extensibility, and control mechanisms; formal semantics and program verification. Emphasis on alternative programming-language paradigms. PREREQ: CS 354 or regular admission to Doctor of Philosophy in Computing or Master of Science in Computer Science.

CS 533 INTRODUCTION TO DATA SCIENCE (3-0-3)(F). Foundational paradigms, techniques, and tools for data science. Formulating tractable research questions, identifying relevant data, designing and carrying out analyses, and presenting results. Best practices for storing and managing data, source code, analysis scripts, and results in data science workflows. Efficient management of and computation over medium-sized data sets. Projects and methods drawn from a variety of applications. PREREQ: CS 321 and MATH 360 or MATH 361, or MATH 471; or regular admission to Doctor of Philosophy in Computing, or Master of Science in Computer Science.

CS 534 DATA SCIENCE AND ANALYTICS (3-0-3)(F)(Odd Years). Foundations of data-intensive computing. Models and systems for storing, processing and analyzing large datasets. Data mining and machine learning techniques for modeling large datasets and streaming data. Review of recent research in the field. Application development for analyzing large datasets. Equal emphasis on developing theoretical and practical skills in the field. PREREQ: CS 410 or CS 430 or CS 510 or CS 530 or regular admission to Doctor of Philosophy in Computing or Master of Science in Computer Science.

CS 541 (ECE 532) COMPUTER ARCHITECTURE (3-0-3)(S). Structure of computer systems using processors, memories, input/output (I/O) devices as building blocks. Computer system instruction set design and implementation, including memory hierarchies, microprogramming, pipelining and multiprocessors. Issues and tradeoffs involved in the design of computer system architectures with respect to the design of instruction sets.

Applications of hardware description languages (HDL) in the design of computer systems. May be taken for CS or ECE credit, but not both. PREREQ for CS 541: CS 117 or CS 121, and ECE 330; or regular admission to Doctor of Philosophy in Computing or Master of Science in Computer Science. PREREQ for ECE 532: CS 121 and ECE 330.

CS 542 QUANTITATIVE COMPUTER ARCHITECTURE (3-0-3)(S). Quantitative analysis on computer architectures and software optimizations with static and dynamic simulation techniques. Design implications of memory latency and bandwidth limitations. Performance enhancement via within-processor and between-processor parallelism. In particular, the study of pipelining, instruction-level parallelism, memory hierarchy design, storage systems, and multiprocessors are emphasized. PREREQ: CS 441 or regular admission to Doctor of Philosophy in Computing or Master of Science in Computer Science.

CS 546 COMPUTER SECURITY (3-0-3)(F/S). Computer and network security. Public-key and private-key cryptography, authentication, digital signatures, key exchange, key management, certification authorities, and distributed trust models. File system security, Mail system security, and Web security. Intruders, Trojan Horses, and viruses. Covert channels. Projects will involve using currently available security tools. PREREQ: CS 453 or regular admission to Doctor of Philosophy in Computing or Master of Science in Computer Science.

CS 550 PROGRAMMING LANGUAGE TRANSLATION (3-0-3)(S)(Odd Years). Theory and practice of formal language translation, experience with compiler construction tools under UNIX. Students work on significant projects. PREREQ: CS 253 and CS 321 and CS 354, or regular admission to Doctor of Philosophy in Computing or Master of Science in Computer Science.

CS 551 ADVANCED TOPICS IN COMPILATION (3-0-3)(F/S). Code generation, analysis, and optimization. Projects will use a simple framework for performing analysis and optimizations at the assembly level. PREREQ: CS 450 or CS 550 or regular admission to Doctor of Philosophy in Computing or Master of Science in Computer Science.

CS 554 ADVANCED OPERATING SYSTEMS (3-0-3)(S). Operating system kernels: process management, memory management, file systems, security and protection. Advanced concurrent programming techniques. Operating system design and construction techniques. Modifying operating system code to observe behavior, add new functionality and run experiments. Support for soft and hard real-time systems, big data, cybersecurity, virtual machines and other domains. PREREQ: CS 453, or regular admission to the program. PREREQ: Regular admission to Doctor of Philosophy in Computing or Master of Science in Computer Science.

CS 555 DISTRIBUTED SYSTEMS (3-0-3)(S)(Even Years). Principles and paradigms of distributed systems. Communication, processes, naming, synchronization, consistency and replication, fault tolerance and security. In-depth coverage of Remote Procedure Call (RPC), Remote Method Invocation (RMI) and socket programming. Survey of major distributed systems. Several software projects. PREREQ: CS 253 and CS 321 or regular admission to Doctor of Philosophy in Computing or Master of Science in Computer Science.

CS 557 ARTIFICIAL INTELLIGENCE (3-0-3)(F/S). Course will include a survey of some of the following topics, plus a project: Principles of knowledge-based search techniques; automatic deduction; knowledge representation using predicate logic, semantic networks, connectionist networks, frames, rules; applications in problem solving, expert systems, game playing, vision, natural language understanding, learning, robotics; LISP programming. PREREQ: CS 321 and CS 354, or regular admission to Doctor of Philosophy in Computing or Master of Science in Computer Science.

CS 561 THEORY OF COMPUTATION (3-0-3)(S). Regular languages and finite automata, minimization of automata. Context-free language, normal forms and pushdown automata. Turing machine and its variations. Extensive theoretical treatment of decidability and reducibility. Introduction to computational complexity. PREREQ: Regular admission to Doctor of Philosophy in Computing or Master of Science in Computer Science.

CS 564 VISUALIZATION TECHNIQUES (3-0-3)(S)(Even years). Fundamentals of visualization including data sources, representations, and graphical integrity. Visualization of scalars, vectors, tensors, flows and high-dimensional data. Visual perception and color theory. Applications from medical imaging, social media, sports, and seismology domains. CS 464 or MATH 275 or MATH 301 recommended. PREREQ: CS 321 or regular admission to Doctor of Philosophy in Computing or Master of Science in Computer Science.

Computer Science

CS 565 (MATH 565) NUMERICAL METHODS I (3-0-3)(F). Approximation of functions, solutions of equations in one variable and of linear systems. Polynomial, cubic spline, and trigonometric interpolation. Optimization. Programming assignments. May be taken for CS or MATH credit, but not both. PREREQ: MATH 365 or PERM/INST.

CS 566 (MATH 566) NUMERICAL METHODS II (3-0-3)(S). Matrix theory and computations including eigenvalue problems, least squares, QR, SVD, and iterative methods. The discrete Fourier transform and nonlinear systems of equations. Programming assignments. May be taken for CS or MATH credit, but not both. PREREQ: CS 565 or MATH 465 or MATH 565 or PERM/INST.

CS 567 APPLIED CRYPTOGRAPHY (3-0-3)(F). A study of how modern cryptographic protocols and schemes work, and how they are used in real-world applications. Topics include stream ciphers, block ciphers, public-key cryptography, RSA cryptosystem, public-key cryptosystems based on the discrete logarithm problem, digital signatures, and hash functions. PREREQ: Regular admission to Doctor of Philosophy in Computing or Master of Science in Computer Science.

CS 568 INFORMATION RETRIEVAL (3-0-3)(S)(Odd Years). An exploration of diverse areas of study related to information retrieval. Topics include query suggestion, question answering, recommendation systems, and (social) web search. Emphasis on exploring state-of-the-art research and future trends via reading assignments and topic presentations. PREREQ: Regular admission to Doctor of Philosophy in Computing or Master of Science in Computer Science.

CS 569 HUMAN COMPUTER INTERACTION (3-0-3)(S)(Even Years). Science-based theories and models of user interface design and development. Graphical user interfaces for desktop, web, and mobile devices. Usability assessment by quantitative and qualitative methods. Task analysis, usability tests, expert reviews, and continuing assessments of working products by interviews, surveys, and logging. Building of low-fidelity paper mockups, and a high-fidelity prototype using contemporary tools and programming environments. PREREQ: Regular admission to Doctor of Philosophy in Computing or Master of Science in Computer Science.

CS 572 OBJECT-ORIENTED DESIGN PATTERNS (3-0-3)(F)(Even Years). Reviews object-oriented design principles, explains the goals and form of design patterns, and examines several well-known patterns. PREREQ: CS 321 or regular admission to Doctor of Philosophy in Computing or Master of Science in Computer Science.

CS 573 ADVANCED SOFTWARE ENGINEERING (3-0-3)(S). A study of software development processes and methodologies. Topics include: software process models, requirements analysis, design principles, formal specification, validation and verification techniques, and software metrics. PREREQ: CS 471 or regular admission to Doctor of Philosophy in Computing or Master of Science in Computer Science.

CS 574 ADVANCED SOFTWARE QUALITY (3-0-3)(F). Study of verification techniques beyond testing and static analysis, including model checking and symbolic execution. Integrates formal specification of program requirements. Illustrates application of verification techniques to concurrent programs. Software-quality literature review and exploration of advanced software quality topics. PREREQ: Regular admission to Doctor of Philosophy in Computing or Master of Science in Computer Science.

CS 575 SOFTWARE SECURITY (3-0-3)(S)(Even Years). Principles, techniques, and best practices for developing secure software. Emphasizes the security ramifications for different activities of software development processes. Topics include security policies, security requirements analysis, threat modeling, secure design, secure programming, and security testing and verification.

PREREQ: Regular admission to Doctor of Philosophy in Computing or Master of Science in Computer Science.

CS 576 SOCIAL MEDIA MINING (3-0-3)(S)(Even Years). An introduction to fundamentals of social networks and social media analysis and mining. Topics include graph essentials and graph mining, properties of real-world networks, social network generative models, information diffusion, link prediction, community mining, and user behavior analytics. PREREQ: Regular admission to Doctor of Philosophy in Computing or Master of Science in Computer Science.

CS 577 SOFTWARE MAINTENANCE AND EVOLUTION (3-0-3)(S)(Odd Years). Exploration of leading research in software maintenance and evolution. Topics include concept location, impact analysis, traceability link recovery, bug triaging, developer recommendations, program comprehension, application of information retrieval in software maintenance, application of data mining and machine learning in software engineering, software repositories mining, reproducibility of experiments, and user studies. PREREQ: Regular admission to Doctor of Philosophy in Computing or Master of Science in Computer Science.

SELECTED TOPICS (1-4 Variable). In depth study of current trends and advanced topics in targeted areas of computer science.

CS 580 PARALLEL COMPUTING

CS 581 ALGORITHMS

CS 583 COMPUTER SECURITY

CS 584 NETWORKS

CS 585 OBJECT-ORIENTED DESIGN

CS 586 DATABASES

CS 587 SOFTWARE ENGINEERING

CS 621 DIGITAL FORENSICS (3-0-3)(F). Explores principles and practices of digital forensics, including identification, collection, acquisition, authentication, preservation, examination, analysis, and presentation of digital evidence. Discusses computer forensics, network forensics, cell phone forensics, and other types of digital forensics. PREREQ: Regular admission to Doctor of Philosophy in Computing or Master of Science in Computer Science.

CS 622 ADVANCED NETWORK SECURITY (3-0-3)(F). Explores security aspects of emergent network environments, including multiparty, cellular, sensor, VoIP, smart grid, and SDN environments. Focuses on intrusion detection, intrusion prevention, traffic analysis, and responses to network attacks. PREREQ: CS 525, CS 546, and regular admission to Doctor of Philosophy in Computing or Master of Science in Computer Science.

CS 623 CYBER PHYSICAL SYSTEMS (3-0-3)(F). Studies principles, methods, and techniques for designing and analyzing cyber-physical systems. Topics will include system design, monitoring, real-time scheduling, feedback control, hazard analysis, verification and validation, and emerging applications of cyber physical systems. PREREQ: Regular admission to Doctor of Philosophy in Computing or Master of Science in Computer Science.

CS 624 CYBER SECURITY OF CRITICAL INFRASTRUCTURES (3-0-3)(S). Explores vulnerabilities, threats, and mitigating controls of critical infrastructures. Examines national policies, frameworks, industry standards, and sector-wide initiatives for protection of critical infrastructures. Discusses environmental, operational, and economic impacts of attacks and supporting mitigating controls. PREREQ: Regular admission to Doctor of Philosophy in Computing or Master of Science in Computer Science.

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

Doctor of Philosophy in Computing

College of Arts and Sciences

College of Engineering

Doctor of Philosophy in Computing

Graduate Program Co-Director: Jodi Mead
 Graduate Program Co-Director: Catherine Olschanowsky
 Program Administrator: Keela Cooper
 City Center Plaza, Room 251
 Phone: (208) 426-5767
 E-mail: computingphd@boisestate.edu

General Information

The Doctor of Philosophy in Computing program has three emphasis areas to select from:

- **Computational Science and Engineering:** Focus on construction of mathematical models and quantitative analysis techniques and use of computers to analyze and solve scientific and engineering problems.
- **Computer Science:** Focus on theory, design, development, and application of computer and software systems, and the development of algorithms for data search, manipulation, and analysis.
- **Cyber Security:** Focus on protection of computers, networks, programs, industrial control systems, and data from unintended or unauthorized access, change, or destruction.

Application and Admission Requirements

1. Apply to the Graduate College and satisfy the minimum admissions requirements of the Graduate College. International applicants must satisfy the international admissions

requirements.

2. A baccalaureate degree from a regionally accredited U.S. institution of higher learning or from a non-U.S. institution of higher education that is judged equivalent to a U.S. baccalaureate degree by the International Admissions Office. Applicants should have an undergraduate GPA of at least a 3.00 on a 4-point system.
3. A statement of purpose. This statement should describe your education and professional background and your motivation for graduate study, including your career goals.
4. Official GRE scores. Students holding a degree from Boise State's College of Engineering are not required to submit GRE scores. Applicants holding a Master's degree from an accredited U.S. university may request to waive the GRE requirement.
5. Three letters of recommendation. These letters should address your preparation for graduate study.

Degree Requirements

Doctor of Philosophy in Computing	
Course Number and Title	Credits
Track courses approved by the supervisory committee and the program coordinator. Select one from the following three tracks: Computational Science and Engineering Computer Science Cyber Security.	18
Additional track courses and/or elective courses approved by the supervisory committee and the program coordinator.	18-24
CS 691 Doctoral Comprehensive Examination	1
Culminating Activity CS 693 Dissertation	24-30
Total	67

(See the *Department of Computer Science* section for course offerings.)

Department of Counselor Education

College of Education

Chair: Diana Doumas
Education Building, Room 610
Phone: (208) 426-1219
E-mail: counseloreducation@boisestate.edu

Graduate Faculty: Doumas, Gallo, Midgett, Miller, Moro

Graduate Degrees Offered

- Master of Arts in Counseling, Addiction Counseling Cognate
- Master of Arts in Counseling, School Counseling Cognate

General Information

The Master of Arts in Counseling prepares individuals in counseling related careers. The program is accredited by the National Council for the Accreditation of Teacher Education (NCATE) and the Northwest Commission of Colleges and Universities (NWCCU). The program meets the State Board of Occupational Licenses' criteria for licensure as a professional counselor. The school counseling cognate is accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP).

Course work is offered in sequence, primarily during evenings and weekends of fall and spring semesters, with students enrolling in six to eleven credits each semester and enrolling in six to seven credits offered in the daytime and evening during the summer sessions.

Students are required to complete an *Adjudication Form* upon admission and yearly while enrolled. Students are required to disclose criminal backgrounds and professional licensure and/or certification standing. Information disclosed or otherwise obtained can determine faculty decisions regarding continuation in the program, endorsement by program faculty for students to enroll in practicum and/or internship, endorsement for any field-based placement, and disclosure by program faculty to potential internship and/or other field-based site or individual supervisors.

Application Requirements

An applicant must satisfy the minimum admission requirements of the Graduate College (see *Graduate Admission Regulations*).

Admission Requirements

Students must apply for admission to and be accepted by the Counseling Program Admissions Committee. A new cohort year begins each fall, and enrollment is competitive. All admission materials must be submitted by February 1:

1. Letter of application describing your professional experiences as they support your desire to be a counselor in a school or addiction setting, specific career goals, and reasons for your interest in this program. Include in the letter your vision about the role of a counselor in a school or addiction setting;
2. Up-to-date resume or Curriculum Vitae;
3. Post-secondary transcripts (Applicants should order these ahead of time to meet the February 1st deadline);

4. Three professional letters of reference supporting your qualifications for a counseling program and for graduate work (Note that letter writers must submit their own letters to the online system).

An on-campus pre-admission interview and writing sample are required of all finalists. When attendance is an extreme hardship for the applicant, special arrangements may be made (such as a conference telephone interview or alternate site interview). No other pre-admission testing is required. A criminal background check prior to placement in a school setting is required of all students, and may be required prior to placement in an addiction setting. An Adjudication statement is required of each student upon acceptance and at several check points in the program.

Master of Arts in Counseling

Graduate Program Coordinator Addiction Counseling:
Raissa Miller and Regina Moro
Education Building, Room 643
Phone: (208) 426-1219
E-mail: counseloreducation@boisestate.edu

Graduate Program Coordinator School Counseling:
Laura Gallo
Education Building, Room 643
Phone: (208) 426-1219
E-mail: counseloreducation@boisestate.edu

General Information

The Master of Arts in Counseling degree consists of a minimum of sixty (60) semester hours of course work designed to prepare professionals to counsel in a variety of settings. Cognate areas include school counseling and addiction counseling. Courses promote the acquisition of the knowledge and skill development in the eight core areas listed in CACREP Standards: Professional Identity, Social and Cultural Diversity, Human Growth and Development, Career Development, Helping Relationships, Group Work, Assessment, and Research and Program Evaluation. Specific course work in each of the eight components is listed below. Students are also required to take specialty coursework in either the school counseling cognate or addiction counseling cognate. Electives offered ad hoc or in rotation are designed to maximize flexibility while reflecting current training trends in counseling. The student's culminating activity includes a written comprehensive exam and recorded evidence of skill and theory integration supported by a comprehensive portfolio demonstrating professional growth and counseling knowledge with culturally appropriate awareness. Each student works closely with a Program Advisor in preparing the portfolio. During one semester of the Program each student counselor is expected to participate in a group counseling experience in which students participate as group members in a small group activity, approved by the program, for a minimum of 10 clock hours over the course of one academic term.

Students have latitude in selecting internship sites to maximize their experience in line with specific career goals with at least 700 hours of internship experience in the selected cognate. Students incorporate counseling theory and knowledge into an increasingly advanced application of skills throughout the program, fine

tuning an individualized counseling approach through counseling practica using digital recording, and supervised experience in the community, school, and student outreach sites.

The 60-credit Master of Arts in Counseling with cognate areas in school counseling and addiction counseling offers the core of counseling knowledge and skills that prepares graduates to become licensed professional counselors with a specialty in either school counseling or addiction counseling.

Degree Requirements

Master of Arts in Counseling	
Course Number and Title	Credits
Core	
COUN 501 Foundations in Counseling	2
COUN 502 Counseling Theories	3
COUN 504 Measurement and Evaluation in Counseling	3
COUN 505 Counseling Skills	3
COUN 506 Lifespan Development	2
COUN 507 Career Development and Vocational Counseling	3
COUN 508 Special Needs, Ethics and Legal Issues in Counseling	3
COUN 509 Culturally Aware Counseling	3
COUN 511 Family Systems	3
COUN 512 Statistics and Research Design	3
COUN 513 Group Counseling	3
COUN 514 Counseling Practicum I	2
COUN 516 Counseling Practicum II	2
COUN 526 Counseling Internship I	3
COUN 527 Counseling Practice Evaluation	2
COUN 528 Counseling Internship II	3
COUN 547 Chemical Addictions and Violence Prevention	2
COUN 550 Diagnosis, Assessment, and Treatment Planning	3
COUN 568 Seminar: Professional Counseling	1
COUN 592 Portfolio	1
COUN 690 Master's Comprehensive Examination	1
Cognate Area (select one)	
Addiction Counseling Cognate	6
COUN 545 Foundations of Chemical Dependency	
COUN 548 Addiction and Behavioral Health Assessment and Intervention	
School Counseling Cognate	
COUN 533 Introduction to School Counseling	
COUN 534 Counseling Children and Adolescents	
Electives	3
Total	60

Course Offerings

See *Course Numbering and Terminology* for definitions.

COUN — Counseling

COUN 501 FOUNDATIONS IN COUNSELING (2-0-2)(F). Provides an introduction to professional, ethical, legal, theoretical, cultural, social, and practice aspects of counseling. Students examine the roles and responsibilities of counselors; professional organizations and associations; and professional preparation standards. Historical, cultural, and social contexts along with emerging professional issues and directions are included. PREREQ: Admission to the Counseling Program.

COUN 502 COUNSELING THEORIES (3-0-3)(F). Examines historical and contemporary theories of counseling to assist in student identification of personal theoretical orientation and aid in client conceptualization. PREREQ: Admission to the Counseling Program.

COUN 504 MEASUREMENT AND EVALUATION IN COUNSELING (3-0-3)(SU). Students will access theory and practice of standardized test development and procedures; applications and limitations of standardized tests; techniques of administering individual/group tests and of interpreting assessment instruments and profiles; and communication strategies with

clients, parents, school personnel, and relevant professionals. PREREQ: COUN 512 or similar graduate statistics course.

COUN 505 COUNSELING SKILLS (2-2-3)(S). Orientation to basic and advanced counseling skills. Students acquire effective and ethical counseling skills through recorded role-played practice. PREREQ: COUN 501 and COUN 502.

COUN 506 LIFESPAN DEVELOPMENT (2-0-2)(F/SU). Examine theoretical constructs related to developmental processes, both typical and atypical, and analyze developmentally based behavior patterns across the age spectrum (birth to death) through a variety of contemporary cultures and beliefs.

COUN 507 CAREER DEVELOPMENT AND VOCATIONAL COUNSELING (3-0-3)(S/SU). Provides an overview of the major career development theories, vocational guidance and occupational/educational information sources and systems. Career development program planning, resources, computerized information systems, and evaluation will be included. Emphasis will be placed on how career counseling and vocational guidance are practiced by the school counselor. PREREQ: Admission to the Counseling Program or Masters in Counseling.

COUN 508 SPECIAL NEEDS, ETHICS, AND LEGAL ISSUES IN COUNSELING (3-0-3)(F/SU). Information on laws, regulations, techniques and interventions needed by professional counselors when working with individuals with disabilities or other challenges. Examination of ethical, legal, and professional issues involved in counseling in all settings and populations. Analysis of questionable situations and practitioner decision-making based on the ethical standards of the American Counseling Association and laws governing professional counselors. PREREQ: COUN 505 or PERM/INST.

COUN 509 CULTURALLY AWARE COUNSELING (3-0-3)(S/SU). Theoretical course with an experiential component to develop awareness, knowledge, and skills for counselors-in-training preparing to work in a pluralistic society. PREREQ: COUN 502 or PERM/INST.

COUN 511 FAMILY SYSTEMS (2-2-3)(F/SU). Examine theoretical constructs related to the family structure, climate, and interactions and develop skills for working with families from diverse backgrounds, including families with special needs children. Opportunities are presented for student participation in parenting skills classes and family systems work. PREREQ: COUN 505 and COUN 509.

COUN 512 STATISTICS AND RESEARCH DESIGN (2-2-3)(S). Students will gain the fundamentals of statistics as they analyze counseling and educational data with emphasis on the review and interpretation of research literature (particularly in the areas of child development and psychotherapy), experience the role of computers in statistical analysis, and discover the relationships among measurement, design, and statistics. PREREQ: COUN 501.

COUN 513 GROUP COUNSELING (2-2-3)(F/S/SU). Students will focus on the concepts and skills necessary to understand and lead counseling groups in schools and other settings. PREREQ: Completion of COUN 505 with grade of at least B.

COUN 514 COUNSELING PRACTICUM I (2-1-2)(F). Review theory and culturally competent skills integration prior to participating in closely supervised counseling experiences through modeling, peer counseling, ethical review, and audio and/or video taping. PREREQ: COUN 505 with grade of at least B, COUN 509, and COUN 550. COREQ: COUN 508.

COUN 516 COUNSELING PRACTICUM II (1-2-2)(S). Participation in closely supervised counseling experiences (audio and/or video-taping required) with emphasis in student's area of specialization or interests focusing on ethical decision-making and culturally competent strategies. PREREQ: COUN 514 with a grade of at least B.

COUN 517 FAMILY ISSUES IN LATER LIFE (3-0-3)(S)(Even years). Overview of gerontology presented by examining major issues related to family issues of aging. Content includes development and transition in later life, wellness in later life, common issues, and appropriate family counseling and consulting strategies.

COUN 518 COUNSELING ISSUES WITH OLDER ADULTS (3-0-3)(S)(Odd years). Focus on intervention strategies for common later life impairments. Application of theory, research, and practice to gerontological counseling and wellness.

COUN 525 CONSULTATION (1-2-2)(F/S/SU). Knowledge and skills consulting with individuals, groups, and systems. Practices and procedures of

Counselor Education

consultation where students demonstrate relevant skills in both simulated and internship-based situations. PREREQ: COUN 505 and 509 or PERM/INST.

COUN 526 COUNSELING INTERNSHIP I (1-4-3)(F/S). Students apply their skills, training, and knowledge with increasing autonomy as primary supervision shifts toward an onsite counseling supervisor. Students are observed and evaluated as they engage in a wide range of counseling-related activities. (Pass/Fail.) PREREQ: COUN 516 with grade of at least B and COUN 534 or COUN 548.

COUN 527 COUNSELING PRACTICE EVALUATION (2-0-2)(F/S). Methods and evaluation of counseling and educational research with the emphasis on individual completion of a counseling evaluation project in a school or agency setting under the supervision of the course instructor. PREREQ: COUN 512 or equivalent graduate statistics course.

COUN 528 COUNSELING INTERNSHIP II (1-4-3)(F/S). In this culminating component of internship, student assumes all functions of a counselor in his/her site while under site-based (primary) and university supervision, providing the range of counseling services from crisis intervention to promotion of personal development and environmental enhancement. (Pass/Fail.) PREREQ: Recommendation of COUN 526 Supervisors. COREQ: COUN 568.

COUN 531 COUNSELING PRACTICUM INTENSIVE (1-4-3)(F/S). A supervised skill review and experientially intensive practicum that may be required of a student needing additional time on skill development before advancing to Internship. PREREQ: Permission of Department Chair and faculty.

COUN 532 COUNSELING INTERNSHIP INTENSIVE (1-4-3)(F/S). A supervised skill review and experientially intensive internship that may be required of a student needing additional time on skill development before enrolling in COUN 528 Counseling Internship II. PREREQ: PERM/CHAIR.

COUN 533 INTRODUCTION TO SCHOOL COUNSELING (3-0-3)(F/S/SU). Introduces the organization, planning, management, and evaluation of comprehensive school counseling programs. Topics include appropriate roles and functions of school counselors at elementary, middle, and high school levels, coordination of professional services, and ethical and legal considerations. Emphasis on the *Idaho Comprehensive School Counseling Program Model* and the *ASCA National Model*. PREREQ: Admission to Counseling Program or PERM/INST.

COUN 534 COUNSELING CHILDREN AND ADOLESCENTS (3-0-3)(F/S/SU). An overview of developmentally appropriate approaches to counseling children and adolescents in school and mental health settings. Addresses individual and group work, expressive and talk therapies, assessment of treatment progress, working with parents and teachers, and ethical and legal considerations in working with this population. PREREQ: COUN 505 or PERM/INST.

COUN 541 ADDICTION AND THE FAMILY SYSTEM (3-0-3)(F/S). Examination of multigenerational impact of addiction (drugs, alcohol, work, religion, internet, gambling etc.) on the family system. In addition to dysfunctional roles developed to cope with addiction, class also compares and contrasts communication strategies and parenting styles of unhealthy and healthy family systems. Risk and protective factors, stages of change, and continuum of care from prevention, intervention, treatment and aftercare are addressed. PREREQ: HLTHST 109 or COUN 545 or PERM/INST.

COUN 543 ASSESSING AND MANAGING ADOLESCENT SUBSTANCE ABUSE AND MENTAL HEALTH RISKS (2-0-2)(S/SU)(Odd years). Introduction to comprehensive adolescent risk assessment and treatment planning. Examination of current and available comprehensive adolescent assessments, current and available specialized assessments, report writing approaches and effective treatment processes.

COUN 545 FOUNDATIONS OF CHEMICAL DEPENDENCY (3-0-3)(F/S). An overview of the field/foundations of chemical dependency, including theories of prevention, addiction, treatment approaches, the physiology and psychology of addiction, and an in-depth understanding of the effects of different drugs on the individual and society, including physiological, biological, spiritual, cultural, and behavioral effects. PREREQ: PERM/INST.

COUN 547 CHEMICAL ADDICTIONS AND VIOLENCE PREVENTION (2-0-2)(SU). Introduction to professional, ethical, legal, and practical aspects of chemical addictions and violence prevention (primary and secondary) in the schools and other settings (e.g., adolescent treatment). Examination of current research and available curriculum models, current identification and intervention approaches, and effective prevention programming. Historical

and social contexts (e.g., Safe and Drug Free Schools and communities initiative) also included. PREREQ: Graduate standing.

COUN 548 ADDICTION AND BEHAVIORAL HEALTH ASSESSMENT AND INTERVENTION (3-0-3)(S). Prepares future licensed professional counselors to work with clients with addiction and behavioral health issues. Includes theories/approaches to working with clients with addiction and behavioral health issues, bio-psycho-social assessment, and evidence based counseling techniques and interventions. PREREQ: Admission to Counseling Program or PERM/INST.

COUN 549 MOTIVATIONAL INTERVIEWING (1-0-1)(S). Provides a basic understanding of motivational interviewing, the trans-theoretical model, harm reduction, screening, and brief intervention. PREREQ: Admission to the Counseling Program or PERM/INST.

COUN 550 DIAGNOSIS, ASSESSMENT, AND TREATMENT PLANNING (3-0-3)(F). Examination of concepts of "mental disorders," DSM classification systems, and the diagnostic benefits and diagnostic problems inherent in such systems. An introduction and overview of the major psychopathological syndromes of adolescents and adults (especially in the area of Co-morbidity of Substance Abuse/Dependence and other DSM 5 diagnoses) to facilitate appropriate use of assessment-diagnostic-treatment links (including treatment planning). PREREQ: PERM/INST.

COUN 551 PSYCHOPHARMACOLOGY (1-0-1)(SU)(Even years). Examination of common psychopharmacology issues covering a wide range of disorders.

COUN 555 SPIRITUALITY AND COUNSELING (2-0-2)(S)(Even years). Investigation of the role that spirituality plays in the well-being of clients and counselors including the extent to which the spiritual dimension affects personal development, mental and emotional health, behavioral competence and responsibility, and a sense of well-being. Spiritual experiences, beliefs, and practices found among various cultures will be explored as well as religious responses to universal questions about human life. Ethical issues regarding counseling and spirituality will be included.

COUN 556 GRIEF AND LOSS COUNSELING (1-0-1)(SU)(Even years). Explores the grieving process people experience after the death of a loved one. It also focuses on the losses and trauma people experience during the dying process. Much of the content will also focus on losses people experience throughout their lives.

COUN 557 INTRODUCTION TO PLAY THERAPY (2-0-2)(S/SU)(Odd years). Overview of child development, play therapy history and research, and fundamental skills used in play therapy. Students acquire effective play therapy skills through supervised practice sessions. PREREQ: COUN 502 or PERM/INST.

COUN 558 DEPRESSION (1-0-1)(F/S). An overview of the symptoms and underlying causal factors associated with the range of depression-based disorders. Depression-based problems are discussed in terms of the interactions between cognitive, behavioral, affective factors, and related treatments are presented. (Pass/Fail.)

COUN 559 FEARS AND PHOBIAS (1-0-1)(F/S). An overview of the symptoms and underlying causal factors associated with the range of anxiety-based problems. Anxiety-based problems are discussed in terms of the interactions between cognitive, behavioral, affective factors, and related treatments are presented. (Pass/Fail.)

COUN 560 PLAY THERAPY APPLICATIONS (1-0-1)(F). Specialized instruction in play therapy techniques with different guest speakers each year as part of the Idaho Initiative for Play Therapy Studies annual conference. Students must pay an additional student fee upon registration, attend the entire two-day conference, and write a comprehensive reflection paper. May be repeated, maximum 3 credits. (Pass/Fail.)

COUN 561 SANDTRAY THERAPY (1-0-1)(S/SU). Overview of sandtray therapy for use with children and adults. Students acquire sandtray skills through role-played practice. PREREQ: COUN 502 or PERM/INST.

COUN 566 SEMINAR: COUNSELING WITH SPECIAL POPULATIONS (0-1-1)(F/S). Discussion of and research into the role of ethical and culturally competent counseling with special populations in schools and agency settings, including Individual Developmental Education Act (IDEA), American Disabilities Act (ADA), and Section 504 Regulations. PREREQ: Admission to the Counseling Program.

COUN 567 CLINICAL SUPERVISION PRINCIPLES AND PRACTICE (1-0-1)(S/SU)(Odd years). Theory and skill development for practitioners who are or will be supervising interns and/or professionals in school, agency, and other

settings. Topics include ethical issues in clinical supervision, models and best practices, documentation, and troubleshooting problematic dynamics. PREREQ: PERM/INST.

COUN 568 SEMINAR: PROFESSIONAL COUNSELING (0-1-1)(F/S).

Discussions and research into the evolving culturally competent role of professional counselors in all settings, emphasizing ethical decision-making and licensure and certification considerations. COREQ: COUN 528.

COUN 571 (MHLTHSCI 571)(SOCWRK 571) FUNDAMENTALS OF HEALTHY AGING (3-0-3)(F).

Overview of gerontology presented by examining major issues related to aging. Content includes theories of aging; the impact of an aging population; and future implications at local, national, and international levels. May be taken for COUN, MHLTHSCI or SOCWRK credit, but not more than once.

COUN 602 ADVANCED THEORIES AND RESEARCH IN COUNSELING (3-0-3)(F/S/SU).

Theoretical bases for counseling efficacy, applicability to multicultural populations, and ethnical/legal considerations. Various methods for evaluating counseling effectiveness, research base for existing counseling theories, and effectiveness of models and treatment strategies of crisis, disasters, and other trauma-causing events. Doctoral students engage in curriculum development, instruction, videotape review, role-plays, and grading of students in corresponding Master's level course. PREREQ: COUN 502 or equivalent.

COUN 606 ADVANCED LIFESPAN DEVELOPMENT (3-0-3)(F/S/SU).

Study of theoretical constructs related to developmental processes, both typical and atypical, and analysis of developmentally based behavior patterns across the age spectrum (birth to death) through a variety of contemporary cultures and beliefs. Doctoral students engage in curriculum development, instruction, and grading of students in corresponding Master's level course. PREREQ: COUN 506 or equivalent.

COUN 607 ADVANCED CAREER DEVELOPMENT AND VOCATIONAL COUNSELING (3-0-3)(F/S/SU).

Different theoretical and applied approaches to career development and vocational counseling as well as increase awareness, knowledge, and skills related to ethical, multicultural, and social justice issues related to career and vocational counseling. Doctoral students engage in curriculum development, instruction, and grading of students in corresponding Master's level course. PREREQ: COUN 507 or equivalent.

COUN 609 ADVANCED CULTURALLY AWARE COUNSELING (3-0-3)(F/S/SU).

Advocacy models and current multicultural issues as they relate to social change theories. Also student will learn models, leadership roles, and strategies for responding to community, national, and international crisis and disasters, as well as understand current topical and political issues in counseling and how those issues affect the daily work of counselors and the counseling profession. Doctoral students engage in curriculum development, instruction, and grading of students in corresponding Master's level course. PREREQ: COUN 509 or equivalent.

COUN 611 ADVANCED FAMILY SYSTEMS (3-0-3)(F/S/SU).

Different theoretical approaches to couple and family counseling and increase awareness, knowledge, and skills related to multiculturalism and social justice applied to family systems. Doctoral students engage in curriculum development, instruction, and grading of students in corresponding Master's level course. PREREQ: COUN 511 or equivalent.

COUN 612 RESEARCH AND PROGRAM EVALUATION IN COUNSELING (2-0-2)(F/S/SU).

Overview of research methods, program evaluation, and statistics for counselors. Topics include design, implementation, and analysis of quantitative and qualitative research; models and methods of assessment and use of data in program evaluation; and models and methods of instrument design. PREREQ: COUN 602.

COUN 613 ADVANCED GROUP COUNSELING (3-0-3)(F/S/SU).

Concepts and skills necessary to understand and lead counseling groups in schools and other settings. Doctoral students will engage in curriculum development, instruction, role-plays, supervision, and providing feedback to students in the corresponding Master's level course. PREREQ: COUN 513 or equivalent.

COUN 614 ADVANCED PRACTICUM I (2-0-2)(F/S/SU).

Supervised practicum of 50 clock-hours (20 direct/30 indirect). Student practices advanced counseling skills in relevant areas such as teaching, supervision, and counseling. PREREQ: COUN 514 and COUN 516, or equivalent.

COUN 616 ADVANCED PRACTICUM II (2-0-2)(F/S/SU).

Supervised practicum of 50 clock-hours (20 direct/30 indirect). Student practices advanced counseling skills in relevant areas such as teaching, supervision, and counseling. PREREQ: COUN 614.

COUN 624 ADVANCED SUPERVISION AND CONSULTATION (3-0-3)(F/S/SU).

Doctoral students learn theories and principles pertaining to the practice of supervision and consultation. Doctoral students teach the Master's level practicum course as well as provide individual and triadic supervision to Master's level counselor education students. PREREQ: COUN 614 and COUN 616, or equivalent.

COUN 626 DOCTORAL INTERNSHIP I (3-0-3)(F/S/SU).

Culminating internship in which the student assumes all functions of a counselor and a supervisor while under faculty supervision, providing the range of counseling services from crisis intervention to promotion of personal development and environmental enhancement (300 clock hours). (Pass/Fail.) PREREQ: COUN 526 or equivalent.

COUN 628 DOCTORAL INTERNSHIP II (3-0-3)(F/S/SU).

Culminating internship in which the student assumes all functions of a counselor and a supervisor while under faculty supervision, providing the range of counseling services from crisis intervention to promotion of personal development and environmental enhancement (300 clock hours). (Pass/Fail.) PREREQ: COUN 626.

COUN 664 PROFESSIONAL ORIENTATION TO COUNSELING LEADERSHIP (3-0-3)(F/S/SU).

Purpose, theoretical framework and models, roles and relationships, and legal/ethical/multicultural issues associated with supervision and consultation. Additionally, the course will cover major roles, responsibilities, and activities of counselor educators, instructional theory and methods, and ethical/legal/multicultural issues associated with teaching and counselor preparation training. Also, issues related theories and skills of leadership are addressed. PREREQ: PERM/INST.

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

Master of Fine Arts in Creative Writing

College of Arts and Sciences

Director of Creative Writing: Mitch Wieland
 Gateway Center, Room 115
 Phone: (208) 426-7093
 E-mail: mfacwp@boisestate.edu
<https://english.boisestate.edu/mfa/>

Graduate Faculty: Corless-Smith, Holmes, Robbins, Udall, Wieland

General Information

The program offers maximum flexibility for writers seeking a place to focus on their craft. Students pursuing the degree specialize in either fiction or poetry and work closely with the creative writing faculty in workshop and conference settings.

The M.F.A. in Creative Writing from Boise State University represents a student's mastery of one of the genres of creative writing, as well as a thorough grounding in traditional and contemporary letters. Students work with a faculty of accomplished writers and produce a manuscript of publishable quality during their course of study. While the M.F.A. is the preferred degree for teachers of creative writing, the program at Boise State University also prepares students with courses offered in professional editing and publishing (practicum classes with Ahsahta Press and The Idaho Review), form and theory, as well as with invaluable teaching experience in the creative writing classroom.

The Idaho Review, published by the M.F.A. program, offers a chance for students to work on a national literary journal, either as graduate assistants or through course credit or internship. Students can gain editing experience working for Ahsahta Press, a nationally recognized publisher of poetry. Established in 1974, Ahsahta Press publishes up to three volumes each academic year.

The M.F.A. in Creative Writing program offers a number of Graduate Teaching Assistantships. These assistantships include waivers of tuition and fees, resident or non-resident, and a stipend of over \$10,400. Complete applications are due January 15. More information is available from the Director of Creative Writing.

Application and Admission Requirements

To be considered for regular status as a graduate student in the M.F.A. in Creative Writing program, an applicant must meet general Graduate College requirements (which includes requesting that official transcripts from all institutions previously attended be sent to the Graduate College, Boise State University, Boise, Idaho 83725-1110) and the following program requirements:

1. A writing sample consisting of thirty manuscript pages of fiction

or fifteen poems, uploaded via the online application system.

2. A Bachelor of Arts or Bachelor of Science degree.
3. Three letters of recommendation from people who know the applicant's academic work. These letters should be uploaded using the online application system.
4. A GPA of at least 3.00 for the last sixty semester credit hours of undergraduate work.
5. Applicants who do not satisfy one or more of these requirements by the time they wish to begin classes may be admitted with provisional status. They will be advised as to what steps they need to take to qualify for regular status. For more in-depth information, please visit our web site.

Degree Requirements

The 48-credit Master of Fine Arts in Creative Writing degree offers a combination of classes in creative writing, form and theory of fiction, poetry, and creative non-fiction, professional editing and publishing, book arts, theater, film, and literature.

Master of Fine Arts in Creative Writing	
Course Number and Title	Credits
Workshops ENGL 522 Poetry Writing Workshop ENGL 523 Fiction Writing Workshop ENGL 524 Creative Nonfiction Writing Workshop Students are admitted into the program in one genre of concentration. Four workshops must be taken in this declared genre.	12
MFA Courses ENGL 502 Teaching Creative Nonfiction, Poetry, and Fiction Writing ENGL 507 Small Press Production ENGL 508 Writing, Editing, and Designing for Professional Advancement ENGL 509 Book Arts ENGL 532 Form and Theory of Poetry ENGL 533 Form and Theory of Fiction ENGL 534 Form and Theory of Creative Nonfiction Writing ENGL 590 Practicum/Internship Students must take at least three courses; additional courses may be applied towards English Department Electives.	9
English Department Electives Students must choose 500 level courses from at least two of the following areas: Composition/Rhetoric, Creative Writing, Linguistics, Literature, Technical Communication, or Internship. One 400-level G writing course allowed. ENGL 598 required for Teaching Assistants.	18
Electives Graduate courses, any discipline. May include 400-level G courses.	3
ENGL 593 Thesis	6
Total	48

Course Offerings

See *Course Numbering and Terminology* for definitions.

ENGL — English

ENGL 406G ADVANCED POETRY WRITING (3-0-3)(F/S). Intensive work in writing and critiquing poetry. Students seeking graduate credit will produce a greater quantity and higher quality of original work, will have a separate and more extensive reading list, and will be expected to participate more fully in class activities. May be repeated for up to six credit hours. PREREQ: ENGL 305 or PERM/INST.

ENGL 407G ADVANCED FICTION WRITING (3-0-3)(F/S). Intensive work in writing and critiquing fiction. Students seeking graduate credit will produce a greater quantity and higher quality of original work, will have a separate and more extensive reading list, and will be expected to participate more fully in class activities. May be repeated for up to six credit hours. PREREQ: ENGL 306 or PERM/INST.

ENGL 507 SMALL PRESS PRODUCTION (3-0-3)(S). A practicum course that studies the manuscript selection and preparation, design, editing, distribution, and promotion practices of small presses with the intention of preparing students to write, design, and submit manuscripts for publication. Students acquire hands-on experience with Ahsahta Press. PREREQ: ADM/PROG or PERM/INST.

ENGL 508 WRITING, EDITING, AND DESIGNING FOR PROFESSIONAL ADVANCEMENT (3-0-3)(F/S). A writing course that studies literary journals, trade journals, and little magazines, and that looks at trade book and electronic publication with the intention of preparing students to write, design, and submit manuscripts, as well as prepare professional resumes and letters of application. May be repeated once for credit. PREREQ: ADM/PROG or PERM/INST.

ENGL 522 POETRY WRITING WORKSHOP (3-0-3)(F/S). An advanced workshop in poetry. Students will write poems, submit their work for the critique of the workshop and contribute to the discussion of others' writing. Readings may be assigned to address particular issues of craft and genre. Repeatable for credit; course must be taken a minimum of four times if this is the degree candidate's genre. PREREQ: ADM/PROG or PERM/INST.

ENGL 523 FICTION WRITING WORKSHOP (3-0-3)(F/S). An advanced workshop in fiction. Students will write fiction, submit their work for the critique of the workshop and contribute to the discussion of others' writing. Readings may be assigned to address particular issues of craft and genre. Repeatable for credit; course must be taken a minimum of four times if this is the degree candidate's genre. PREREQ: ADM/PROG or PERM/INST.

ENGL 524 CREATIVE NONFICTION WRITING WORKSHOP (3-0-3)(F/S). An advanced workshop in creative nonfiction. Students will write creative nonfiction, submit their work for the critique of the workshop and contribute to the discussion of others' writing. Readings may be assigned to address particular issues of craft and genre. Repeatable for credit; course must be taken a minimum of four times if this is the degree candidate's genre. PREREQ: ADM/PROG or PERM/INST.

ENGL 527 SMALL PRESS EDITORIAL SEMINAR (3-0-3)(F/S). A practicum course with an emphasis on the editorial processes of a small literary press, this course is for students who have completed ENGL 507. Students will read, select, copyedit, and proofread manuscripts in consultation with the editor of Ahsahta Press. They will also look at the larger question of creating a "list" for the publisher, taking into account how books may complement each other and how they might be best marketed. May be repeated twice for credit. PREREQ: ENGL 507 or PERM/INST.

ENGL 532 FORM AND THEORY OF POETRY (3-0-3)(F/S). An intensive study of aspects of craft in poetry. Course will expose students to particular methods, approaches, and techniques in poetry and their aesthetic effects. May be taken three times for credit. PREREQ: ADM/PROG or PERM/INST.

ENGL 533 FORM AND THEORY OF FICTION (3-0-3)(F/S). An intensive study of aspects of craft in fiction. Course will expose students to particular methods, approaches, and techniques in fiction and their aesthetic effects. May be taken three times for credit. PREREQ: ADM/PROG or PERM/INST.

ENGL 534 FORM AND THEORY OF CREATIVE NONFICTION (3-0-3)(F/S). An intensive study of aspects of craft in creative nonfiction. Course will expose students to particular methods, approaches, and techniques in creative nonfiction and their aesthetic effects. May be taken twice for credit. PREREQ: ADM/PROG or PERM/INST.

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

Department of Criminal Justice

School of Public Service

Library Building, Room 166A
Phone: (208) 426-3407
E-mail: cjgradprogram@boisestate.edu

Graduate Faculty: Bostaph, Giacomazzi, Gillespie, Jorgensen, King, Walsh

Graduate Degree Offered

- Master of Arts in Criminal Justice

Master of Arts in Criminal Justice

Graduate Program Coordinator: Lisa Growette Bostaph
Library Building, Room 166A
Phone: (208) 426-3407
E-mail: cjgradprogram@boisestate.edu

General Information

The master's degree in Criminal Justice is designed to provide a foundation in research and theory in substantive areas of criminal justice activity and focused scholarship on issues of importance to the field. Curricula are organized into two sections. The first section, called the Foundation Series, is a set of core classes that will provide students with the intellectual skills needed for the study of more complex material. The second section, the Seminar Series, promotes the development of scholarship in particular substantive areas in criminal justice. Students will be required to take electives and either write a thesis or pass a comprehensive examination.

Admission Requirements

To be considered for regular status as a graduate student in the Criminal Justice program, students must meet general Graduate College requirements and the following program requirements:

1. An undergraduate degree in Criminal Justice or related social or behavioral science with at least a cumulative 3.00 average GPA is required for admission to graduate study.
2. Successful completion of an undergraduate statistics course.
3. CJ 101 Introduction to Criminal Justice or its equivalent (required for all entering students).
4. Successful completion of an undergraduate theory course.
5. Applicants with less than a 3.00 cumulative GPA may still apply to the program with submission of Graduate Record Examination (GRE) scores of 152 or higher on each of the Verbal and Quantitative Reasoning sections and a score of 4 or higher on the Analytical Writing section.

Application Requirements

It is recommended that the prospective student applies at least one full semester prior to expected enrollment. An applicant must satisfy the minimum admission requirements of the Graduate College (see *Graduate Admission Regulations*).

In the online admission application system, applicants must submit a Statement of Purpose explaining the student's reasons for seeking admission and what they hope to achieve, and three letters of recommendation from professors or instructors competent to judge the student's likelihood of success in a graduate course of study. It is recommended that the applicant also make contact with the Graduate Program Coordinator to discuss the program in detail and/or ask questions about admission.

The Criminal Justice program will take no action on the application unless all of the above materials have been received by the enrollment deadline for each semester. In addition, the admissions process is competitive and no admission decision will be made until after the enrollment deadline.

Applicants who wish to enroll in Summer or Fall semester have the option to complete applications by the Priority deadline (February 15) or the final deadline (April 1). The Priority deadline is recommended for students seeking financial aid as most aid decisions are made prior to April 1st. The deadline for Spring admission is October 1st.

Degree Requirements

The requirements for the Foundation Series, Seminar Series, and elective components of the degree are explained in the degree box below. A master's thesis or comprehensive examination must be completed prior to the award of the degree. The comprehensive examination is the default culminating activity for all students. The comprehensive examination requires students to answer six essay questions covering all Foundation Series courses and one Seminar Series course of the student's choice. The comprehensive examination is held twice a year (October and April) and is a take-home examination over a three day period of time. The examination is a Pass/Fail grade requiring students to achieve a Pass on all exam questions in order to pass the entire examination. Three hours of graduate study will be awarded upon successful completion of the comprehensive examination. It is expected that students will sit for the comprehensive examination in their semester of graduation, but the comprehensive examination cannot be taken until after the student has successfully completed all Foundation Series courses and at least one Seminar Series course.

Students who wish to undertake a thesis as their culminating activity must seek permission from the Graduate Coordinator and Criminal Justice faculty. An oral examination is required for both the proposal and final thesis defenses. In addition, proposal and final defenses must occur in separate semesters. Six hours of graduate study will be awarded upon successful completion of the thesis. However, the final defense of a thesis cannot occur until after the student has successfully completed all Foundation Series courses. Maintenance of a cumulative 3.00 average GPA is required for both continuation in and graduation from the program.

Master of Arts in Criminal Justice	
Course Number and Title	Credits
Foundation Series	
The following core courses are required of all students. It is recommended that these courses be taken prior to other graduate work.	
CJ 501 Crime and Criminal Justice	3
CJ 503 Criminal Justice Research	3
CJ 504 Statistics for Criminal Justice	3
CJ 506 Theories of Crime	3
CJ 513 Victimology	3
Seminar Series	
Students are required to complete nine credits from the following list of courses. It is recommended that core courses be completed prior to enrolling in seminar series courses.	
CJ 502 Seminar: Organization and Management of Criminal Justice	
CJ 505 Seminar: Law and Social Control	
CJ 507 Seminar: Issues in Contemporary Policing	
CJ 508 Seminar: The Legal Process	
CJ 509 Seminar: Juvenile Justice	
CJ 512 Seminar: Gender and Justice	
CJ 514 Seminar: Contemporary Issues in Corrections	
CJ 515 Seminar: Critical Issues in Criminal Justice	
Electives	
Electives may be taken anywhere in the university but must be approved by the student's graduate committee and the CJ graduate coordinator. The student must demonstrate, to the committee's satisfaction, how the electives are to fit into the student's program of study and career objectives. Boise State graduates with any listed course in undergraduate work which applied to the undergraduate degree may not apply that course to the graduate degree.	
Culminating Activity	
CJ 593 Thesis (6 cr) or	3-6
CJ 690 Master's Comprehensive Examination (3 cr)	
Total	33

Course Offerings

See *Course Numbering and Terminology* for definitions.

CJ—Criminal Justice

CJ 501 CRIME AND CRIMINAL JUSTICE (3-0-3)(F). This class locates the profession of criminal justice within historical, theoretical, and political perspectives. The class will focus on contemporary theoretical perspectives, including sociological, social-psychological, biosocial, cultural, genetic, linguistic, and evolutionary. The nature and scope of the discipline are defined through the discussion of the relationships among theory, policy, and practice.

CJ 502 SEMINAR: ORGANIZATION AND MANAGEMENT OF CRIMINAL JUSTICE (3-0-3)(S)(Even years). The structures, operations, and functions of criminal justice organizations are analyzed. Issues within these areas are approached with attention to their cultural, social, and political implications. The relationship between formal and informal structures and their social, political and legal environment is examined.

CJ 503 CRIMINAL JUSTICE RESEARCH (3-0-3)(F). Basic methods of quantitative and qualitative research and their application to the field. The relationship among theory, research, and social policy. The development and interpretation of research reports.

CJ 504 STATISTICS FOR CRIMINAL JUSTICE (3-0-3)(S). Statistical analysis. Univariate and introductory multivariate techniques. Use of computerized statistical packages in the social and behavioral sciences. Statistical problem-solving using various data-sources. PREREQ: CJ 503 and undergraduate statistics.

CJ 505 SEMINAR: LAW AND SOCIAL CONTROL (3-0-3)(F)(Odd years). A focus on the nature of law and legal institutions and the relationships between law and other forms of social control. Theory and research on the

development of law and its implementation at various stages of the legal process is reviewed.

CJ 506 THEORIES OF CRIME (3-0-3)(S). Major explanations of crime and its control. Efforts toward an integration of existing approaches are explored and consideration of the development of general theory is discussed.

CJ 507 SEMINAR: ISSUES IN CONTEMPORARY POLICING (3-0-3)(S)(Even years). In-depth consideration of issues affecting policing today. Police organization, management and leadership, policy formulation, community policing and related issues are among the topics considered. Particular attention will focus on the role of police officers in a changing society.

CJ 508 SEMINAR: THE LEGAL PROCESS (3-0-3)(F)(Even years). Consideration of specific aspects of criminal adjudication, including prosecution and defense, bail determination, plea-bargaining, jury decision-making, and alternative sentencing practices. Specific subject matter will vary by semester.

CJ 509 SEMINAR: JUVENILE JUSTICE (3-0-3)(S)(Odd years). A detailed examination of the historical development and current practices of juvenile courts and juvenile correctional institutions. Research on program evaluation is presented, with an emphasis on developments in delinquency theory as related to practice.

CJ 512 SEMINAR: GENDER AND JUSTICE (3-0-3)(S)(Odd years). An exploration of the theory, research, and practice related to women's involvement in the justice system in the United States. Analysis will be directed toward the various roles and treatment of women as offenders, victims/survivors, and practitioners in the system.

CJ 513 VICTIMOLOGY (3-0-3)(F). An exploration of the theory, research, and practices related to crime victimization. The role of victims in the crime triangle, prevalence of various forms of victimization, the effects of crime on its victims, and the criminal justice/social services response to victimization will be discussed.

CJ 514 SEMINAR: ISSUES IN CONTEMPORARY CORRECTIONS (3-0-3)(F)(Odd years). In-depth consideration of issues affecting corrections today. Correctional organization, management and leadership, policy formulation, institutional and community corrections and related issues are among the topics considered. The contribution of rehabilitative and deterrent philosophies to corrections provides a backdrop to a consideration of the diverse contemporary perspectives on corrections.

CJ 515 SEMINAR: CRITICAL ISSUES IN CRIMINAL JUSTICE (3-0-3)(F)(Even years). An exploration of a current or emerging issue affecting crime and/or the criminal justice system. Detailed focus on one topic of the instructor's choice per course offering.

CJ 520 GOVERNOR'S CLASS (3-0-3)(S). This class focuses on legislative policy in Idaho as it pertains to crime and criminal justice. This class will be a forum for the application of practical knowledge of policy theory and evaluation to crime law in Idaho. Legislative policy makers will be invited to present their views on crime and criminal justice. The process of preparing and legislating crime bills will be discussed. The Governor will be invited to

provide a presentation and engage the class in discussion each semester the class is offered.

CJ 521 CRIMINAL JUSTICE ISSUES AND POLICY IN IDAHO (3-0-3)(S). Problem-solving and policy implementation in Idaho. Executives across the Criminal Justice field in Idaho will be invited to discuss issues they have confronted and strategies they have used to resolve those issues. This class will not focus on a particular field, but instead seek professionals from different components of the system.

CJ 522 JUVENILE OFFENDERS, CRIME, AND CRIMINAL JUSTICE IN IDAHO (3-0-3)(F). Examination of current processes in juvenile justice, policy, probation, and utilization of community based resources in Idaho. Emphasis will be placed on understanding issues and policy applications at the local and state level. PREREQ: CJ 509 or CJ 512.

CJ 523 RURAL CRIMINAL JUSTICE (3-0-3)(F). This class addresses the problems of criminal justice in a rural setting. This class is developed with the recognition that criminal justice in Idaho has emerged to deal with crime in the sparsely populated intermountain west. This class will provide perspective on the organization and delivery of criminal justice and the types of crime confronted by small municipal and Sheriff departments, and how those problems are being met locally.

CJ 527 WHITE-COLLAR CRIME (3-0-3)(F/S). Nature and extent of upper-class criminality, including measures, reporting, and categories. Emphasis on organizational, occupational, and governmental crime. Functions of social control, punishment, and regulatory agencies examined.

CJ 528 THE DEATH PENALTY IN AMERICA (3-0-3)(F/S). Historical, philosophical, and empirical examination of capital punishment with an emphasis on race/ethnicity, class, gender, and religion. Legal issues including jury-decision making, ineffective legal representation, cruel and unusual punishment, mental illness, wrongful conviction, costs, international law, and other policy issues examined. Living and working on death row, methods of execution, and philosophies of punishment explored.

CJ 562 CONTEMPORARY ISSUES IN CRIMINAL COURTS (3-0-3)(F/S). Study of the major contemporary issues facing the criminal court system at local, state, and federal levels of government. Topics include, but are not limited to, problem-solving courts (drug court, mental health court, etc.), determinants of court processing decisions, and impact of legal decisions on courtroom behavior. Topics considered from historical, legal, philosophical, sociological and psychological perspectives.

CJ 564 CONTEMPORARY ISSUES IN OFFENDER REHABILITATION (3-0-3)(F/S). Study of the major contemporary issues facing the treatment of offenders at the local, state, and federal levels of government. Topics include, but are not limited to, treatment-centered programming and advances in rehabilitation of high-risk offenders.

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

Doctor of Education in Curriculum and Instruction

College of Education

Graduate Program Coordinator: Keith Thiede
Education Building, Room 722
Phone: (208) 426-1278
Fax: (208) 426-4408
E-mail: eddoctorate@boisestate.edu

Participating Departments

- Counselor Education
- Curriculum, Instruction, and Foundational Studies
- Early and Special Education
- Educational Technology
- Literacy, Language, and Culture

General Information

The doctoral program in curriculum and instruction, leading to an Ed.D. degree, is designed to develop graduates who will be effective leaders in educational improvement. The course work provides students with the basis for a thorough understanding of what schools are and can be, insights into the complexities of teaching and learning, and collaborative opportunities to work towards making a measurable and positive effect upon current education programs and student learning.

Application Requirements

Prospective students may apply for admission at any time. However, in order to qualify for degree-seeking status the following application materials must be received by June 30 for fall semester, or December 1 for the spring semester. An applicant must satisfy the minimum admission requirements of the Graduate College (see *Graduate Admission Regulations*).

1. Official scores from the verbal, quantitative, and analytical reports of the Graduate Record Examination. The GRE must have been taken within seven years of the application date.
2. Minimum GPA of 3.00 on a 4.00 scale for all previous graduate work; and,
3. Official transcripts for all course work indicating the completion of a Master's degree or the functional equivalent.

Admission Requirements

1. A letter of application which includes
 - A description of professional experiences and the relevance of those experiences to doctoral study in education
 - A statement of career goals
 - A statement of interest in a particular area of specialization (i.e., bilingual education, counselor education and supervision, curriculum and instruction, early childhood education, educational leadership, educational technology, kinesiology, literacy, mathematics education, special education).
2. A current resume or vitae.
3. Three letters of reference attesting to the applicant's commitment to doctoral study in education, professional effectiveness,

potential for influencing education, scholarly abilities and dispositions, personal and professional integrity, and any other information that will help the selection committee make an informed decision.

4. A writing sample (e.g., a master's thesis, grant application, or class paper that includes a synthesis of literature).

The Doctoral Management Committee will review the materials submitted, make them available to other interested graduate faculty for analysis, and may schedule interviews with applicants. After arriving at a decision for each candidate, the committee recommends to the Graduate College Dean those who should be admitted. The application deadlines are March 1st for summer and fall semesters, and October 1st for spring semester.

Transfer Credits

Doctor of Education students may transfer up to 21 credits, 15 of which may be taken at other institutions and apply those credits toward a graduate degree. However, the courses must be consistent with the program of study planned by the student and the supervisory committee. In addition, the student must have taken the courses at an accredited institution and must have received—in each course—a grade no lower than B.

Master's Credits Applied Toward the Doctor of Education

Credits earned for a master's degree, excluding credits for Thesis or Project, may be applied to the requirements of the Doctor of Education degree program as part of the 21 transfer credits allowed at the discretion of the student's doctoral committee. Ordinarily, these credits would be within the seven-year time limit and would constitute no more than one-third of the total credits required for the doctorate.

Graduate Assistantships

Any student qualifying for admission may apply for one of a limited number of graduate assistantships offered each year. Awards consist of a stipend and tuition and fee waiver for fall and spring semesters, plus a six-credit fee waiver for summer school. Graduate assistantships are awarded on an annual basis and must be renewed yearly by reapplying for the position. To be considered, applications must be submitted to the College of Education Graduate Office (Education Building, Room 722) by March 1. Typical assignments involve teaching undergraduate Education courses, supervising student teachers, serving as research assistants for graduate faculty, or a combination of activities.

Program and Dissertation Advisors

Students will have program and dissertation advisors as they progress towards their degree. It is recommended that students determine a program advisor and committee members no later than the spring semester of the first year of study. The choice of advisor will be based on the shared scholarly interests and compatible educational philosophies of student and faculty. Students may change advisors, and it is not uncommon for students to have a program advisor and then when admitted to candidacy switch to a different advisor for the dissertation.

Degree Requirements

The program has five components: Curriculum and Instruction, Comprehensive Examination, Research, Cognate, and Dissertation. Specific courses in each component are listed below. Each doctoral student will develop a program plan in consultation with his/her advisor and program committee.

Doctor of Education in Curriculum and Instruction	
Course Number and Title	Credits
Core Requirements	
EDU 610 The American Culture and the Context of Schooling	3
EDU 611 School Culture and the Problems of Change	3
EDU 660 Learning and Cognition	3
EDU 662 Curriculum	3
Research Core	
EDU 555 Analysis of Variance in Educational Research or EDU 556 Multiple Regression of Educational Data	3
EDU 650 Analysis of Research Perspectives	3
EDU 651 Evaluation	3
EDU 652 Quantitative Approaches to Research	3
EDU 653 Qualitative Approaches to Research	3
Cognate Area*	
EDU 691 Doctoral Comprehensive Examination	1
Culminating Activity	
EDU 693 Dissertation	9
<i>Total</i>	66

*A 'cognate' is an area of specialization. **Approved cognates are bilingual education, counselor education and supervision, curriculum and instruction, early childhood education, educational leadership, educational technology, kinesiology, literacy, mathematics education, special education.** Listings of the courses available to fulfill the 32 credits required of each cognate area may be found at: <https://education.boisestate.edu/doctorateineducation/areas-of-specialization-cognates/>.

Counselor Education and Supervision Cognate Courses COUN 592, COUN 602, COUN 607, COUN 609, COUN 611, COUN 612, COUN 613, COUN 614, COUN 616, COUN 624, COUN 626, COUN 628

In addition to the above degree requirements, students not having background in the following areas will be expected to complete additional course work. This course work may be included in the program plan of study as long as it is graduate level and approved by the student's advisor and program committee:

- Research design (ED-CIFS 503 or equivalent) must be completed prior to taking EDU 650 Analysis of Research Perspectives and EDU 653 Qualitative Approaches to Research.
- Beginning statistics (KINES 552 or equivalent) must be completed prior to admission to the program.
- Foundations of curriculum (ED-CIFS 536 or equivalent) must be completed prior to taking EDU 662 Curriculum.
- Instructional theory or educational psychology (ED-CIFS 537 or ED-CIFS 501 or equivalents) must be completed prior to taking EDU 660 Learning and Cognition.
- Philosophy of education or foundations of education (ED-CIFS 505 or equivalent) must be completed prior to taking EDU 610 The American Culture and the Context of Schooling.

Residency Boise State University requires that students accepted into the doctoral program be in continuous enrollment and complete a minimum of 23 semester credits of graduate level course work during the first 15 months of the program.

Course Offerings

See *Course Numbering and Terminology* for definitions.

EDU — Education

EDU 555 ANALYSIS OF VARIANCE IN EDUCATIONAL RESEARCH (3-0-3) (F/S/SU). Distribution theory and assumptions of parametric statistical models. Approaches to analysis of variance (ANOVA), including one-way and two-way factorial ANOVA, repeated-measures ANOVA, analysis of covariance, and post hoc tests associated with ANOVA. Data analyses and interpretation procedures via computer-based statistical packages. PREREQ: Any introductory course that addresses inferential statistics.

EDU 556 MULTIPLE REGRESSION OF EDUCATIONAL DATA (3-0-3)(F/S/SU). Assumptions of general linear models (simple and multiple regression) and testing whether data conform to these assumptions; dealing with missing data; techniques of multiple regression, including dealing with categorical data and interaction terms; logistic regression; and introduction to path analysis and structural modeling. Data analyses and interpretation procedures via computer-based statistical packages. PREREQ: Any introductory course that addresses inferential statistics.

EDU 610 THE AMERICAN CULTURE AND THE CONTEXT OF SCHOOLING (3-0-3)(F/S/SU). Explores the roles of schools in American society, including cross-cultural analyses; identify political forces influencing school policy-making in local, state, national and international arenas; investigate the economics of school improvement proposals; and consider the historical contexts of contemporary improvement efforts. Emphasizes the effects on American culture and the school of changing demographics, the challenges of an increasingly diverse society, and the impact of technology and the ongoing information revolution. PREREQ: ED-CIFS 505, ED-CIFS 506 or equivalents.

EDU 611 SCHOOL CULTURE AND THE PROBLEMS OF CHANGE (3-0-3)(F/S/SU). Explores the cultures and organizational dynamics of schools, and obstacles to change in an increasingly diverse society. Examines case studies of past change efforts for their lessons for contemporary improvement efforts. Examines research and theory about systemic change in schools and other organizations as a basis for developing working theories and leadership skills necessary to guide school improvement efforts. PREREQ: EDU 610.

EDU 650 ANALYSIS OF RESEARCH PERSPECTIVES (3-0-3)(F/S/SU). Overview and critical analysis of research paradigms. Assumptions, standards, and methods for critiquing, generating and communicating interpretations. PREREQ: ED-CIFS 503 or equivalent.

EDU 651 EVALUATION (3-0-3)(F/S/SU). Methods of evaluation with emphasis on making judgments about such educational issues as school effectiveness, individual performances, and other educational endeavors. Ethical issues in assessment and evaluation and analysis of social, cultural, and political influences affecting assessment and evaluation procedures.

EDU 652 QUANTITATIVE APPROACHES TO RESEARCH (3-0-3)(F/S/SU). Appropriate research designs and data analysis techniques in quantitative research and related design and measurement issues. Conduct a quantitative study. PREREQ: EDU 555 or EDU 556 or equivalent.

EDU 653 QUALITATIVE APPROACHES TO RESEARCH (3-0-3)(F/S/SU). Analysis of various approaches to qualitative research methods, including case studies and biographical, phenomenological, ethnographic, interactional, and critical analyses. Students conduct a qualitative study. PREREQ: EDU 650. COREQ: EDU 662.

EDU 654 ADVANCED APPLICATIONS OF QUALITATIVE RESEARCH METHODS (3-0-3)(F/S/SU). Advanced applications in a representative range of qualitative research methods for doctoral and advanced master's students, including the use of questionnaires, focus groups, surveys, case studies, discourse and content analysis. PREREQ: EDU 653 or equivalent.

EDU 660 LEARNING AND COGNITION (3-0-3)(F/S/SU). Learning theories and processes with emphasis given to cognitive and situated learning. PREREQ: Graduate status.

EDU 662 CURRICULUM (3-0-3)(F/S/SU). Focuses on major theories, research bases, and significant societal factors in school curricula. Includes historical and philosophical foundations of curricular development; analysis of factors and issues influencing curricular determinations, including cultural influences and technological contributions; and consideration of likely future curricular evolution. PREREQ: ED-CIFS 536 or equivalent. COREQ: EDU 653.

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

Department of Curriculum, Instruction and Foundational Studies

College of Education

Chair: Kathleen Budge
Education Building, Room 215
Phone: (208) 426-3758
E-mail: kathleenbudge@boisestate.edu

Graduate Faculty: Anderson, Brendefur, Budge, Carney, Cross, Dismuke, Enright, Flay, Fry, Gabbard, Hagenah, Kelly, Osguthorpe, Parrett, Quarles, Siebert, Snow, Stieha, Thiede, Turner, Wenner, Williams

Graduate Degrees Offered

- Education Specialist in Executive Educational Leadership
- Master of Arts in Education, Curriculum and Instruction
- Master of Education in Educational Leadership
- Master of Science in STEM Education
- Graduate Certificate in Mathematical Teaching for Instruction
- Graduate Certificate in Teaching

Education Specialist in Executive Educational Leadership

Graduate Program Coordinator: Heather Williams
Education Building, Room 214
Phone: (208) 426-2234
E-mail: hpwilliams@boisestate.edu

General Information

The College of Education offers an education specialist degree in Executive Educational Leadership, designed to develop effective leaders in educational settings. The interdisciplinary course work provides students with the basis for a thorough understanding of leadership, management, and reform within educational systems. Students will have collaborative opportunities to effectively influence current education reform and student learning.

Conceptual Framework

The conceptual framework for the College of Education at Boise State University is grounded in the theory and practice of the reflective practitioner. Reflective practitioners think critically about pedagogy, subject matter, and the needs and backgrounds of all students and clients. Accordingly, they choose appropriate content and adapt their approaches as needed, while maintaining high standards. Successful professionals are committed students of the disciplines in which they work. They remain current with professional ideas and use these to guide decision making. They are constantly assessing their instructional and clinical effectiveness.

Application Requirements

An applicant must satisfy the minimum admission requirements of the Graduate College (see *Graduate Admission Regulations*).

Admission Requirements

1. An overall GPA of 3.00 at the graduate level.
2. Two letters of recommendation from school district personnel (if employed as an educator).
3. Letter of application including professional goals.
4. Recommendation following an interview with Executive Educational Leadership faculty.
5. For information about submitting an application, please go to <http://education.boisestate.edu/cifs/executive-educational-leadership-program/>.

Admission may be granted to qualified applicants who hold a Master's degree from an accredited college or university and have some professional experience in the field of education or other related field. Candidates must meet the standards set by the College of Education and participating departments as well as the specific regulations of this program.

The sequence of instruction uses a closed cohort model, in which all students begin the program with ED-CIFS 676 in the fall and proceed together to complete the sequence of courses. Only one course is offered each semester.

Degree Requirements

Education Specialist in Executive Educational Leadership	
Course Number and Title	Credits
ED-CIFS 676 Foundations of Leading Complex Educational Organizations	6
ED-CIFS 677 Leading Continuous System-wide Improvement of Learning	6
ED-CIFS 678 The Superintendency and Executive Level Leadership: Theory and Research	6
ED-CIFS 679 The Superintendency and Executive Level Leadership: Clinical Experience	6
ED-CIFS 680 The Superintendency and Executive Level Leadership: Capstone Course	6
<i>Total</i>	30

Master of Arts in Education, Curriculum and Instruction

Graduate Program Coordinator: Esther Enright
Education Building, Room 412
Phone: (208) 426-1693
E-mail: estherenright@boisestate.edu

General Information

The Master of Arts in Education, Curriculum and Instruction is designed to improve instructional, curricular and leadership skills among practicing educators. Graduates of the program will be able to adapt research based techniques to meet the requirements of their professional situations and be able to assess and reflect on the efficacy of their efforts. Students may select from three culminating experiences. This degree requires completion of a minimum of 32 credits. The M.A. in Education, Curriculum and Instruction does not lead to initial teacher certification nor does it require certification for admission.

Application and Admission Requirements

An applicant must satisfy the minimum admission requirements of the Graduate College (see *Graduate Admission Regulations*). Prospective students may apply for admission at any time. However, all application and admission materials must be received by April 1 for the summer session, July 1 for the fall semester, and November 1 for the spring semester.

1. Application fee.
2. Official transcripts of all undergraduate and graduate course work sent directly to the Graduate College, 1910 University Drive, Boise, ID 83725-1110.
3. Minimum GPA of 3.00 (on a 4.00 scale).
4. Letter of application including a statement of your professional goals, as well as:
 - a description of the specific classroom practice that you hope to improve upon through your participation in this program, and/or
 - a description of the broader educational issue that you hope to more fully understand through your participation in this program.
5. E-mail contact for two references.

Degree Requirements

Master of Arts in Education, Curriculum and Instruction	
Course Number and Title	Credits
Practical Perspectives ED-CIFS 536 Curriculum Planning and Implementation ED-CIFS 537 Instructional Theory	6
Foundational Perspectives ED-CIFS 506 Issues in Education Select 3 credits from the following: ED-CIFS 502 Comparative Education ED-CIFS 505 Philosophy of Education ED-CIFS 520 Foundations of Gifted and Talented Education	6
<i>Continued</i>	

<i>Master of Arts in Education, Curriculum and Instruction continued</i>	
Research Perspectives ED-CIFS 503 Fundamentals of Educational Research Select 3 credits from the following: ED-CIFS 510 Introductory Statistics in Educational Research ED-CIFS 549 Action Research and Its Implications in the Mathematics Classroom ED-CIFS 574 Action Research and Practicum in Gifted and Talented Education	6
Cognate Available cognates include Certification, Gifted and Talented Education, Math Consulting Teacher, Teacher Leadership, and an Individualized Cognate	6-12
Culminating Activity Thesis or Project ED-CIFS 591 Project or ED-CIFS 593 Thesis (6 cr) Capstone Course ED-CIFS 692 Capstone Course (1 cr)	1-6
<i>Total</i>	30-31

Master of Education in Educational Leadership

Program Coordinator: Kelly Cross
Education Building, Room 211
Phone: (208) 426-2806
E-mail: kellycross@boisestate.edu

General Information

The College of Education offers a master's degree in Educational Leadership, designed to develop effective leaders in educational settings. The interdisciplinary course work provides students with the basis for a thorough understanding of leadership, management and reform within educational institutions. Students will have collaborative opportunities to effectively influence current education programs and student learning.

Conceptual Framework

The conceptual framework for the College of Education at Boise State University is grounded in the theory and practice of the reflective practitioner. Reflective practitioners think critically about pedagogy, subject matter, and the needs and backgrounds of all students and clients. Accordingly, they choose appropriate content and adapt their approaches as needed, while maintaining high standards. Successful professionals are committed students of the disciplines in which they work. They remain current with professional ideas and use these to guide decision making. They are constantly assessing their instructional and clinical effectiveness.

Application and Admission Requirements

An applicant must satisfy the minimum admission requirements of the Graduate College (see *Graduate Admission Regulations*).

Prospective students may apply for admission at any time. However, all application and admission materials must be received by July 1 for the fall semester. The program begins each fall semester.

1. Application fee.
2. Official transcripts of all undergraduate and graduate course work sent directly to the Graduate College, Boise State University, Boise, Idaho 83725-1110.

3. Minimum GPA of 3.00 (on a 4.00 scale) for the last two years of undergraduate study, or an overall GPA of 3.00.
4. Letter of recommendation from school district personnel (if employed as an educator).
5. Two letters of recommendation, one from an immediate supervisor.
6. Recommendation following an interview with Educational Leadership Development faculty.

Admission will be granted to qualified applicants who hold a Bachelor's degree from an accredited college or university and have some professional relationship to instruction. Candidates must meet the standards set by the College of Education and participating departments as well as the specific regulations of the particular program to which they apply.

Degree Requirements

Master of Education in Educational Leadership	
<i>Course Number and Title</i>	<i>Credits</i>
ED-CIFS 576 Leadership Foundation	6
ED-CIFS 577 Leading Teaching and Learning	6
ED-CIFS 578 Leading System Change	6
ED-CIFS 579 Educational Leadership Clinical Experience	6
Culminating Activity ED-CIFS 692 Capstone Course	6
<i>Total</i>	30

Master of Science in STEM Education

Graduate Program Coordinator: Sara Hagenah
Education Building, Room 410
Phone: (208) 426-1669
E-mail: sarahagenah@boisestate.edu

General Information

The curriculum for the Master of Science in STEM Education is targeted towards in-service teachers and stresses current developments in the STEM (Science, Technology, Engineering, and Mathematics) disciplines. In addition to subject matter knowledge, emphasis is placed on STEM pedagogy and educational research. Because of the varied backgrounds of candidates, the student's degree program can be designed to allow flexibility in choosing course offerings. Special Topics courses and seminars are frequently offered, expanding the program choices. Programs of study for each student are designed in consultation with the STEM Education Graduate Program Coordinator.

Application and Admission Requirements

Application for admission may be made by graduates of accredited institutions holding a baccalaureate degree or teaching certificate in a STEM related discipline. Regular admission may be awarded to applicants who have earned a minimum grade point average of 3.00 during the last two years of academic work; admission will be based on grade point average and letters of recommendation. Continued enrollment in the program requires a minimum of 3.00 grade point (B) average and satisfactory progress toward the degree.

Degree Requirements

Master of Science in STEM Education	
Course Number and Title	Credits
Required Courses ED-CIFS 506 Issues in Education ED-CIFS 536 Curriculum Planning and Implementation ED-CIFS 537 Instructional Theory	9
Science, Math, or Engineering Education and Content Area Courses No more than 9 hours upper-division undergraduate non-education credits may be applied towards the degree. No workshop credits may be applied here.	14
ED-CIFS 503 Fundamentals of Educational Research or approved equivalent	3
Culminating Activity ED-CIFS 591 Project or ED-CIFS 593 Thesis	6
<i>Total</i>	32

Graduate Certificate in Mathematical Teaching for Instruction

Graduate Program Director: Jonathan Brendefur
Education Building, 222
Phone: (208) 426-4650
E-mail: gradcertmti@boisestate.edu

General Information

The Graduate Certificate in Mathematical Teaching for Instruction (GC-MTI) is focused on preparing and building the skills of individuals who are interested in improving their mathematical skills and understanding related to K-8 classroom instruction, coaching other teachers, or becoming mathematics teacher leaders.

The program aim is to develop participants' expertise in the following areas:

- Knowledge and use of current and seminal research literature related to learning theories and progressions to improve instructional practice and student achievement for under-resourced populations
- Facilitate continuous improvements in student learning through examination of classroom instructional practices with a focus on meaningfully building all students' learning and application of the content and mathematical practice standards
- Facilitate evaluation of student work, discourse, and assessment data and determine appropriate instructional response(s) utilizing that information
- Demonstrate ability to facilitate mathematics professional development and collaboration among teachers, including support through professional learning communities
- Facilitate evaluation of student work, discourse, and assessment data and determine appropriate instructional response(s) utilizing that information.
- Knowledge of learning theories and their meaningful application in multiple educational environments through the use of varied instructional resources

The GC-MTI program includes a variety of course options along with the required courses. The courses in the GC-MTI program are

all taken for graduate credit and may be applied to other master's or doctoral level programs.

In addition to the graduate certificate, program participants who successfully complete the required courses for the Mathematics Consulting Teacher Endorsement option will have demonstrated the necessary competencies to receive an institutional recommendation may be eligible for the Mathematics Consulting Teacher Endorsement through the Idaho State Department of Education.

Application and Admission Requirements

1. Apply to the Graduate College and satisfy the minimum admissions requirements of the Graduate College. International applicants must satisfy the international admissions requirements.
2. A baccalaureate degree from an accredited institution of higher learning with a cumulative undergraduate GPA of at least a 3.00.
3. A letter of interest.
4. Current teaching credentials.
5. Two letters of recommendation.

Certificate Requirements

Graduate Certificate in Mathematical Teaching for Instruction	
Course Number and Title	Credits
Select a minimum of one of the following: ED-CIFS 540 Mathematical Thinking for Instruction: Number and Operations K-3 ED-CIFS 542 Mathematical Thinking for Instruction: Number and Operations 4-8 ED-CIFS 544 Mathematical Thinking for Instruction: Number and Operations 6-12	3
Select a minimum of two of the following advanced Mathematical Thinking for Instruction courses: ED-CIFS 541 Early Numeracy and Operations K-3 ED-CIFS 543 Applications of Rational Numbers and Proportional Reasoning 4-8 ED-CIFS 545 Applications of Algebra Topics 6-12	6
Required Courses ED-CIFS 546 Building Teacher Leaders of Mathematics ED-CIFS 547 Measurement and Geometry ED-CIFS 548 Data Analysis, Statistics, and Probability ED-CIFS 549 Action Research and Its Implications in the Mathematics Classroom	3 3 3 3
Select one option from the following: Mathematics Specialist K-8 Option ED-CIFS 552 Mathematical Thinking for Instruction: Study of Practice in Mathematics Mathematics Consulting Teacher Endorsement Option ED-CIFS 546 Building Teacher Leaders of Mathematics	3
<i>Total</i>	21

Graduate Certificate in Teaching

Graduate Program Coordinator Elementary Pathway:

Sherry Dismuke

Education Building, Room 511

Phone: (208) 426-2680

E-mail: cheryledismuke@boisestate.edu

Graduate Program Coordinator Elementary Pathway:

Julianne Wenner

Education Building, Room 411

Phone: (208) 426-1615

E-mail: juliannewenner@boisestate.edu

Graduate Program Coordinator Secondary Pathway:

Sara Hagenah

Education Building, Room 410

Phone: (208) 426-1669

E-mail: sarahagenah@boisestate.edu

General Information

The Graduate Certificate in Teaching is a rigorous, accelerated pre-professional program leading to initial certification. Students can select from two pathways; Secondary (grades 6-12)/Art (K-12 or 6-12) or Elementary (grades K-8). Students who have a bachelor's degree and who meet Graduate College admission requirements may enroll in a graduate certificate program that prepares them to qualify for teacher certification from the Idaho State Department of Education. Select credits from certification programs may be applied to a master's degree program. Advising and review of transcripts will be done by the Department of Curriculum, Instruction, and Foundational Studies.

Elementary Pathway Graduate Certificate in Teaching (Elementary Pathway) candidates are required to complete one minor elementary-approved endorsement of at least 20 credits. Some content areas require specific courses within those totals. See an advisor for a list of approved endorsements for Elementary.

Secondary Pathway Graduate Certificate in Teaching (Secondary Pathway) for secondary/art teacher certification must complete either an approved single endorsement of at least 45-semester credits hours or 67-quarter hours or a 30-credit primary area and one or more supplemental endorsements of at least 20 credits (see list of available approved endorsements below). Some content areas require specific courses within those totals. A degree in a subject may not necessarily include the specific content and courses required for certification.

Secondary Pathway Available Approved Endorsements

Information regarding the required PRAXIS II exams for each endorsement area can be found at <http://www.ets.org/praxis>.

Art, K-12 or 6-12	Foreign Language: German
Biological Science	Foreign Language: Spanish
Chemistry	History
Drama	Mathematics
Earth Science	Natural Science*
Economics	Physical Science*
English	Physics
Foreign Language: French	

*Only minor endorsements possible in these areas; you must also have a primary 30 credit endorsement.

Application Requirements

An applicant should follow the general application procedures for graduate degree-seeking students (see *Graduate Admission Regulations*).

Application Deadlines

Elementary Pathway New cohorts begin every semester. The application deadline is the first Friday in February and the third Friday in September.

Secondary Pathway New cohorts begin in summer only. The application deadline is the first Friday of February. Regular admission requires meeting all criteria including passing all content courses and tests at the time of application. Courses typically start in mid-May of each year (Summer term).

Admission Requirements

Documentation of all admission requirements must be included as attachments in the online admission application.

Prior to admission all applicants to the Graduate Certificate in Teaching program must meet the following criteria:

1. Baccalaureate degree from a regionally accredited U.S. institution of higher learning or a degree from a non-U.S. institution of higher education judged to be equivalent to a U.S. baccalaureate degree by the International Admissions Office,
2. Cumulative undergraduate GPA of at least 3.00 on a 4.00 scale,
3. Minimum 3.00 GPA in primary and secondary endorsement areas,
4. Evidence of technology competency, which could include EDTECH 202; or equivalent course or examination,
5. Criminal history check, a completed fingerprint card and a \$40 fee for the background check (check or money order only, made out to the Idaho State Department of Education),
 - Pick up fingerprinting card in College of Education, Office of Teacher Education, located in the Education Building, Room, 722 and follow all directions.
 - Upload documentation of a cleared background check into the Graduate College application
6. Two letters of recommendation, describing applicant's experience working with children or schools,
7. A letter of Intent (1-2 pages) describing applicants experience working with children and or schools, and
8. Complete an admission interview.

All PRAXIS test scores must be sent to the Office of Teacher Education. Once the applicant's file is complete, the Office of Teacher Education will schedule an interview. Upon successful completion of the interview, the graduate certificate program coordinator(s) will make an admission recommendation to the Graduate College. Meeting the application requirements does not guarantee admission to the program. Admission recommendations will be based upon a review of the student's transcripts, letters of recommendation, essay and interview.

Elementary Pathway In addition to the above requirements applicants must meet the following criteria:

1. Completion of MATH 157 Number and Operations for Teachers or equivalent course

- Documentation of a passing score of 150 on the PRAXIS I Core Academic Skills for Educators Math # 5732 uploaded to the Graduate College application, (visit <http://www.ets.org/praxis> for PRAXIS examination information),

For admission to Professional Year the deadline is the semester before you begin your professional year on the first Friday in February and the third Friday in September

- Complete the Professional Year application process on Taskstream
- Documentation of a passing score on all four subsections of the Praxis II: Elementary Education: Multiple Subjects Test #5001 uploaded to Taskstream
- Documentation of a passing score on the appropriate PRAXIS II exam for the approved endorsement area uploaded to Taskstream.

Secondary Pathway In addition to the above requirements applicants must meet the following criteria:

- Equivalent of 45-semester credit major, or a 30-credit primary, and at least one supplemental or a 30 and at least one 20-credit supplemental endorsement fields,
- Passing score on the appropriate PRAXIS II examination in primary and supplemental fields (visit <http://www.ets.org/praxis> for PRAXIS examination information),
 - All PRAXIS test scores must be sent to the Boise State University Office of Teacher Education
 - Passing scores must be received before applicants can be admitted. Applicants should take the appropriate PRAXIS II examination(s) no later than January
 - Passing Praxis score documentation uploaded into Graduate College application.

Certificate Requirements

Students must maintain a GPA of 3.00 and all required courses must be passed with a minimum grade of C.

Graduate Certificate in Teaching	
Course Number and Title	Credits
Elementary Pathway	
Required	
ED-CIFS 507 Foundations of American Education	3
ED-CIFS 331 Elementary Mathematics Curriculum & Instruction	3
ED-CIFS 547 Measurement and Geometry	3
ED-ESP 550 Teaching Students with Exceptional Needs	3
ED-LLC 550 Advanced Content Literacy	3
ED-LLC 549 Idaho Comprehensive Literacy Course	3
Select one of the following Science Methods Courses	3
ED-CIFS 333 Elementary Science Curriculum and Instruction	
ED-CIFS 533 Advanced Practices and Principles in Teaching Elementary Science	
<i>Continued</i>	

Graduate Certificate in Teaching continued	
Required Professional Year Courses	
Professional Year 1	
ED-CIFS 329 Assessment in Teaching and Learning	3
ED-CIFS 332 Elementary Classroom Learning Environments	3
ED-CIFS 560 Professional Year I — Elementary Teaching Experience	5
Professional Year 2	
ED-CIFS 567 Professional Year II — Elementary Teaching Experience	12
Total	44
Secondary Pathway	
ED-CIFS 507 Foundations of American Education	3
ED-CIFS 508 Learning and Development of Students	3
ED-CIFS 509 Curriculum, Instruction, and Assessment in Grades 6-12	3
ED-CIFS 550 Seminar On Teaching and Learning	3
ED-ESP 550 Teaching Students with Exceptional Needs	3
ED-LLC 544 Content Literacy in Secondary Schools	3
Content-specific methods course(s)	3-6
Courses may have prerequisites in addition to the admission requirements	
Required Professional Year Courses	
ED-CIFS 561 Professional Year — Teaching Experience I	3
ED-CIFS 562 - 566 Professional Year — Teaching Experience II	12
Total	36-39

Certification Submit a completed *Proposed Plan of Study for a Graduate Certificate* form and apply for graduation on my.boisestate.edu before obtaining the recommendation of the Certification Officer for the Boise State University College of Education (using the required certification materials available in the Office of Teacher Education, Education Building, Room 722).

Disclosure The Graduate Certificate in Teaching program is subject to gainful employment disclosure requirements as prescribed by federal regulation 34 CFR 668.6(b) (2) (iv). The required disclosure is given at the following website: <https://graduatecollege.boisestate.edu/programs2017/Gedt%20Teaching%202016%202017/13.0101-Gedt.html>.

Course Offerings

See *Course Numbering and Terminology* for definitions.

ED-CIFS — Education—Curriculum, Instruction, and Foundational Studies

ED-CIFS 501 ADVANCED EDUCATIONAL PSYCHOLOGY (3-0-3)(On demand). A study of contemporary issues involving both theoretical and methodological considerations in the history and systems of educational psychology. Special emphasis will be given to group behavior in terms of principles relevant to educational objectives. PREREQ: ED-CIFS 203 and PSYC 101.

ED-CIFS 502 COMPARATIVE EDUCATION (3-0-3)(F/S/SU). A comparative analysis of multiple countries' educational systems. Contemporary educational systems are analyzed as instruments of national development, human development and social transformation.

ED-CIFS 503 FUNDAMENTALS OF EDUCATIONAL RESEARCH (3-0-3)(F/S/SU). This course will introduce students to the elements of experimental and non-experimental research designs. Instruction in using research resources and interpreting statistics will be given and students will analyze current research related to education. Students will learn how to develop a research proposal and will write a scholarly research paper.

ED-CIFS 504 INSTRUCTIONAL SUPERVISION (3-0-3)(F/S/SU). Designed to improve the instructional leadership skills of educators. Emphasis is placed on a variety of observation and learning-centered pedagogies designed to improve instruction.

ED-CIFS 505 PHILOSOPHY OF EDUCATION (3-0-3)(S,SU). Students will analyze and evaluate past and contemporary philosophies and the values derived from them as they apply to education. A formal paper will be required.

ED-CIFS 506 ISSUES IN EDUCATION (3-0-3)(F/S/SU). Historical and contemporary social, economic, and organizational issues influencing education.

ED-CIFS 507 FOUNDATIONS OF AMERICAN EDUCATION (3-0-3)(S/SU). Historical, philosophical, sociological foundations of American education. Study of the historical development of public education in the United States, with special emphasis given to questions of power, equity, and inclusion; explore major schools of educational thought, as well as the philosophy of inclusion; and apply historical understanding and philosophical analysis to contemporary issues. PREREQ: Admission to Graduate Certificate in Teaching or PERM/INST.

ED-CIFS 508 LEARNING AND DEVELOPMENT OF STUDENTS (2-2-3)(S/SU). Theories of psychological and social development of children and adolescents as they apply to learning, motivation, and interaction, including the ranges of abilities and interests found in typical classrooms. PREREQ: Admission to Graduate Certificate in Teaching or PERM/INST.

ED-CIFS 509 CURRICULUM, INSTRUCTION AND ASSESSMENT IN GRADES 6-12 (3-0-3)(S/SU). Curriculum planning, instructional strategies, assessment of student learning, differentiated instruction, and principles of classroom and behavior management. PREREQ: Admission to Graduate Certificate in Teaching or PERM/INST.

ED-CIFS 510 INTRODUCTORY STATISTICS IN EDUCATIONAL RESEARCH (3-0-3)(F). Basic parametric and non-parametric statistical procedures commonly used in educational research, including z-test, t-test, one-way analysis of variance, simple correlation, simple regression, and chi-square. Data analyses and interpretation procedures via computer-based statistical packages.

ED-CIFS 511 ASSESSMENT AND EVALUATION (3-0-3)(F/S). Investigates formal and informal assessments of student, class, district, state, and national performance and achievement, and evaluation using appropriate standards. Practical applications creating relevant assessments of classroom learning are emphasized.

ED-CIFS 520 FOUNDATIONS OF GIFTED AND TALENTED EDUCATION (3-0-3)(F/S/SU). An overview of gifted/talented education. Topics may include identification, assessments, talent areas, curriculum adaptations, social needs, critical and creative thinking, legal aspects, and resources. PREREQ: PSYC 101 and ED-CIFS 203 or ED-CIFS 302 or ED-CIFS 538, or PERM/INST.

ED-CIFS 521 CREATIVITY AND CRITICAL THINKING SKILLS (3-0-3)(F/S/SU). Definition, identification, and facilitation of creativity and critical thinking skills. Topics may include overview, cognitive development, related brain research, assessment instruments, creative people, processes, and conditions for fostering creativity and models of critical thinking including creative problem solving. Demonstration of competency in identifying, fostering, assessing, demonstrating, and describing programs that foster creativity and critical thinking are required. PREREQ: PSYC 101 and ED-CIFS 203 or ED-CIFS 302 or ED-CIFS 538, or PERM/INST.

ED-CIFS 522 SOCIAL AND EMOTIONAL NEEDS OF GIFTED AND TALENTED LEARNERS (3-0-3)(F/S/SU). Identification and basic intervention for basic affective needs of gifted and talented learners. Topics covered may include: emotional aspects of giftedness, suicide, perfectionism, underachievement, peer relations, gender issues, risk taking, family relations, cultural factors, twice exceptional, self-esteem, career counseling, asynchronous development, and counseling skills for teachers. PREREQ: PSYC 101 and ED-CIFS 203 or ED-CIFS 302 or ED-CIFS 538, or PERM/INST.

ED-CIFS 530 ADVANCED PRACTICES AND PRINCIPLES IN TEACHING SOCIAL SCIENCE (3-0-3)(F). A comprehensive study of the practices and principles in social science education, including objectives, social problems, unit development, work-study skills, organization of the program materials and media, and research findings basic to social studies will be developed.

ED-CIFS 531 ADVANCED PRACTICES AND PRINCIPLES IN TEACHING ELEMENTARY SCHOOL MATHEMATICS (3-0-3)(S). Emphasis on creative methods and strategies for teaching elementary school mathematics. Also includes a review of current research, curriculum trends and exploration of experimentation with unique materials for teaching mathematics.

ED-CIFS 533 ADVANCED PRACTICES AND PRINCIPLES IN TEACHING ELEMENTARY SCIENCE (3-0-3)(F). Current practices and principles in modern elementary science concepts are developed. Emphasis is placed on the selection and organization of content and experimental activities.

ED-CIFS 534 TEACHING SECONDARY SOCIAL STUDIES (3-0-3)(F/S). This course will prepare teachers to engage young people in an inquiry about fundamental ideas and values from history and/or social science disciplines as well as to assist and encourage them to become informed, active participants in a democratic society. Students will examine professional literature on best teaching practices. PREREQ: Admission to Graduate Secondary Teacher Certification and ED-ESP 550. COREQ: ED-LLC 544 and ED-CIFS 561.

ED-CIFS 535 SECONDARY SCHOOL SCIENCE METHODS (3-0-3)(F/S). Students will examine local, state and national science curricula and standards. Students will use a variety of materials and methods, including appropriate instructional technologies, to develop science lessons which help all learners to develop scientific inquiry skills, an understanding of the nature of science, and critical understanding of selected science concepts and procedures. Students will also analyze current science educational journal articles and research. PREREQ: Admission into Graduate Teacher Certification and ED-ESP 550. COREQ: ED-LLC 544 and ED-CIFS 561.

ED-CIFS 536 CURRICULUM PLANNING AND IMPLEMENTATION (3-0-3)(F/S/SU). This is a general course for practicing teachers intended to give them a foundation in curriculum theory and practice. They will develop an understanding of how curriculum is developed, organized, implemented and evaluated. Current issues and trends in curriculum with some historical perspective will be explored.

ED-CIFS 537 INSTRUCTIONAL THEORY (3-0-3)(F/S/SU). This course includes investigations of research and theory about educational contexts, motivation, learning and development as they relate to models of instruction. Students will develop skills in selecting appropriate instructional models to achieve specific purposes in a variety of educational settings.

ED-CIFS 539 CURRICULUM ADAPTATIONS FOR GIFTED AND TALENTED STUDENTS (3-0-3)(F/S/SU). Curriculum adaptations for gifted and talented learners including curriculum compacting, independent study, project-based learning, research-based learning, enrichment programs, mentoring programs, acceleration, dual enrollment, and more. PREREQ: PSYC 101 and ED-CIFS 203 or ED-CIFS 302 or ED-CIFS 538, or PERM/INST.

ED-CIFS 540 MATHEMATICAL THINKING FOR INSTRUCTION: NUMBER AND OPERATIONS K-3 (3-0-3)(F/S/SU). Examines how children develop an understanding of number sense, addition, subtraction, multiplication, division, place value, rational number, and algebraic reasoning. Emphasizes an investigative approach involving problem solving, reasoning and proof, connections, representations, and communication.

ED-CIFS 541 EARLY NUMERACY AND OPERATIONS K-3 (3-0-3)(F/S/SU). Examines how children develop an understanding of the relationship between development and early numeracy, counting, one-to-one correspondence, and early number sense. Emphasizes an investigative approach involving problem solving, reasoning and proof, connections, representations, and communication. PREREQ: ED-CIFS 540 or ED-CIFS 542 or ED-CIFS 544 or PERM/INST.

ED-CIFS 542 MATHEMATICAL THINKING FOR INSTRUCTION: NUMBER AND OPERATIONS 4-8 (3-0-3)(F/S/SU). Examines topics in number and operations taught in grades 4-8 with an emphasis on an investigative approach involving problem solving, reasoning and proof, connections, representations and communication. Topics include a focus on the foundational structure of rational numbers, rational number operations, and algebraic reasoning.

ED-CIFS 543 APPLICATIONS OF RATIONAL NUMBERS AND PROPORTIONAL REASONING 4-8 (3-0-3)(F/S/SU). Examines topics related to the application of rational number and rational number operations with an emphasis on an investigative approach involving problem solving, reasoning and proof, connections, representations and communication. Topics include ratio, proportion, rational numbers, and early algebraic applications. PREREQ: ED-CIFS 540 or ED-CIFS 542 or ED-CIFS 544 or PERM/INST.

ED-CIFS 544 MATHEMATICAL THINKING FOR INSTRUCTION: NUMBER AND OPERATIONS 6-12 (3-0-3)(F/S/SU). Examines topics in number and operations that are foundational to an understanding of algebra with an emphasis on an investigative approach involving problem solving, reasoning and proof, connections, representations and communication. Topics include equality, algebraic reasoning, generalizing, functions, and modeling.

ED-CIFS 545 APPLICATIONS OF ALGEBRA TOPICS 6-12 (3-0-3)(F/S/SU). Examines topics in algebra that are foundational to an understanding of the

application of advanced algebraic concepts with an emphasis on an investigative approach involving problem solving, reasoning and proof, connections, representations and communication. Topics include generalization, functions, modeling, and their application in understanding the structure of mathematics through early calculus. PREREQ: ED-CIFS 540 or ED-CIFS 542 or ED-CIFS 544 or PERM/INST.

ED-CIFS 546 BUILDING TEACHER LEADERS OF MATHEMATICS (3-0-3)(F/S/SU). Examines foundational topics of effective professional development and coaching strategies with individuals and groups of teachers of mathematics with an emphasis on an investigative approach involving problem solving, reasoning and proof, connections, representations and communication. Topics include effective modeling, observation, collaboration, unit study, and best practices as informed by current research. PREREQ: ED-CIFS 547, ED-CIFS 548, and ED-CIFS 549; or PERM/INST.

ED-CIFS 547 MEASUREMENT AND GEOMETRY (3-0-3)(F/S/SU). Examines topics in measurement and geometry with an emphasis on an investigative approach involving problem solving, reasoning and proof, connections, representations and communication. Topics include unit, zero, transitivity, conservation, shape, and space. PREREQ: ED-CIFS 540 or ED-CIFS 542 or ED-CIFS 544 or PERM/INST.

ED-CIFS 548 DATA ANALYSIS, STATISTICS, AND PROBABILITY (3-0-3)(F/S/SU). Examines topics foundational to an understanding of probability, data analysis, and statistics with an emphasis on an investigative approach involving problem solving, reasoning and proof, connections, representations and communication. Topics include experimental and theoretical probability, the law of large numbers, sample space, independent and dependent events, central tendencies, spread, and representations. PREREQ: ED-CIFS 540 or ED-CIFS 542 or ED-CIFS 544 or PERM/INST.

ED-CIFS 549 ACTION RESEARCH AND ITS IMPLICATIONS IN THE MATHEMATICS CLASSROOM (3-0-3)(F/S/SU). Examines topics related to mathematics education and instruction with a focus on reviewing current mathematics education research, instructional implementation, and summarizing and evaluating findings. Topics selected by the student with instructor's approval. PREREQ: ED-CIFS 547 or ED-CIFS 548 or PERM/INST.

ED-CIFS 550 SEMINAR ON TEACHING AND LEARNING (3-0-3)(S). This hybrid seminar, consisting of campus and online discussion, will focus on synthesizing field experiences. Teaching as decision-making, teacher inquiry, classroom learning environments, employment preparation, adaptation of instruction, collaboration, and legal issues affecting classrooms will be addressed. PREREQ: Admission to Graduate Certificate in Teaching or PERM/INST.

ED-CIFS 552 MATHEMATICAL THINKING FOR INSTRUCTION: STUDY OF PRACTICE IN MATHEMATICS (3-0-3)(F/S). Cohort groups of in-service teachers work collaboratively to design and facilitate mathematics lessons focused on developing mathematical thinking that embody key aspects of the Mathematical Thinking for Instruction framework. Constructive feedback from the course instructor and peers will help elicit individual teacher reflection to support the enhancement of related lessons. Formative assessment strategies will be utilized to gather information on teachers' instructional practices and student reasoning and changes in student learning. PREREQ: ED-CIFS 541 or ED-CIFS 543, or PERM/INST.

ED-CIFS 558 SUPERVISED CLINICAL FIELD EXPERIENCE (1-6 credits)(F/S/SU). Required supervision for candidates adding an endorsement to current teaching certificate or for alternate route initial certification. Full-time classroom placement with performance assessment aligned with state certification requirements. Placement and credits required determined by Office of Teacher Education.

ED-CIFS 560 PROFESSIONAL YEAR I—ELEMENTARY TEACHING EXPERIENCE (0-18-5)(F,S). Classroom teaching placement focusing on activities related to planning and preparation of curriculum and instruction, and professional responsibilities. Students complete a minimum of 250 hours in the K-8 classroom and apply knowledge and skills from all professional education coursework. (Pass/Fail.) PREREQ: Admission to the Graduate Certificate in Elementary Teaching and Professional Year.

ED-CIFS 561 PROFESSIONAL YEAR — TEACHING EXPERIENCE I (0-10-3)(F). Students work with master teachers for 150 hours. They observe the teaching/learning process and demonstrate competence in a K-12 school setting. (Pass/Fail.) PREREQ: Admission to Graduate Certificate in Teaching.

ED-CIFS 562 PROFESSIONAL YEAR — ELEMENTARY TEACHING EXPERIENCE II K-12 OPTION (1-40-6)(S). This course is reserved for students

who are seeking an endorsement to teach in specific disciplines in grades 1-8. Students are given assignments in elementary schools where they observe and teach for one-half semester under the supervision of a master teacher and a university supervisor. Available for Art, Music, and Physical Education majors only. (Pass/Fail.) PREREQ: Admission to Graduate Certificate in Teaching and approval for placement in an appropriate classroom setting. COREQ: ED-CIFS 563 or ED-CIFS 564.

ED-CIFS 563 PROFESSIONAL YEAR — GRADES 6-9 TEACHING EXPERIENCE II K-12 OPTION (1-40-6)(S). Supervised student teaching in a junior high/middle school. The student will be placed with a cooperating teacher for one-half semester (full-time) in his/her major/minor field under the supervision of university faculty. Available for Art, Music, and Physical Education majors only. Seminars are required. (Pass/Fail.) PREREQ: Admission to Graduate Certificate in Teaching. COREQ: ED-CIFS 562 or ED-CIFS 564.

ED-CIFS 564 PROFESSIONAL YEAR — GRADES 9-12 TEACHING EXPERIENCE II K-12 OPTION (1-40-6)(S). Supervised student teaching in a senior high/middle school. The student will be placed with a cooperating teacher for one-half semester (full-time) in his/her major/minor field under the supervision of university faculty. Available for Art, Music, and Physical Education majors only. (Pass/Fail.) PREREQ: Admission to Graduate Certificate in Teaching. COREQ: ED-CIFS 562 or ED-CIFS 563.

ED-CIFS 565 PROFESSIONAL YEAR — GRADES 6-9 TEACHING EXPERIENCE II (1-40-12)(S). Supervised student teaching in a high/junior high/middle school. The student will be placed with a cooperating teacher for one semester (full-time) in his/her major/minor field under the supervision of university faculty. (Pass/Fail.) Not available for Art, Music, or Physical Education Majors. PREREQ: Admission to Graduate Certificate in Teaching.

ED-CIFS 566 PROFESSIONAL YEAR — GRADES 9-12 TEACHING EXPERIENCE II (1-40-12)(S). Supervised student teaching in a senior high school. The student will be placed with a cooperating teacher for one semester (full-time) in his/her major/minor field under the supervision of university faculty. (Pass/Fail.) Not available for Art, Music, or Physical Education Majors. PREREQ: Admission to Graduate Certificate in Teaching.

ED-CIFS 567 PROFESSIONAL YEAR II—ELEMENTARY TEACHING EXPERIENCE (0-40-12)(F/S). Student teaching experience in a K-8 school, including activities related to planning and preparation, classroom environments, curriculum and instruction, and professional responsibilities. Students will complete a full-time teaching experience consistent with the calendar of the assigned partnership school. (Pass/Fail.) PREREQ: Admission to the Graduate Certificate in Teaching, Professional Year, and ED-CIFS 329, ED-CIFS 332, and ED-CIFS 560.

ED-CIFS 574 ACTION RESEARCH AND PRACTICUM IN GIFTED AND TALENTED EDUCATION (0-10-3)(F/S/SU). Emphasizes the application of knowledge and skills to the development and administration of gifted and talented programs. All students are required to complete a 150 hour practicum during which they demonstrate the required competencies for the gifted and talented endorsement. Students design and conduct an action research project related to the field of gifted and talented education.

ED-CIFS 575 TEACHER LEADERSHIP (6-0-6)(F/S/SU). Emphasizes essential knowledge, skills and dispositions to serve as the foundational framework for instructional leadership. Emphasis includes developing collaborative cultures at the classroom, team, school and district levels. Participation in simulations is required of all students.

ED-CIFS 576 LEADERSHIP FOUNDATION (6-0-6)(F/S/SU). This module emphasizes essential knowledge, skills and dispositions to serve as the foundation for candidates pursuing positions of leadership, including study of the political, social, cultural and economic systems that support and affect schools and the theoretical principles underlying effective leadership. Emphasis includes developing conceptual frameworks to lead and manage (1) schools and school systems, (2) change and improvement, and (3) self, others and relationships. Participation in simulations is required of all students.

ED-CIFS 577 LEADING TEACHING AND LEARNING (6-0-6)(F/S/SU). This module emphasizes the knowledge, skills and dispositions of an effective instructional leader who is expected to influence, manage, monitor and ensure the quality of curriculum, instruction and assessment in schools and classrooms. Students will investigate aspects of curriculum theory, supervision, characteristics of effective teaching for diverse learners, strategies for assessment, and professional development. Participation in simulations is required of all students. PREREQ: ED-CIFS 576.

ED-CIFS 578 LEADING SYSTEM CHANGE (6-0-6)(F/S/SU). This module emphasizes the knowledge, skills and dispositions necessary to create school and district cultures, conditions and capabilities that support high levels of achievement for all students. Students learn to build relationships with all stakeholders, to use processes for creating system change, and to optimize the use of school funding. Participation in simulations is required of all students. PREREQ: ED-CIFS 576.

ED-CIFS 579 EDUCATIONAL LEADERSHIP CLINICAL EXPERIENCE (1-15-6)(F). This module places candidates in approved partnership schools. Candidates meet in scheduled university classes throughout the experience. Individual work plans are developed collaboratively with candidate, mentor, and advisor. Contracts include required and elective activities, performance outcomes, reading requirements. (Pass/Fail.) PREREQ: ADM/PROG or PERM/INST.

ED-CIFS 612 STRATEGIES FOR SCHOOL IMPROVEMENT (3-0-3)(F/S/SU). Students will explore contemporary strategies being tried or proposed to bring about ongoing improvement in the schools. There will be an emphasis on participatory approaches to school change, collaboration and partnership building, the role of technology, attention to cultural diversity, and conflict resolution strategies. Students will work on projects through which they will transform their emerging theories of change into plans for making change happen in their schools. Special emphasis will be placed on preparation for school-based decision making. PREREQ: Graduate status.

ED-CIFS 620 FIELD EXPERIENCE: UNDERACHIEVING LEARNERS (0-4-2)(F/S/SU). This field experience enables participants to bridge the current knowledge base on effective practice and program design with the needs of underachieving learners, their families, schools, and community agencies. Through in-depth field study, students will gain better understanding of underachieving learners and programs designed to meet their needs. PREREQ: EDU 653.

ED-CIFS 621 FIELD EXPERIENCE: SCHOOL IMPROVEMENT (0-4-2)(F/S). Students will participate in schools and other educational settings that are involved in exemplary educational improvement projects; curriculum development efforts; and professional development activities, including the planning, implementation, and evaluation of such programs. PREREQ: ED-CIFS 620.

ED-CIFS 661 PEDAGOGICAL PRACTICES IN EDUCATION (3-0-3)(F/S/SU). Pedagogical practices and professional development including social, political, cultural and historical influences, and practices of instructional leadership. PREREQ: ED-CIFS 537.

ED-CIFS 664 SEMINAR IN CURRICULUM AND INSTRUCTION (3-0-3)(F/S). In this culminating seminar, students will synthesize their learning from prior course work and field experiences and examine educational issues relevant to their respective professional careers. PREREQ: EDU 660 and EDU 662.

ED-CIFS 676 FOUNDATIONS OF LEADING COMPLEX EDUCATIONAL ORGANIZATIONS (6-0-6)(F/S/SU). Introduces several constructs related to leading complex educational organizations, including leadership theory, organizational theory, how policy works, the moral imperative of educational leadership in addressing persistent problems of practice, and the role of district-level leaders in improving learning. Explores connections between leadership and learning, as well as the role of superintendent and district-level leadership in promoting systemic innovation and change. PREREQ: Admission to Executive Educational Leadership Program.

ED-CIFS 677 LEADING CONTINUOUS SYSTEM-WIDE IMPROVEMENT OF LEARNING (6-0-6)(F/S/SU). Students examine the role of the superintendent and district-level leadership in continuous improvement of learning on three levels—student learning, professional learning, and system learning. Students explore the meaning and the implications for leaders of contemporary reform movements in the public school. Students investigate the nature and dynamics of organizations within large educational systems, exploring how organizations are designed and function, how policy works, and how systems change, adapt, and learn. Finally, students consider the role of superintendent and district-level leadership in fostering partnerships with local, state, and national entities to enhance system-wide educational opportunities for all students. PREREQ: ED-CIFS 676.

ED-CIFS 678 THE SUPERINTENDENCY AND EXECUTIVE LEVEL LEADERSHIP: THEORY AND RESEARCH (6-0-6)(F/S/SU). Students investigate the theory, research, and practice related to the contemporary demands of the superintendency and other executive-level leadership roles. Critical issues and problems of practice are explored, including effective and efficient governance of the district; budgeting processes; personnel management and development; staff relations; superintendent-board relations; bond issues; facilities planning; and superintendent as instructional leader. Students examine the procedures and techniques pertinent to the management of organizational conflict, including collective bargaining, grievance procedures, mediation, fact-finding, and arbitration. Emphasis is placed on examining the dynamics of the interface between the public schools and the community. PREREQ: ED-CIFS 677.

ED-CIFS 679 THE SUPERINTENDENCY AND EXECUTIVE LEVEL LEADERSHIP: CLINICAL EXPERIENCE (6-0-6)(F/S/SU). This module places candidates in approved partnership districts for an extended clinical experience focus. Introduces students to systematic inquiry—fundamental ideas about knowing and knowledge, data and evidence, and the applications of these ideas in settings that invite leadership action to address educational issues. Individual student work plans are developed collaboratively with mentor and advisor. PREREQ: ED-CIFS 678.

ED-CIFS 680 THE SUPERINTENDENCY AND EXECUTIVE LEVEL LEADERSHIP: CAPSTONE COURSE (6-0-6)(F/S/SU). Students engage in systematic inquiry in the context of their on-going clinical experience, creating viable, rigorous designs for action-oriented research into local problems of practice. Students develop data collection tools, produce high-quality quantitative and qualitative data, and construct evidence for claims. This module equips system-level leaders with the skills, knowledge, and dispositions to foster a district-wide culture of inquiry and continuous improvement evidenced by authentic and productive strategic planning, high-quality program evaluation, and other forms of data-based decision making. PREREQ: ED-CIFS 679.

ED-CIFS 693 DISSERTATION (0-V-12)(F/S/SU). Students will complete an independent and original research project on an important educational issue; collect and interpret the findings in a cogent, professional and scholarly-written document; successfully defend the project to the dissertation committee; and disseminate those findings in a professionally appropriate manner. PREREQ: Successful completion of “Comprehensive Evaluation” and Admission to Candidacy.

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

Department of Early and Special Education

College of Education

Chair: Deb Carter
Education Building, Room 228
Phone: (208) 426-2804
E-mail: debcarter@boisestate.edu

Graduate Faculty: Carter, Hampshire, Humphrey, Johnson, Pool

Graduate Degrees Offered

- Master of Education in Early and Special Education
- Master in Teaching in Early Childhood Intervention
- Master in Teaching in Special Education
- Graduate Certificate in Behavioral Interventions and Supports
- Graduate Certificate in Early Childhood Intervention Services and Supports
- Graduate Certificate in Early Childhood Special Education
- Graduate Certificate in Habilitative Services and Supports
- Graduate Certificate in Special Education Services and Supports

Master of Education in Early and Special Education

Graduate Program Coordinator: Carrie Semmelroth
Education Building, Room 724
Phone: (208) 426-2818
E-mail: carrieseammelroth@boisestate.edu

General Information

The Master of Education (M.Ed.) in Early and Special Education degree program at Boise State University is designed to offer enhanced professional development in the related fields of early childhood intervention and special education for experienced special educators and other professionals who provide supports and services to individuals with disabilities. These individuals may be employed as early childhood interventionists, K-12 special education teachers, or may work with or on behalf of young children with disabilities and their families in community or agency settings. This program allows flexibility for students to structure a program around their professional interests and also allows students to complete a graduate certificate program concurrently. The M.Ed. in Early and Special Education does not lead to initial teacher certification nor does it require certification for admission.

Application and Admission Requirements

An applicant must satisfy the minimum admission requirements of the Graduate College (see *Graduate Admission Regulations*). Prospective students may apply for admission at any time. However,

all application and admission materials must be received by April 1 for the summer session (cohorts begin in summer), July 1 for the fall semester, and November 1 for the spring semester.

1. Application fee.
2. Official transcripts of all undergraduate and graduate course work sent directly to the Graduate College, 1910 University Dr., Boise, ID 83725-1110.
3. Minimum GPA of 3.00 (on a 4.00 scale).
4. Letter of application including the following:
 - A description of your career goals and professional interests and how the M.Ed. in Early and Special Education will help you attain them.
 - An explanation of why you are choosing the M.Ed. in Early and Special Education and why you will be a successful graduate student.
5. E-mail contacts for two references.

Degree Requirements

Master of Education in Early and Special Education	
Course Number and Title	Credits
ED-ESP 549 Multi-Tiered Systems of Support	3
ED-ESP 559 Collaboration and Leadership in Special Education	3
Research ED-CIFS 503 Fundamentals of Educational Research or ED-ESP 556 Evidence-Based Practices for Students with Support Needs ED-CIFS 510 Introductory Statistics in Educational Research	6
Behavior Support ED-ESP 517 School-wide Behavior Support ED-ESP 518 Intensive, Individualized Behavior Support ED-ESP 548 Autism Spectrum Disorders	3
Early Childhood Special Education ED-ESP 510 Foundations of Practice ED-ESP 513 Family Systems and Collaboration ED-ESP 515 Early Intervention, Birth to Three: ECE/ECSE	3
Instructional Design ED-ESP 514 ECSE Methods ED-ESP 552 Language Arts for Special Educators ED-ESP 557 Universal Design and Assistive Technology ED-ESP 570 Mathematics for Special Educators	3
Assessment ED-ESP 511 EI/ECSE Assessment and Evaluation ED-ESP 558 Assessment in Special Education	3
Approved graduate electives	9
Culminating Activity ED-ESP 592 Portfolio	1
Total	34

Master in Teaching in Early Childhood Intervention

Graduate Program Coordinator: Carrie Semmelroth
Education Building, Room 724
Phone: (208) 426-2818
E-mail: carriesemmelroth@boisestate.edu

General Information

The Master in Teaching (M.I.T.) in Early Childhood Intervention culminates in both a Master's degree and the following initial teacher certification in the state of Idaho: Early Childhood/Early Childhood Special Education Blended. (This certification may or may not be reciprocated in other states.) This certification focuses on working with infants and young children from birth through third grade and their families in both regular education and special education settings.

Students in the M.I.T. in Early Childhood Intervention participate in extensive learning communities over four academic semesters with an emphasis on collaboration and teamwork in classroom and clinical settings. Students have field-based opportunities to directly apply strategies learned in coursework with the support of both university and school-based supervisors and peers.

Application and Admission Requirements

An applicant must satisfy the minimum admission requirements of the Graduate College (see *Graduate Admission Regulations*). Prospective students may apply for admission at any time. However, all application and admission materials must be received by April 1 for the summer session. The program begins each summer semester.

1. Application fee.
2. Official transcripts of all undergraduate and graduate course work sent directly to the Graduate College, 1910 University Dr., Boise, ID 83725-1110.
3. Minimum GPA of 3.00 (on a 4.00 scale).
4. Letter of application including the following:
 - A description of your career goals and professional interests and how the M.I.T. in Early Childhood Intervention will help you attain them.
 - An explanation of why you are choosing the M.I.T. in Early Childhood Intervention and why you will be a successful graduate student.
5. Passing score on the Praxis Core Academic Skills for Educators: Mathematics Test #5732. Students can obtain information about this test from the Educational Testing Service (www.ets.org). The College of Education Office of Teacher Education can provide additional information, including current passing scores.
6. Two letters of recommendation from professionals who are in a position to speak knowledgeably of the applicant's ability to work with young children with and without disabilities and their families.

Degree Requirements

Master in Teaching in Early Childhood Intervention	
Course Number and Title	Credits
ED-ESP 510 Foundations of Practice	3
ED-ESP 511 EI/ECSE Assessment and Evaluation	3
ED-ESP 512 Positive Behavioral Interventions and Supports in Early Childhood	3
ED-ESP 513 Family Systems and Collaboration	3
ED-ESP 514 ECSE Methods	3
ED-ESP 515 Early Intervention, Birth to Three: ECE/ECSE	3
ED-ESP 540 Disability/Special Education and the Law	3
ED-ESP 552 Language Arts for Special Educators	3
ED-ESP 556 Evidence-Based Practices for Students with Support Needs	3
ED-ESP 557 Universal Design and Assistive Technology	3
ED-ESP 570 Mathematics for Special Educators	3
ED-ESP 571 Professional Practice I	1
ED-ESP 572 Professional Practice II	1
ED-ESP 573 Professional Practice III	1
ED-ESP 574 Professional Practice IV	1
<i>Total</i>	37

Master in Teaching in Special Education

Graduate Program Coordinator: Carrie Semmelroth
Education Building, Room 724
Phone: (208) 426-2818
E-mail: carriesemmelroth@boisestate.edu

General Information

The Master in Teaching (M.I.T.) in Special Education culminates in both a Master's degree and the following initial teacher certification in the state of Idaho: Exceptional Child, Generalist K-12. (This certification may or may not be reciprocated in other states.) This certification focuses on working with children in K-12 special education settings.

Students in the M.I.T. in Special Education participate in extensive learning communities over four academic semesters with an emphasis on collaboration and teamwork in classroom and clinical settings. Students have field-based opportunities to directly apply strategies learned in coursework with the support of both university and school-based supervisors and peers.

Application and Admission Requirements

An applicant must satisfy the minimum admission requirements of the Graduate College (see *Graduate Admission Regulations*). Prospective students may apply for admission at any time. However, all application and admission materials must be received by April 1 for the summer session. The program begins each summer semester.

1. Application fee.
2. Official transcripts of all undergraduate and graduate course work sent directly to the Graduate College, 1910 University Dr., Boise, ID 83725-1110.
3. Minimum GPA of 3.00 (on a 4.00 scale).
4. Letter of application including the following:
 - A description of your career goals and professional interests and how the M.I.T. in Special Education will help you attain them.
 - An explanation of why you are choosing the M.I.T. in Special Education and why you will be a successful graduate student.
5. Passing score on the Praxis Core Academic Skills for Educators: Mathematics Test #5732. Students can obtain information about this test from the Educational Testing Service (www.ets.org). The College of Education Office of Teacher Education can provide additional information, including current passing scores.
6. Two letters of recommendation from professionals who are in a position to speak knowledgeably of the applicant's ability to work with children with disabilities.

Degree Requirements

Master in Teaching in Special Education	
Course Number and Title	Credits
ED-ESP 510 Foundations of Practice	3
ED-ESP 513 Family Systems and Collaboration	3
ED-ESP 518 Intensive, Individualized Behavior Support	3
ED-ESP 540 Disability/Special Education and the Law	3
ED-ESP 541 Secondary Transition	3
ED-ESP 552 Language Arts for Special Educators	3
ED-ESP 554 Positive Behavior Programs	3
ED-ESP 556 Evidence-Based Practices for Students with Support Needs	3
ED-ESP 557 Universal Design and Assistive Technology	3
ED-ESP 558 Assessment in Special Education	3
ED-ESP 570 Mathematics for Special Educators	3
ED-ESP 571 Professional Practice I	1
ED-ESP 572 Professional Practice II	1
ED-ESP 573 Professional Practice III	1
ED-ESP 574 Professional Practice IV	1
<i>Total</i>	37

Graduate Certificate in Behavioral Interventions and Supports

Graduate Program Coordinator: Deb Carter
 Education Building, Room 228
 Phone: (208) 426-2804
 E-mail: debcarter@boisestate.edu

General Information

The Graduate Certificate in Behavioral Interventions and Supports is designed for current or prospective education professionals who want to expand their knowledge of interventions and supports for individuals from birth through adulthood who engage in challenging behaviors that make inclusion in school and community-based settings a challenge. This certificate program can be pursued individually or may be completed concurrently with the M.Ed. in Early and Special Education.

Application and Admission Requirements

An applicant must satisfy the minimum admission requirements of the Graduate College (see *Graduate Admission Regulations*). Prospective students may apply for admission at any time. However, all application and admission materials must be received by April 1 for the summer session, July 1 for the fall semester, and November 1 for the spring semester.

1. Application fee.
2. Official transcripts of all undergraduate and graduate course work sent directly to the Graduate College, 1910 University Dr., Boise, ID 83725-1110.
3. Minimum GPA of 3.00 (on a 4.00 scale).
4. Letter of application including the following:
 - A description of your career goals and professional interests and how the Graduate Certificate in Behavioral Interventions and Supports will help you attain them.
 - An explanation of why you are choosing the Graduate Certificate in Behavioral Interventions and Supports and why you will be a successful graduate student.
5. E-mail contacts for two references.

Certificate Requirements

Graduate Certificate in Behavioral Interventions and Supports	
Course Number and Title	Credits
ED-ESP 512 Positive Behavioral Interventions and Supports in Early Childhood or ED-ESP 554 Positive Behavior Programs	3
ED-ESP 517 School-wide Behavior Support	3
ED-ESP 518 Intensive, Individualized Behavior Support	3
ED-ESP 548 Autism Spectrum Disorders	3
ED-ESP 558 Assessment in Special Education	3
ED-ESP 559 Collaboration and Leadership in Special Education	3
<i>Total</i>	18

Graduate Certificate in Early Childhood Intervention Services and Supports

Graduate Program Coordinator: Deb Carter
Education Building, Room 228
Phone: (208) 426-2804
E-mail: debcarter@boisestate.edu

General Information

The Graduate Certificate in Early Childhood Intervention Services and Supports is designed for individuals who have or are pursuing a degree in elementary education, special education, early childhood education, early childhood special education, speech pathology, general education, physical therapy, occupational therapy, social work or nursing and are interested in working with infants and toddlers (0-3) with developmental delays or disabilities in the home and community setting. Students completing this certificate may work at either the Department of Health and Welfare's Infant Toddler Program as a Developmental Specialist or for a developmental disability agency as a 0-3 Habilitative Interventionist. Habilitative Interventionists are primarily focused on teaching adaptive skills and supporting the development of pro-social behaviors. Developmental Specialists provide early intervention evidence based practices through consultation and education to families and caregivers by providing routine-based interventions in the child's natural environment (homes, childcare, etc.). This certificate program can be pursued individually or may be completed concurrently with the M.Ed. in Early and Special Education.

Application and Admission Requirements

An applicant must satisfy the minimum admission requirements of the Graduate College (see *Graduate Admission Regulations*). Prospective students may apply for admission at any time. However, all application and admission materials must be received by April 1 for the summer session, July 1 for the fall semester, and November 1 for the spring semester.

1. Application fee.
2. Official transcripts of all undergraduate and graduate course work sent directly to the Graduate College, 1910 University Dr., Boise, ID 83725-1110.
3. Minimum GPA of 3.00 (on a 4.00 scale).
4. Letter of application including the following:
 - A description of your career goals and professional interests and how the Graduate Certificate in Early Childhood Intervention Services and Supports will help you attain them.
 - An explanation of why you are choosing the Graduate Certificate in Early Childhood Intervention Services and Supports and why you will be a successful graduate student.
5. E-mail contacts for two references.

Certificate Requirements

Graduate Certificate in Early Childhood Intervention Services and Supports	
Course Number and Title	Credits
ED-ESP 510 Foundations of Practice	3
ED-ESP 511 EI/ECSE Assessment and Evaluation	3
ED-ESP 512 Positive Behavioral Interventions and Supports in Early Childhood	3
ED-ESP 513 Family Systems and Collaboration	3
ED-ESP 514 ECSE Methods	3
ED-ESP 515 Early Intervention, Birth to Three: ECE/ECSE	3
ED-ESP 540 Disability/Special Education and the Law	3
ED-ESP 556 Evidence-Based Practices for Students with Support Needs	3
<i>Total</i>	24

Graduate Certificate in Early Childhood Special Education

Graduate Program Coordinator: Deb Carter
Education Building, Room 228
Phone: (208) 426-2804
E-mail: debcarter@boisestate.edu

General Information

The Graduate Certificate in Early Childhood Special Education is designed for individuals who currently hold a valid Idaho Standard Exceptional Child Certification in conjunction with the Generalist K-12 Endorsement. Completion of this certificate and required Praxis II examinations leads to an institutional recommendation from Boise State to add an Early Childhood Special Education (ECSE; Pre-K – 3) endorsement. The ECSE endorsement is non-categorical and allows one to teach in any Pre-K special education setting. This certificate program can be pursued individually or may be completed concurrently with the M.Ed. in Early and Special Education.

Application and Admission Requirements

An applicant must satisfy the minimum admission requirements of the Graduate College (see *Graduate Admission Regulations*). Prospective students may apply for admission at any time. However, all application and admission materials must be received by April 1 for the summer session, July 1 for the fall semester, and November 1 for the spring semester.

1. Application fee.
2. Official transcripts of all undergraduate and graduate course work sent directly to the Graduate College, 1910 University Dr., Boise, ID 83725-1110.
3. Minimum GPA of 3.00 (on a 4.00 scale).
4. Current Idaho Standard Exceptional Child Certification in conjunction with the Generalist K-12 Endorsement
5. Letter of application including the following:
 - A description of your career goals and professional interests and how the Graduate Certificate in Early Childhood Special Education will help you attain them.
 - An explanation of why you are choosing the Graduate

Certificate in Early Childhood Special Education and why you will be a successful graduate student.

6. E-mail contacts for two references.

Certificate Requirements

Graduate Certificate in Early Childhood Special Education	
Course Number and Title	Credits
ED-ESP 510 Foundations of Practice	3
ED-ESP 511 EI/ECSE Assessment and Evaluation	3
ED-ESP 512 Positive Behavioral Interventions and Supports in Early Childhood	3
ED-ESP 513 Family Systems and Collaboration	3
ED-ESP 514 ECSE Methods	3
ED-ESP 563 Teaching Experience in Early and Special Education	6
<i>Total</i>	21

Graduate Certificate in Habilitative Services and Supports

Graduate Program Coordinator: Deb Carter
Education Building, Room 228
Phone: (208) 426-2804
E-mail: debcarter@boisestate.edu

General Information

The Graduate Certificate in Habilitative Services and Supports is designed for individuals who have or are pursuing a degree in a human services field and are interested in working with children and adolescents (age 3-17) with diagnosed developmental disabilities in the home and community setting. Approved human service degrees include the following: counseling and guidance, psychology, nursing, education/special education, sociology, child development/human development, social work, therapeutic recreation, marriage and family therapy, occupational therapy, physical therapy, speech language pathology/communication disorders, art therapy, dance therapy, music therapy and behavioral sciences/ABA. Students who do not have or are not pursuing a degree in a human services field will need to complete the Certificate in Special Education Services and Supports which includes all of the coursework for the Certificate in Habilitative Services and Supports with additional courses aligned with Habilitative Interventionist standards.

Students who either (a) complete the Certificate in Habilitative Services and Supports and have a degree in a human services field, or (b) complete the Certificate in Special Education Services and Supports and have a bachelor's degree in any field will complete the coursework requirements to work for a developmental disability agency as a 3-17 Habilitative Interventionist teaching adaptive skills and supporting the development of pro-social behaviors. Interventionists work in the home and community setting focused on individual client goals including communication, social skills, self-management, self-help, and independence. In order to become a Habilitative Interventionist, individuals also need a minimum of one year supervised experience working with children with developmental disabilities which is typically provided by the hiring agency. This certificate program can be pursued individually or may be completed concurrently with the M.Ed. in Early and Special Education.

Application and Admission Requirements

An applicant must satisfy the minimum admission requirements of the Graduate College (see *Graduate Admission Regulations*). Prospective students may apply for admission at any time. However, all application and admission materials must be received by April 1 for the summer session, July 1 for the fall semester, and November 1 for the spring semester.

1. Application fee.
2. Official transcripts of all undergraduate and graduate course work sent directly to the Graduate College, 1910 University Dr., Boise, ID 83725-1110.
3. Minimum GPA of 3.00 (on a 4.00 scale).
4. Letter of application including the following:
 - A description of your career goals and professional interests and how the Graduate Certificate in Habilitative Services and Supports will help you attain them.
 - An explanation of why you are choosing the Graduate Certificate in Habilitative Services and Supports and why you will be a successful graduate student.
5. E-mail contacts for two references.

Certificate Requirements

Graduate Certificate in Habilitative Services and Supports	
Course Number and Title	Credits
ED-CIFS 537 Instructional Theory	3
ED-ESP 510 Foundations of Practice	3
ED-ESP 512 Positive Behavioral Interventions and Supports in Early Childhood or ED-ESP 554 Positive Behavior Programs	3
<i>Total</i>	9

Graduate Certificate in Special Education Services and Supports

Graduate Program Coordinator: Deb Carter
Education Building, Room 228
Phone: (208) 426-2804
E-mail: debcarter@boisestate.edu

General Information

The Graduate Certificate in Special Education Services and Supports is designed for individuals who do not have or are not pursuing a degree in a human services field and are interested in working with children and adolescents (age 3-17) with diagnosed developmental disabilities in the home and community setting. Students who do have or are pursuing a degree in a human services field may complete the Certificate in Habilitative Services and Supports. Approved human service degrees include the following: counseling and guidance, psychology, nursing, education/special education, sociology, child development/human development, social work, therapeutic recreation, marriage and family therapy, occupational therapy, physical therapy, speech language pathology/communication disorders, art therapy, dance therapy, music therapy and behavioral sciences/ABA.

Students who either (a) complete the Certificate in Habilitative Services and Supports and have a degree in a human services field, or (b) complete the Certificate in Special Education Services and

Early and Special Education

Supports and have a bachelor's degree in any field will complete the coursework requirements to work for a developmental disability agency as a 3-17 Habilitative Interventionist teaching adaptive skills and supporting the development of pro-social behaviors. Interventionists work in the home and community setting focused on individual client goals including communication, social skills, self-management, self-help, and independence. In order to become a Habilitative Interventionist, individuals also need a minimum of one year supervised experience working with children with developmental disabilities which is typically provided by the hiring agency. This certificate program can be pursued individually or may be completed concurrently with the M.Ed. in Early and Special Education.

Application and Admission Requirements

An applicant must satisfy the minimum admission requirements of the Graduate College (see *Graduate Admission Regulations*). Prospective students may apply for admission at any time. However, all application and admission materials must be received by April 1 for the summer session, July 1 for the fall semester, and November 1 for the spring semester.

1. Application fee.
2. Official transcripts of all undergraduate and graduate course work sent directly to the Graduate College, 1910 University Dr., Boise, ID 83725-1110.
3. Minimum GPA of 3.00 (on a 4.00 scale).
4. Letter of application including the following:
 - A description of your career goals and professional interests and how the Graduate Certificate in Special Education Services and Supports will help you attain them.
 - An explanation of why you are choosing the Graduate Certificate in Special Education Services and Supports and why you will be a successful graduate student.
5. E-mail contacts for two references.

Certificate Requirements

Graduate Certificate in Special Education Services and Supports	
Course Number and Title	Credits
ED-CIFS 537 Instructional Theory	3
ED-ESP 510 Foundations of Practice	3
ED-ESP 513 Family Systems and Collaboration	3
ED-ESP 518 Intensive, Individualized Behavior Support	3
ED-ESP 548 Autism Spectrum Disorders	3
ED-ESP 549 Multi-Tiered Systems of Support	3
ED-ESP 554 Positive Behavior Programs	3
ED-ESP 556 Evidence-Based Practices for Students with Support Needs	3
ED-ESP 558 Assessment in Special Education	3
Total	27

Course Offerings

See *Course Numbering and Terminology* for definitions.

ED-ESP — Education-Early and Special Education

ED-ESP 510 FOUNDATIONS OF PRACTICE (3-0-3)(SU). Overview of student ability and disability from early intervention through the postsecondary transition process including, (a) typical and atypical development, (b) characteristics of students with disabilities, (c) legal requirements for educating students with disabilities, (d) instructional decision-making, and (e) developing a personal view of special education.

ED-ESP 511 EI/ECSE ASSESSMENT AND EVALUATION (2-3-3)(F).

Assessment and ongoing evaluation in EI/ECSE. Focus on screening, eligibility, curriculum-based measurement, progress monitoring, and data-based decision making. Fieldwork required.

ED-ESP 512 POSITIVE BEHAVIORAL INTERVENTIONS AND SUPPORTS IN EARLY CHILDHOOD (2-3-3)(F).

Implementation of positive behavioral interventions and supports at program, classroom and individual-student levels. Focus on implementing positive, preventive and function-based interventions in school, home and community environments. Fieldwork required.

ED-ESP 513 FAMILY SYSTEMS AND COLLABORATION (3-0-3)(SU).

Exploration of family engagement models, ranging from Early Intervention approaches to K-12 collaboration with parents and multi-disciplinary teams. Emphasis on family systems theory and its' implications for working with students with disabilities and their families.

ED-ESP 514 ECSE METHODS (2-3-3)(S). Application of a linked system of assessment, goal development, intervention and evaluation to provide services across developmental domains. Fieldwork required.

ED-ESP 515 EARLY INTERVENTION, BIRTH TO THREE: ECE/ECSE (2-3-3)(F).

Development of infants, both typically developing and those with delays and disabilities. Focus on learning in naturalistic environments, coaching families, and designing and implementing interventions. Fieldwork required.

ED-ESP 517 SCHOOL-WIDE BEHAVIOR SUPPORT SYSTEMS (3-0-3)(S)

(Intermittently). School-wide systems of behavior support including (a) the data, systems and practices necessary to implement a three-tiered model of behavior support, and (b) the readiness requirements, process and considerations for systems-level implementation.

ED-ESP 518 INTENSIVE, INDIVIDUALIZED BEHAVIOR SUPPORT (3-0-3)(S).

Data, systems and practices necessary to provide high quality intensive, individualized interventions to students who display chronic problem behavior. Addresses functional behavioral assessment and the development of individualized behavior support plans. PREREQ: ED-ESP 512 or ED-ESP 554 or PERM/INST.

ED-ESP 540 DISABILITY/SPECIAL EDUCATION AND THE LAW (3-0-3)(SU).

Advanced coverage of the American legal system as relevant to individuals with disability (P-age 21), using the six principles of P.L. 94-142 as a framework. Fieldwork required.

ED-ESP 541 SECONDARY TRANSITION (2-3-3)(F).

Essential components of career development and transition education for persons with disabilities from middle school through adulthood. Emphasis is placed on IDEA requirements, comprehensive transition assessment, person centered planning, and issues and trends in transition education and services. Fieldwork required.

ED-ESP 548 AUTISM SPECTRUM DISORDERS (3-0-3)(S)(Intermittently).

Advanced professional knowledge and skills relevant to providing services to individuals with Autism Spectrum Disorder, including historical context, definitions, identification, characteristics, and social and educational interventions and services.

ED-ESP 549 MULTI-TIERED SYSTEMS OF SUPPORT (3-0-3)(S).

Essential components of a responsive instruction and intervention approach, including screening, instruction, intervention, progress monitoring, and fidelity of implementation.

ED-ESP 550 TEACHING STUDENTS WITH EXCEPTIONAL NEEDS (3-0-3)(F).

Education of students with exceptional needs. Characteristics of students with disabilities, relevant legislation, assessment techniques, curricular adaptations and accommodations, and collaboration. Fieldwork required.

ED-ESP 552 LANGUAGE ARTS FOR SPECIAL EDUCATORS (2-3-3)(S).

Advanced professional knowledge and skills in developing and implementing

programs for students with disabilities, including data analysis in programmatic decision-making. Fieldwork required.

ED-ESP 554 POSITIVE BEHAVIOR PROGRAMS (2-3-3)(F). Current best practices in development and implementation of instructional and behavioral programs for students with challenging behaviors. Fieldwork required.

ED-ESP 556 EVIDENCE-BASED PRACTICES FOR STUDENTS WITH SUPPORT NEEDS (3-0-3)(SU). The role of educators in identifying, understanding and implementing evidence-based practices is examined, with focus on the characteristics of learners with significant support needs. Fieldwork required.

ED-ESP 557 UNIVERSAL DESIGN AND ASSISTIVE TECHNOLOGY (3-0-3)(SU). Principles of universal design for learning that promote inclusive learning. Focus on theoretical frameworks and practical applications of instructional design. Adaptive and assistive technology to support the specific needs of students with disabilities. Fieldwork required.

ED-ESP 558 ASSESSMENT IN SPECIAL EDUCATION (2-3-3)(F). Various types of assessment that inform the screening, diagnosis, evaluation and program planning for students with disabilities are reviewed. Interpret and analyze assessment data to inform instruction and behavior interventions. Fieldwork required.

ED-ESP 559 COLLABORATION AND LEADERSHIP IN SPECIAL EDUCATION (3-0-3)(F). Collaboration in schools, community systems, and with families. Seminal readings provide an overview of the systems change and leadership literature.

ED-ESP 563 TEACHING EXPERIENCE IN EARLY AND SPECIAL EDUCATION (0-V-V)(F/S). Teaching experience in a P-12 special education classroom for students pursuing an Early Childhood Special Education endorsement or completing an alternate route to the special education or ECE/ECSE blended certificate. Experience is consistent with state certification standards and with relevant NAEYC, DEC and CEC standards of practice (Pass/Fail.) PREREQ: PERM/INST.

ED-ESP 570 MATHEMATICS FOR SPECIAL EDUCATORS (2-3-3)(S). Advanced research-based instruction and teaching strategies in mathematics for students with disabilities. Response to Intervention (RTI), integrated formative assessment and interventions in mathematics. Fieldwork required.

ED-ESP 571 PROFESSIONAL PRACTICE I (1-3 credits)(SU). Professional practice topics directly relate to fieldwork experiences with an emphasis on professional dispositions for teacher education. (Pass/Fail.) PREREQ: Admission to MIT in Early Childhood Intervention or Admission to MIT in Special Education or PERM/INST.

ED-ESP 572 PROFESSIONAL PRACTICE II (1-3 credits)(F). Professional practice topics directly relate to field experiences. Emphasis on inquiry and basic skills related to planning and preparation, classroom environments, curriculum and instruction, and professional responsibilities. (Pass/Fail.) PREREQ: ED-ESP 571 or PERM/INST.

ED-ESP 573 PROFESSIONAL PRACTICE III (1-3 credits)(S). Professional practice topics directly relate to field experiences. Emphasis on performance assessment and proficient skills related to planning and preparation, classroom environments, curriculum and instruction, and professional responsibilities. (Pass/Fail.) PREREQ: ED-ESP 572 or PERM/INST.

ED-ESP 574 PROFESSIONAL PRACTICE IV (1-3 credits)(SU). Professional practice topics directly relate to field experiences. Emphasis on specialized knowledge and skill in the areas of (a) learner and learning, (b) content knowledge and professional foundations, (c) instructional pedagogy, and (d) professionalism and collaboration. (Pass/Fail.) PREREQ: ED-ESP 573 or PERM/INST.

Refer to the University-wide Graduate Courses section in this catalog for additional course offerings.

Department of Economics

College of Business and Economics

Chair: Chris Loucks

Micron Business and Economics Building, Room 3246

Phone: (208) 426-1468

E-mail: econgrad@boisestate.edu

<https://cobe.boisestate.edu/economics/graduate-programs/>

Graduate Faculty: Black, Chen, Fragkias, Hansen, Islam, Loucks, Lowe, Twight

Graduate Degrees Offered

- Master of Economics
- Master of Science in Economics

General Information

The Department of Economics offers two distinct graduate programs. The Master of Economics program requires the completion of a capstone course as the culminating activity. The intended audience is students or others in the community seeking advancement in their career, and/or seeking careers in more quantitative and analytical fields.

The Master of Science in Economics program emphasizes research and requires completion of a thesis. The intended audience is students or others in the community seeking further education and research experience prior to pursuing a doctoral degree in economics and related fields.

Both programs provide students with advanced training in current microeconomic theory, quantitative economics, econometrics, and other fields of economics as well as rigorous research methods.

Application and Admission Requirements

An applicant must satisfy the minimum admission requirements of the Graduate College (see *Graduate Admission Regulations*) and must fulfill the following program admission requirements:

Applicants must have a baccalaureate degree from a regionally accredited college or university, and a major in economics or a related field, with at least one semester of calculus and two semesters of probability and statistics courses successfully completed. The minimum cumulative GPA of 3.00 is required for admission to graduate study.

1. Submission of the Graduate Record Examination (GRE) General Test results.
2. Fast track admission which waives the GRE requirement is available for Boise State University economics majors or minors who achieved a 3.50 GPA in their 300-400 level economics courses, and have a cumulative GPA of 3.30.
3. A current curriculum vitae that accurately reflects educational and professional experience and background.
4. A letter of application describing background, career goals, academic interests and how the graduate program in Economics will help achieve these goals.
5. A writing sample demonstrating the student's academic and writing talents. This can include previous academic papers, research manuscripts, a document prepared for an employer, or a new sample written for the application requirement.

Economics

6. Three letters of recommendation (at least two from academic faculty), with particular attention to student's ability to succeed in a graduate environment, addressing applicant's strengths and weaknesses, and the benefits the application may receive from graduate study in Economics.
7. English proficiency is required. Students with English as a new language (ENL) must score 587/240/ 95 or better on TOEFL exam or 6.5 on the IELTS exam. ESL students must also take and pass an English proficiency exam at Boise State before taking any graduate courses beyond their first semester.

Meeting the minimum admission standards does not guarantee acceptance into a program. Final acceptance is based upon the evaluation and recommendation of the Department of Economics to the Dean of the Graduate College who will make the final admission decision and notify the applicant.

The Department of Economics will take no action on the application unless all of the above admission materials have been received by the application deadline for the program. In addition, the admissions process is competitive and no admission decisions will be made until after the application deadline. Applicants who wish to enroll in the program should complete applications by February 15.

Master of Economics

Program Coordinator: Michail Fragkias
Micron Business and Economics Building, Room 3208
Phone: (208) 426-3308
E-mail: econgrad@boisestate.edu
<https://cobe.boisestate.edu/economics/graduate-programs/>

Degree Requirements

The Master of Economics program requires the completion of a capstone course as the culminating activity. It provides students with advanced training in current microeconomic theory, quantitative economics, econometrics, and other fields of economics as well as rigorous research methods. The Master of Economics requires a completion of minimum of 31 credits, including one course in math for economists, two core courses in microeconomic theory, two core courses in statistical methods and econometrics, four courses in electives as well as three credits of capstone course as the culminating activity. The program starts in late summer (August) with a 2-credit course ECON 501 Mathematics for Economists.

All students are expected to have an initial meeting with the graduate coordinator to discuss their project to be completed in the ECON 562 Capstone Course. Meetings with the graduate coordinator will typically take place in student's second semester.

Maintenance of a cumulative GPA of 3.00 is required for both continuation in and graduation from the program. All requirements for the degree must be completed within a period of seven years.

Master of Economics	
Course Number and Title	Credits
Core Requirements	16
ECON 501 Mathematics for Economists	
ECON 511 Microeconomic Theory I	
ECON 512 Microeconomic Theory II	
ECON 521 Mathematical Statistics and Introduction to Advanced Econometrics	
ECON 522 Advanced Econometrics	
Elective Courses	12
Twelve credits in approved courses that represents a disciplinary or interdisciplinary focus area. Courses must be approved by the graduate program director and cannot include more than 3 undergraduate credits. At least three credits must be economics electives.	
Culminating Activity	
ECON 692 Capstone Course	3
Total	31

Master of Science in Economics

Program Coordinator: Michail Fragkias
Micron Business and Economics Building, Room 3208
Phone: (208) 426-3308
E-mail: econgrad@boisestate.edu
<https://cobe.boisestate.edu/economics/graduate-programs/>

Degree Requirements

The Master of Science in Economics program provides students with advanced training in current microeconomic theory, quantitative economics, econometrics, and other fields of economics as well as rigorous research methods. The Master of Science in Economics requires a completion of minimum of 31 credits, including one course in math for economists, two core courses in microeconomic theory, two core courses in statistical methods and econometrics, three courses in electives as well as a six hours of thesis work as the culminating activity. The program starts in late summer (August) with a 2-credit course ECON 501 Mathematics for Economists.

After a student completes a minimum of 9 credits of course work, they will work with the graduate coordinator or graduate supervisor to develop a topic for the proposed thesis. All students are expected to have an initial meeting with the graduate coordinator to discuss their options, however, they can choose to work with any graduate faculty as their thesis supervisor. Meetings with the graduate coordinator and thesis supervisor will typically take place in student's second semester.

Maintenance of a cumulative GPA of 3.00 is required for both continuation in and graduation from the program. All requirements for the degree must be completed within a period of seven years.

Master of Science in Economics	
Course Number and Title	Credits
Core Requirements	16
ECON 501 Mathematics for Economists	
ECON 511 Microeconomic Theory I	
ECON 512 Microeconomic Theory II	
ECON 521 Mathematical Statistics and Introduction to Advanced Econometrics	
ECON 522 Advanced Econometrics	
Elective Courses	9
Nine credits in approved courses that represents a disciplinary or interdisciplinary focus area. Courses must be approved by the graduate program director and cannot include more than 3 undergraduate credits. At least three credits must be economics electives.	
Culminating Activity	
ECON 593 Thesis	6
Total	31

Course Offerings

See *Course Numbering and Terminology* for definitions.

ECON — Economics

ECON 501 MATHEMATICS FOR ECONOMISTS (2-0-2)(SU). Intensive course in essential mathematics for entering graduate students in Economics. Topics covered include matrix algebra, functions, limits, differentiation, comparative statistics, linear algebra, and constrained and unconstrained optimization. Application of these mathematical techniques in economic analysis.

ECON 510 PUBLIC FINANCE (3-0-3)(F). Examines the roles of government and market systems in modern economies using the tools of economic analysis to evaluate major public policy decisions. The theory and rationale of government spending, taxing, and indebtedness are examined, as well as the effects of government activity on resource allocation, income distribution, and economic efficiency. Draws on the tools of microeconomic theory to develop analytical tools such as cost-benefit analysis to examine public spending projects. PREREQ: PERM/INST.

ECON 511 MICROECONOMIC THEORY I (3-0-3)(F). Study of decision theory, consumer choice and production models. Emphasizes value and distribution theories, and introduces general equilibrium theory and welfare economics. PREREQ: ECON 501.

ECON 512 MICROECONOMIC THEORY II (3-0-3)(S). Topics may include: microeconomics of strategy; the economics of imperfect information and uncertainty, externalities and public goods, and imperfect competition, game theory, including the choice and voting models. PREREQ: ECON 511.

ECON 521 MATHEMATICAL STATISTICS AND INTRODUCTION TO ADVANCED ECONOMETRICS (4-1-4)(F). Covers the basic mathematical statistics topics necessary for a deep understanding of applied econometrics. Topics include random variables, probability theory, probability and density functions, sampling hypothesis testing, and point and interval estimation. Introduction to the basic concepts of statistics and OLS regression, and their application to the analysis of economic data. The theory of econometric estimation of single equation models. Laboratory includes computational research methods with an introduction to important statistical packages: STATA, R, and / or Python. PREREQ: PERM/INST.

ECON 522 ADVANCED ECONOMETRICS (4-1-4)(S). Econometric techniques working with cross-sectional and/or panel data. Topics may include interpreting regression, maximum likelihood estimation, panel data, correlated errors and clustering, count models, duration models, choice models, weak and many instruments, quantile regressions, matching estimators, and regression discontinuity. Laboratory includes computational research methods using important statistical packages: STATA, R, and / or Python. PREREQ: ECON 521.

ECON 531 REGIONAL ECONOMICS (3-0-3)(F). Application of economic analysis to regional problems of structure, growth, and policy. Location theory, various growth models, and specific techniques such as input-output analysis, base multipliers, and cost/benefit analysis are developed. PREREQ: ADM/PROG or PERM/INST.

ECON 532 URBAN ECONOMICS (3-0-3)(S). Focus on the structure of the urban areas, locational patterns, housing, crime, pollution, poverty, financial, and transportation problems. Tools of economic analysis used to analyze the problems and existing and proposed policies. PREREQ: ADM/PROG or PERM/INST.

ECON 533 NATURAL RESOURCE ECONOMICS (3-0-3)(S). Uses economic concepts and empirical evidence to address a broad range of natural resource policy and management issues. Concepts developed may include public goods, social welfare, discounting, dynamic efficiency, and resource scarcity. Applications may include fossil fuels, metals, minerals, forest resources, fisheries, biodiversity, water, land, soil, and ecosystem services. PREREQ: ADM/PROG or PERM/INST.

ECON 534 ENVIRONMENTAL ECONOMICS (3-0-3)(S). Addresses the role of the environment in the theory and practice of economics. The first section focuses on the ways in which markets fail to allocate resources efficiently, and addresses policies that may be used to correct for these market failures. The second section focuses on non-market valuation and the empirical techniques that economists use to put values on environmental attributes, services and commodities. PREREQ: ADM/PROG or PERM/INST.

ECON 540 HEALTH ECONOMICS (3-0-3)(S). Examines the economic issues associated with those individual and social decisions that influence the health of particular groups. Examines the production and delivery of health care and the economic and ethical aspects of health policy issues. Various economic approaches to the analysis of health policy are presented and evaluated. The focus is on the U.S. health care system. Comparisons may also be made to the health care systems of other nations. PREREQ: ADM/PROG or PERM/INST.

ECON 555 DECISIONS, CHOICES AND HAPPINESS IN BEHAVIORAL ECONOMICS (3-0-3)(F). Discusses how psychological considerations can create “behavioral anomalies,” ways in which economists incorporate those considerations into their theories, and the implications for market outcomes and public policies. The role of intangibles such as locational /environmental amenities / employment status on happiness, the implications of social and personal motives (such as virtue ethics, altruism, status, procrastination, self-control, or image) are also considered. PREREQ: ADM/PROG or PERM/INST.

ECON 560 ECONOMICS OF PUBLIC POLICY (3-0-3)(F). Contribution of economic analysis to the justification, design and implementation of economic policy, especially as it relates to private property, the market economy, and the benefits and costs associated with government intervention. PREREQ: ADM/PROG or PERM/INST.

ECON 565 MANAGERIAL ECONOMICS AND STRATEGY (3-0-3)(F). Illustrates how to apply economic theory to business decision-making using actual examples and real data. Covers important empirical tools used by practicing managers in applied demand analysis such as linear and non-linear programming, sensitivity analysis, demand estimation and forecasting. Students build mathematical models, solve constrained optimization problems, find and explore optimal solutions with spreadsheets. PREREQ: ADM/PROG or PERM/INST.

ECON 571 ECONOMIC GROWTH (3-0-3)(F). Examines the question, “Why are some countries so rich while other countries are so poor?” Theoretical and empirical investigation considering factors that affect living standards such as population growth, physical capital and human capital accumulation, the state of technology, geography and the availability of natural resources, and culture and governmental policies. PREREQ: ADM/PROG or PERM/INST.

ECON 574 SUSTAINABILITY AND ECONOMIC POLICY (3-0-3)(S). Presents concepts, theories, data and empirical findings critical for analyzing sustainability problems and developing solutions in communities, cities, countries and regions. Explores how economics relates to the three pillars of sustainability: economic, social and environmental, emphasizing tradeoffs and synergies across the pillars. Topics may include: the meaning and history of sustainable development and the link between sustainability and well-being; sustainability indicators and metrics; natural resource (green) accounting; the valuation of biodiversity and ecosystem services; climate change; urbanization and sustainability; and business, international finance and sustainability. PREREQ: ADM/PROG or PERM/INST.

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

Department of Educational Technology

College of Education

Department Head: Brett Shelton

Associate Department Head: Chareen Snelson

Education Building, Room 305

Phone: (208) 426-1966

E-mail: brettshelton@boisestate.edu

Graduate Faculty: Baek, Ching, Friesen, Hsu, Hung, Lowenthal, Perkins, Rice, Shelton, Snelson, Trespacios, Uribe-Florez, Yang

Graduate Degrees Offered

- Doctor of Education in Educational Technology
- Education Specialist in Educational Technology
- Master of Educational Technology
- Master of Science in Educational Technology
- Graduate Certificate in Educational Games and Simulations
- Graduate Certificate in Online Teaching
- Graduate Certificate in School Technology Coordination
- Graduate Certificate in Technology Integration Specialist

Doctor of Education in Educational Technology

Program Coordinator: Ross Perkins

Education Building, Room 312

Phone: (208) 426-4875

E-mail: rossperkins@boisestate.edu

General Information

The doctoral program in educational technology, leading to an Ed.D. degree, has as its goal the development of innovative leaders in the field. Students in this program explore the use of current and emerging technologies for effective and efficient teaching in a dynamic, global society. Areas of particular focus include online teaching and learning, technology integration, academic technology leadership, innovative teaching in K-12 and higher education, educational software development for the web and mobile platforms, and educational games and simulations.

Application and Admission Requirements

New cohorts start in the fall semester only (no spring or summer starts). A completed application includes an introductory letter, a resume, a writing sample, names of three people who can provide recommendations, official GRE scores (the test must have been taken within the past five years), and official transcripts from all institutions attended. All information and materials are submitted via the online Graduate College application site. Due dates for admissions materials and detailed application expectations and guidelines can be found at <https://edtech.boisestate.edu/programs/doctorate-edtech/>.

Transfer Credits

Students may transfer up to 22 credits. However, the courses must be consistent with the program of study planned by the student and the supervisory committee. All course transfers are ultimately approved by the Dean of the Graduate College. A number of other conditions

apply; please see detailed information can be found at <https://edtech.boisestate.edu/programs/doctorate-edtech/>.

Graduate Assistantships

Any student qualifying for admission may apply for one of a limited number of graduate assistantships (GA) offered each year. Awards consist of a stipend and tuition and fee waiver for fall and spring semesters. Graduate assistantships are awarded on an annual basis and must be renewed yearly by reapplying for the position. Full-time GAs are required to work 20 hours per week, plus be enrolled in nine credit hours during the semester of full-time work. Part-time (10 hour) assistantships, with six credit hour enrollments, are possible depending on availability. Typical GA assignments involve serving as a research assistant for graduate faculty, co-teaching online courses, or a combination of activities.

Program and Dissertation Advisors

Incoming students will go through course planning with the program coordinator. A student's supervisory committee chairperson (research advisor) will be determined before a student must complete the comprehensive examination. The choice of a research advisor will be based on the shared scholarly interests and compatible educational philosophies of student and faculty.

Degree Requirements

Doctor of Education in Educational Technology	
Course Number and Title	Credits
Core Courses	
EDTECH 601 Doctoral Studies Orientation	3
EDTECH 602 Emerging Trends in Educational Technology	3
EDTECH 603 Global and Cultural Perspectives in Educational Technology	3
EDTECH 604 Leadership in Educational Technology	3
EDTECH 605 Project Management in Educational Settings	3
Research Courses	
EDTECH 650 Research in Educational Technology	3
EDTECH 651 Introduction to Statistics for Educational Technology	3
EDTECH 652 Quantitative Research Methods	3
EDTECH 653 Qualitative Research Methods	3
Research Elective	3
A graduate-level research course applicable to education, educational technology, or a related field.	
Cognate Area	9
A series of three graduate courses (from a relevant field) that are connected by a common thread or theme.	
Innovation Experience	3
EDTECH 640 Innovative Practices in Educational Technology	
Electives	12
Graduate courses in education, educational technology, or a related field; all courses are selected with student input and approved by the supervisory committee.	
Comprehensive Examination	
EDTECH 691 Doctoral Comprehensive Examination	1
Culminating Activity	
EDTECH 693 Dissertation	11
Total	66

Residency Students in the online Doctor of Education in Educational Technology program are not required to be physically present on campus for classes, presentations, etc. A doctoral advisor, committee chair, or the doctoral program coordinator has the right

to require an in-person meeting with the student should one be necessitated by advisory issues. Students are required to be enrolled in six graduate credit hours per semester for the first two years of the program, and they must be enrolled in at least one credit hour every semester thereafter until successfully defending the dissertation (even if all courses and thesis hours are complete).

Education Specialist in Educational Technology

Program Coordinator: Ross Perkins
Education Building, Room 312
Phone: (208) 426-4875
E-mail: rossperkins@boisestate.edu

General Information

The Education Specialist in Educational Technology, leading to a Ed.S. will serve the needs of master's degree-holding K-20 teachers through advanced instruction in the theory, research, and hands-on skills. Students in the program will become more effective in the classroom and in technology leadership roles and will become specialists in one of several cognates, such as technology integration, blended and online teaching, educational games, e-learning design, and school technology leadership.

Admission Requirements

Admission to the program requires a master's degree from a regionally accredited college or university and admission to the Graduate College. In addition, the academic background of the applicant must be judged by the Graduate Program Coordinator to be adequate for enrollment in graduate courses in education and educational technology. However, meeting these minimum requirements does not guarantee admission to the program.

Degree Requirements

Education Specialist in Educational Technology	
Course Number and Title	Credits
Core Requirements	
EDTECH 602 Emerging Trends in Educational Technology	3
EDTECH 604 Leadership in Educational Technology	3
EDTECH 650 Research in Educational Technology	3
EDTECH 651 Introduction to Statistics for Educational Technology	3
Cognate	
Available cognates include technology integration, blended and online teaching and learning, educational games and simulations, e-learning design, and technology leadership.	9
Electives	
	9
Culminating Activity	
EDTECH 640 Innovative Practices in Educational Technology	3
<i>Total</i>	33

Master's Degree Programs in Educational Technology

General Information

There are two master's degrees offered in the Department of Educational Technology. Both degrees support the study and practice of facilitating and improving learning of a diverse population by creating, using, managing, and evaluating appropriate technological processes and resources. Believing technology is a tool that enhances and expands the educational environment, we promote the use of current and emergent technologies for teaching and learning in a dynamic global society. Educational technologists are leaders and innovators, serving in institutions of higher education, public or private school settings, federal, state or local educational agencies, community organizations, and the private sector.

The Master of Educational Technology is practitioner oriented, culminating in a portfolio. The Master of Science in Educational Technology is research oriented, with the program designed specifically to give students in-depth experience with empirical study in the field. The M.S. thesis is the culminating project, which represents original research or development in educational technology. The thesis must be first successfully proposed and then defended with written and oral examinations.

Admission Requirements

Admission to the program requires a baccalaureate degree from a regionally accredited college or university and admission to the Graduate College. In addition, the academic background of the applicant must be judged by the Graduate Program Coordinator to be adequate for enrollment in graduate courses in education and educational technology. However, meeting these minimum requirements does not guarantee admission to the program.

Special Requirements

For admission to the Master of Educational Technology program:

1. GPA of 3.00 or better
2. Introductory Essay

For admission to the Master of Science in Educational Technology program:

1. GRE Scores (expected minimum 30th percentile for each section: Verbal, Quantitative, and Analytical)
2. Undergraduate GPA of 3.00 or better
3. Personal statement that also includes a specific rationale for a research-based degree

Master of Educational Technology

Graduate Program Coordinator: Chareen Snelson
Student Outreach Services Manager: Kellie Branson
Education Building, Room 304
Phone: (208) 426-4055
E-mail: kbranson@boisestate.edu

Degree Requirements

Master of Educational Technology	
<i>Course Number and Title</i>	<i>Credits</i>
Requirements	
EDTECH 501 Introduction to Educational Technology	3
EDTECH 502 Creating Educational Websites	3
EDTECH 503 Instructional Design	3
EDTECH 504 Theoretical Foundations of Educational Technology	3
EDTECH 505 Evaluation for Educational Technologists	3
Electives	15
A list of approved electives is maintained on the Department of Educational Technology website https://edtech.boisestate.edu .	
Culminating Activity	
EDTECH 592 Portfolio	3
<i>Total</i>	<i>33</i>

Master of Science in Educational Technology

Graduate Program Coordinator: Ross Perkins
Education Building, Room 312
Phone: (208) 426-4875
E-mail: rossperkins@boisestate.edu

Degree Requirements

Master of Science in Educational Technology	
<i>Course Number and Title</i>	<i>Credits</i>
Requirements	
EDTECH 501 Introduction to Educational Technology	3
EDTECH 502 Creating Educational Websites	3
EDTECH 503 Instructional Design	3
EDTECH 504 Theoretical Foundations of Educational Technology	3
EDTECH 505 Evaluation for Educational Technologists	3
EDTECH 650 Research in Educational Technology	3
EDTECH 651 Introduction to Statistics for Educational Technology	3
Electives	6
A list of approved electives is maintained on the Department of Educational Technology website https://edtech.boisestate.edu .	
Culminating Activity	
EDTECH 593 Thesis	6
<i>Total</i>	<i>33</i>

Graduate Certificate in Educational Games and Simulations

Graduate Program Coordinator: Yu-Chang Hsu
Student Outreach Services Manager: Kellie Branson
Education Building, Room 304
Phone: (208) 426-4055
E-mail: kbranson@boisestate.edu

General Information

The Graduate Certificate in Educational Games and Simulations program is designed for those who wish to: analyze recent research and best practices for effective teaching and learning with educational games and with simulations in virtual worlds; design, teach, and evaluate teaching and learning activities in virtual worlds; and, design 2D and 3D games for learning and evaluate for educational effectiveness. Students admitted to the certificate program are required to be familiar with all policies of the Graduate College that govern graduate certificate programs.

Admission Requirements

Admission to the certificate program requires a baccalaureate degree from a regionally accredited college or university and admission to the Graduate College. In addition, the academic background of the applicant must be judged by the Graduate Program Coordinator to be adequate for enrollment in graduate courses in education and educational technology. However, meeting these minimum requirements does not guarantee admission to the certificate program.

Application Procedures

An applicant to the certificate program must follow the general application procedures of the Graduate College for admission to a graduate program. The applicant must also submit a letter of interest to the Graduate Program Coordinator briefly summarizing his or her background and motivation for enrolling in the certificate program. Once the applicant's file is complete, it will be reviewed by the Graduate Program Coordinator who will provide an admission recommendation to the Dean of the Graduate College. The Dean will make the final admission decision and notify the applicant.

Special Relationships with Other Programs

A student may be simultaneously enrolled in any graduate degree program (Ed.D., MSET, or MET) and the Graduate Certificate in Educational Games and Simulations program subject to the approval of the chair of the student's supervisory committee and the graduate program coordinators of both programs. Please note that admission to the certificate program does not guarantee admission to the degree program and vice versa.

A student who is not enrolled in any graduate degree program at Boise State University may be enrolled in the Graduate Certificate in Educational Games and Simulations program and one other graduate certificate program offered by the Department of Educational Technology but only with the written approval of the Graduate Program Coordinator. Please note that admission to one certificate program does not guarantee admission to another certificate program, even if the programs are closely related. Simultaneous enrollment in more than two graduate certificate programs is prohibited by the Graduate College. Credits earned in

this certificate program may be counted toward either the Master of Educational Technology or Master of Science in Educational Technology programs.

Certificate Requirements

Graduate Certificate in Educational Games and Simulations	
Course Number and Title	Credits
EDTECH 511 Interactive Courseware Development	3
EDTECH 532 Educational Games and Simulations	3
EDTECH 536 Digital Game Design for K-12 Classrooms	3
Electives	6
EDTECH 531 Teaching and Learning in Virtual Worlds	
EDTECH 535 Digital Engagement for Learning	
EDTECH 534 Mobile App Design for Teaching and Learning	
EDTECH 563 Quest-based Learning Design	
EDTECH 564 Gamified Augmented Reality and Mobile	
EDTECH 565 Advanced Educational Game Design	
<i>Total</i>	15

Graduate Certificate in Online Teaching

Graduate Program Coordinator: Chareen Snelson
 Student Outreach Services Manager: Kellie Branson
 Education Building, Room 304
 Phone: (208) 426-4055
 E-mail: kbranson@boisestate.edu

General Information

The Graduate Certificate in Online Teaching program is designed for those who wish to learn methodologies for online instruction with an emphasis on designing and moderating online courses. Students admitted to the certificate program are required to be familiar with all policies of the Graduate College that govern graduate certificate programs.

Admission Requirements

Admission to the certificate program requires a baccalaureate degree from a regionally accredited college or university and admission to the Graduate College. In addition, the academic background of the applicant must be judged by the Graduate Program Coordinator to be adequate for enrollment in graduate courses in education and educational technology. However, meeting these minimum requirements does not guarantee admission to the certificate program.

Application Procedures

An applicant to the certificate program must follow the general application procedures of the Graduate College for admission to a graduate program. The applicant must also submit a letter of interest to the Graduate Program Coordinator briefly summarizing his or her background and motivation for enrolling in the certificate program. Once the applicant's file is complete, it will be reviewed by the Graduate Program Coordinator who will provide an admission recommendation to the Dean of the Graduate College. The Dean will make the final admission decision and notify the applicant.

Special Relationships with Other Programs

A student may be simultaneously enrolled in any graduate degree program (Ed.D., MSET, or MET) and the Graduate Certificate in

Online Teaching program subject to the approval of the chair of the student's supervisory committee and the graduate program coordinators of both programs. Please note that admission to the certificate program does not guarantee admission to the degree program and vice versa.

A student who is not enrolled in any graduate degree program at Boise State University may be enrolled in the Graduate Certificate in Online Teaching program and one other graduate certificate program offered by the Department of Educational Technology but only with the written approval of the Graduate Program Coordinator. Please note that admission to one certificate program does not guarantee admission to another certificate program, even if the programs are closely related. Simultaneous enrollment in more than two graduate certificate programs is prohibited by the Graduate College. Credits earned in this certificate program may be counted towards either the Master of Educational Technology or Master of Science in Educational Technology programs.

Certificate Requirements

Graduate Certificate in Online Teaching	
Course Number and Title	Credits
For teachers of K-12 students EDTECH 521 Online and Blended Teaching in the K-12 Environment EDTECH 523 Advanced Online and Blended Teaching or For teachers of adult learners EDTECH 512 Online Course Design EDTECH 522 Online Teaching for Adult Learners	6
Electives A list of approved electives is maintained on the Department of Educational Technology website https://edtech.boisestate.edu	3
<i>Total</i>	9

Graduate Certificate in School Technology Coordination

Graduate Program Coordinator: Chareen Snelson
 Student Outreach Services Manager: Kellie Branson
 Education Building, Room 304
 Phone: (208) 426-4055
 E-mail: kbranson@boisestate.edu

General Information

The Graduate Certificate in School Technology Coordination program is designed to provide specialized skills for those professionals who are responsible for coordinating educational technology for an entire school. The program emphasizes understanding of the networked environment, web programming, and skills for teaching teachers how to use computers in the teaching and learning process. Students admitted to the certificate program are required to be familiar with all policies of the Graduate College that govern graduate certificate programs.

Admission Requirements

Admission to the certificate program requires a baccalaureate degree from a regionally accredited college or university and admission to the Graduate College. In addition, the academic background of the applicant must be judged by the Graduate Program Coordinator

to be adequate for enrollment in graduate courses in education and educational technology. However, meeting these minimum requirements does not guarantee admission to the certificate program.

Application Procedures

An applicant to the certificate program must follow the general application procedures of the Graduate College for admission to a graduate program. The applicant must also submit a letter of interest to the Graduate Program Coordinator briefly summarizing his or her background and motivation for enrolling in the certificate program. Once the applicant's file is complete, it will be reviewed by the Graduate Program Coordinator who will provide an admission recommendation to the Dean of the Graduate College. The Dean will make the final admission decision and notify the applicant.

Special Relationships with Other Programs

A student may be simultaneously enrolled in any graduate degree program (Ed.D., MSET, or MET) and the Graduate Certificate in School Technology Coordination program subject to the approval of the chair of the student's supervisory committee and the graduate program coordinators of both programs. Please note that admission to the certificate program does not guarantee admission to the degree program and vice versa.

A student who is not enrolled in any graduate degree program at Boise State University may be enrolled in the Graduate Certificate in School Technology Coordination program and one other graduate certificate program offered by the Department of Educational Technology but only with the written approval of the Graduate Program Coordinator. Please note that admission to one certificate program does not guarantee admission to another certificate program, even if the programs are closely related. Simultaneous enrollment in more than two graduate certificate programs is prohibited by the Graduate College. Credits earned in this certificate program may be counted towards either the Master of Educational Technology or Master of Science in Educational Technology programs.

Certificate Requirements

Graduate Certificate in School Technology Coordination	
<i>Course Number and Title</i>	<i>Credits</i>
EDTECH 501 Introduction to Educational Technology	3
EDTECH 551 Technical and Grant Writing	3
EDTECH 552 Introduction to Network Administration	3
EDTECH 554 Managing Technology Integration in Schools	3
<i>Total</i>	12

Graduate Certificate in Technology Integration Specialist

Graduate Program Coordinator: Chareen Snelson
Student Outreach Services Manager: Kellie Branson
Education Building, Room 304
Phone: (208) 426-4036
E-mail: kbranson@boisestate.edu

General Information

The Graduate Certificate in Technology Integration Specialist is designed for K-12 teachers who wish to develop skills in computer technology to support the teaching and learning process. Students admitted to the certificate program are required to be familiar with all policies of the Graduate College that govern graduate certificate programs.

Admission Requirements

Admission to the certificate program requires a baccalaureate degree from a regionally accredited college or university and admission to the Graduate College. In addition, the academic background of the applicant must be judged by the Graduate Program Coordinator to be adequate for enrollment in graduate courses in education and educational technology. However, meeting these minimum requirements does not guarantee admission to the certificate program.

Application Procedures

An applicant to the certificate program must follow the general application procedures of the Graduate College for admission to a graduate program. The applicant must also submit a letter of interest to the Graduate Program Coordinator briefly summarizing his or her background and motivation for enrolling in the certificate program. Once the applicant's file is complete, it will be reviewed by the Graduate Program Coordinator who will provide an admission recommendation to the Dean of the Graduate College. The Dean will make the final admission decision and notify the applicant.

Special Relationships with Other Programs

A student may be simultaneously enrolled in any graduate degree program (Ed.D., MSET, or MET) and the Graduate Certificate in Technology Integration Specialist program subject to the approval of the chair of the student's supervisory committee and the graduate program coordinators of both programs. Please note that admission to the certificate program does not guarantee admission to the degree program and vice versa.

A student who is not enrolled in any graduate degree program at Boise State University may be enrolled in the Graduate Certificate in Technology Integration Specialist program and one other graduate certificate program offered by the Department of Educational Technology but only with the written approval of the Graduate Program Coordinator. Please note that admission to one certificate program does not guarantee admission to another certificate program, even if the programs are closely related. Simultaneous enrollment in more than two graduate certificate programs is prohibited by the Graduate College. Credits earned in this certificate program may be counted towards either the Master of Educational Technology or Master of Science in Educational Technology programs.

Certificate Requirements

Graduate Certificate in Technology Integration Specialist	
Course Number and Title	Credits
EDTECH 502 Creating Educational Websites	3
EDTECH 541 Integrating Technology into the Classroom Curriculum	3
EDTECH 542 Technology-Supported Project-Based Learning	3
<i>Total</i>	9

Idaho K-12 Online Teaching Endorsement

K-12 Online Teaching Endorsement Coordinator: Kerry Rice
 Student Outreach Services Manager: Kellie Branson
 Education Building, Room 304
 Phone: (208) 426-4036
 E-mail: kbranson@boisestate.edu

General Information

The endorsement in K-12 online teaching is a state approved endorsement program open to licensed teachers in the state of Idaho. Eligibility requirements are available on the program website: <https://edtech.boisestate.edu/>. A student can be recommended for the endorsement to the Idaho State Department of Education after all requirements have been met. The Educational Technology program offers both a credit and a competency-based option for completion. Credits for the endorsement can be applied to Educational Technology degree programs.

Course Offerings

See *Course Numbering and Terminology* for definitions.

EDTECH — Educational Technology

EDTECH 501 INTRODUCTION TO EDUCATIONAL TECHNOLOGY (3-0-3) (F/S/SU). Overview of the field of educational technology emphasizing current issues, leadership in technology use planning, and evaluation/synthesis of research.

EDTECH 502 CREATING EDUCATIONAL WEBSITES (3-0-3)(F/S/SU). Design and develop instructional web pages using HTML, CSS, and Adobe Dreamweaver. Apply instructional strategies when creating educational websites while taking into consideration issues of copyright and accessibility.

EDTECH 503 INSTRUCTIONAL DESIGN (3-0-3)(F/S/SU). Focuses on systematic design of instruction and alternative models based on learning theories and research. Emphasis is placed on effective planning, developing, and evaluating the instructional process. Project required.

EDTECH 504 THEORETICAL FOUNDATIONS OF EDUCATIONAL TECHNOLOGY (3-0-3)(F/S/SU). Overview of classic and contemporary theories of learning and their applications in educational technology and emerging orientations; implications for practice. PREREQ: EDTECH 501.

EDTECH 505 EVALUATION FOR EDUCATIONAL TECHNOLOGISTS (3-0-3) (F/S/SU). Procedures for evaluating educational programs, training systems, and emergent-technology applications. PREREQ: EDTECH 501, EDTECH 503.

EDTECH 506 GRAPHIC DESIGN FOR LEARNING (3-0-3)(F/S/SU). Select, arrange, and design visual representations (e.g., text, graphics, tables) based on theories, models, and principles of visual literacy and graphic design.

EDTECH 511 INTERACTIVE COURSEWARE DEVELOPMENT (3-0-3)(F/S/SU). Learning the tools for development of instructional courseware, which is the graphic interface for delivery of online instruction. Development of functional and instructionally effective courseware. PREREQ: EDTECH 503 or PERM/INST.

EDTECH 512 ONLINE COURSE DESIGN (3-0-3)(F/S/SU). Emphasizes web-based instructional design for the development of online courses. Consideration is given to various models of online delivery, content

organization and presentation, and graphic design. Course participants create a fully developed online course. PREREQ: EDTECH 502 or PERM/INST.

EDTECH 513 MULTIMEDIA (3-0-3)(F/S/SU). Research-based principles of multimedia learning are combined with technical skills of multimedia production to produce a series of digital multimedia projects for classroom and online applications.

EDTECH 521 ONLINE AND BLENDED TEACHING IN THE K-12 ENVIRONMENT (3-0-3)(F/S/SU). Examines research-supported practices in online and blended classrooms. Emphasizes technology supported teaching and learning, classroom management, lesson design, learner engagement, and individualized instruction.

EDTECH 522 ONLINE TEACHING FOR ADULT LEARNERS (3-0-3)(F/S/SU). Emphasizes andragogy and best practice in online teaching, analyzing online teaching tools, planning, facilitating, and assessing collaborative and interactive e-learning experiences, and gaining practical experience teaching online.

EDTECH 523 ADVANCED ONLINE AND BLENDED TEACHING (3-0-3) (F/S/SU). Utilizes a project-based approach emphasizing content-specific instructional strategies, improved communication, assessment, and evaluation of quality learning experiences in technology supported online and blended instruction. Experience with web-based conference tools recommended. Project required. PREREQ: EDTECH 521 or EDTECH 522.

EDTECH 524 FIELD EXPERIENCE IN ONLINE TEACHING (0-9-3)(F/S). Observation/field experience in a K-12 online classroom. (Pass/Fail.) PREREQ: PERM/INST.

EDTECH 531 TEACHING AND LEARNING IN VIRTUAL WORLDS (3-0-3)(F/S/SU). Explores teaching and learning in virtual worlds. Project-based design, facilitation, and evaluation of instruction, research, and other resources.

EDTECH 532 EDUCATIONAL GAMES AND SIMULATIONS (3-0-3)(F/S/SU). Explores the theory and implementation of educational games, simulations, and virtual environments for improved instructional engagement. Includes evaluation methods and socio-cultural implications.

EDTECH 533 YOUTUBE FOR EDUCATORS (3-0-3)(F/S/SU). Produce educational video for YouTube using digital video cameras and editing software. Design and develop appropriate instructional activities that integrate online video. Examine the benefits and controversial aspects of video sharing in the classroom.

EDTECH 534 MOBILE APP DESIGN FOR TEACHING AND LEARNING (3-0-3) (F/S/SU). Students leverage the potential of mobile technologies by exploring, analyzing, and designing mobile apps for use in various settings such as teaching, learning, and work.

EDTECH 535 DIGITAL ENGAGEMENT FOR LEARNING (3-0-3)(F/S/SU). Provides an overview of instructional elements in digital engagement (e.g., cartoons, TV programs, movies, and digital games). Students conduct research on the practical application of digital engagement in classroom settings through experimentation and play.

EDTECH 536 DIGITAL GAME DESIGN FOR K-12 CLASSROOMS (3-0-3) (F/S/SU). Provides novice students with programming opportunities for designing an instructional digital game. Students enter, analyze, and modify source codes that are provided and create a new game, focusing on short and simple games for selected platforms.

EDTECH 537 BLOGGING IN THE CLASSROOM (3-0-3)(F/S/SU). Focuses on the use of blogs in education, including creating and maintaining blogs, using RSS readers and microblogging. Examines the nature and purpose of blogging, types of blog entries, blog promotion, disclosure guidelines, and building a blogging community.

EDTECH 541 INTEGRATING TECHNOLOGY INTO THE CLASSROOM CURRICULUM (3-0-3)(F/S/SU). Examination and practice in technology integration strategies in classroom environments, using various applications, instructional, and productivity software, evaluating tools and resources, and developing integrated instructional activities.

EDTECH 542 TECHNOLOGY-SUPPORTED PROJECT-BASED LEARNING (3-0-3)(F/S/SU). Examines the Project-Based Learning Model, including development of PBL-based instructional units that engage learners in projects requiring investigation, analysis, synthesis, and presentation in real-world scenarios.

EDTECH 543 SOCIAL NETWORK LEARNING (3-0-3)(F/S/SU). Explore collaborative and emergent pedagogies, tools, and theory related to the use of social networks in learning environments. Gain hands-on experience with a

variety of social networking tools, create a community-based resource, and develop a global professional network for educational technologists.

EDTECH 551 TECHNICAL AND GRANT WRITING (3-0-3)(F/S/SU).

Project-based instruction entailing various kinds of technical writing, all focusing on a completed grant proposal. Includes evaluating writing for print versus electronic display. Additional focus on writing proficiencies, as needed.

EDTECH 552 INTRODUCTION TO NETWORK ADMINISTRATION (3-0-3)

(F/S/SU). Introduction to technical competencies for school technology coordinators, addressing network administration, topography, and devices. Preparation for the CCENT (Cisco Certified Entry Networking Technician) or CCNA (Cisco Certified Network Associate) certificate.

EDTECH 554 MANAGING TECHNOLOGY INTEGRATION IN SCHOOLS

(3-0-3)(F/S/SU). Explores strategies for planning and implementing technology integration on an organizational level and examines larger scale professional development models. Develops skills for taking a leadership role in district technology use planning, implementation and assessment.

EDTECH 563 QUEST-BASED LEARNING DESIGN (3-0-3)(F/S/SU).

Emphasizes the knowledge, skills, and pedagogy of quest based learning as applied to emerging gaming techniques and technologies.

EDTECH 564 GAMIFIED AUGMENTED REALITY AND MOBILE (3-0-3)(F/S/

SU). Analysis of emerging technologies that combine virtual and augmented realities, with specific support for mobile applications.

EDTECH 565 ADVANCED EDUCATIONAL GAME DESIGN (3-0-3)(F/S/SU).

Examines advanced digital games design for K-12 implementations. PREREQ: EDTECH 536.

EDTECH 570 ONLINE SKILLS AND STRATEGIES (1-0-1)(On demand).

Students learn the fundamentals of learning online. This course gives students the conceptual and software tools that will help them be successful in the online Educational Technology Master's degree program.

EDTECH 582 SELECTED TOPICS: ONLINE TEACHING (Variable 1-3)(F/S/

SU). Developing an online teaching portfolio, evaluation of online teaching competencies, etc. as part of the requirement of K-12 Online Teaching Endorsement. (Pass/Fail.) PREREQ: PERM/INST.

EDTECH 601 DOCTORAL STUDIES ORIENTATION (3-0-3)(F/S/SU).

Introduction to the purpose and nature of doctoral studies in educational technology. Explores processes and procedures specific to the degree program, tools for collaboration and research, conferences and journals in the field, and graduate faculty research initiatives. Must be taken in first semester enrolled in doctoral program. PREREQ: ADM/PROG.

EDTECH 602 EMERGING TRENDS IN EDUCATIONAL TECHNOLOGY (3-0-3)

(F/S/SU). Explores current topics and trends in educational technology research and their applications. Reviews literature and practices to identify emerging trends in the field.

EDTECH 603 GLOBAL AND CULTURAL PERSPECTIVES IN EDUCATIONAL

TECHNOLOGY (3-0-3)(F/S/SU). Explores the implementation of information and communications technologies (ICT) in educational systems outside of the United States. Examines promises and challenges of ICT integration in both developed and developing countries as impacted by different contexts.

EDTECH 604 LEADERSHIP IN EDUCATIONAL TECHNOLOGY (3-0-3)(F/S/

SU). Examines principles that guide innovative leadership of educational technology programs and initiatives. Focuses on the synthesis of theories, models, and processes that guide policy creation and active project implementation. Emphasis on team building, organizational psychology, people and resources, and change management.

EDTECH 605 PROJECT MANAGEMENT IN EDUCATIONAL SETTINGS (3-0-3)

(F/S/SU). Introduction to best practices and principles related to the management of projects in educational organizations (all levels, traditional or

online). Emphasis on team building and leadership, establishing relationships, benchmarks and evaluative practices. Review and use of various project management software tools. PREREQ: EDTECH 601.

EDTECH 640 INNOVATIVE PRACTICES IN EDUCATIONAL TECHNOLOGY

(variable 1-3 credits)(F/S/SU). The application of skills and knowledge about educational technology to a novel challenge, issue, or context directly related to the field. A proposal that addresses practical dimensions of the problem, their relationship to theoretical constructs, learning goals, and project management details is required before students can enroll in the course. Culminating activities include a work log and a final reflective paper in addition to other artifacts that may be required. May be repeated for credit. (Pass/Fail). PREREQ: PERM/INST.

EDTECH 650 RESEARCH IN EDUCATIONAL TECHNOLOGY (3-0-3)(F/S/SU).

Examines the foundations for and processes of conducting research using quantitative and qualitative approaches. Emphasizes critical steps in the process of research, reviewing and analyzing research studies in educational technology.

EDTECH 651 INTRODUCTION TO STATISTICS FOR EDUCATIONAL

TECHNOLOGY (3-0-3)(F/S/SU). Measures of central tendency and variability, one and two sample tests, confidence intervals, chi-square, introduction to bivariate correlation, and analysis of variance. PREREQ: EDTECH 650 or doctoral status.

EDTECH 652 QUANTITATIVE RESEARCH METHODS (3-0-3)(F/S/SU).

Overview of quantitative research approaches in educational research. Covers concepts of, and practice with, parametric and non-parametric tests and predictive analysis. Introduction to experimental design, survey sampling, and advanced statistical analysis. Purchase of statistical analysis software is required. PREREQ: EDTECH 651.

EDTECH 653 QUALITATIVE RESEARCH METHODS (3-0-3)(F/S/SU).

Overview of qualitative research approaches in educational research. Reviews the theory, epistemological assumptions, and application of major methodologies. Focuses on developing skills in creating field notes, planning and conducting interviews, collecting relevant artifacts, analyzing data, and writing reports. Introduction to computer-assisted qualitative data analysis.

EDTECH 662 ADVANCED QUANTITATIVE RESEARCH METHODS (3-0-3)

(F/S/SU). Explores advanced concepts of quantitative theory and data analysis methods. Guides selection and application of multiple, appropriate levels of analysis to selected research questions. Purchase of statistical analysis software is required. PREREQ: EDTECH 651, EDTECH 652.

EDTECH 663 ADVANCED QUALITATIVE RESEARCH METHODS (3-0-3)(F/S/

SU). Explores specific qualitative methodologies in depth. Extensive practice in analysis of data based on a selected qualitative tradition, followed by the presentation of results. Focuses on the development, planning, and conduct of an applicable project. Includes further practice with computer-assisted qualitative data analysis. PREREQ: EDTECH 653

EDTECH 671 DATA MINING RESEARCH METHODS FOR EDUCATION

(3-0-3)(F/S/SU). Introduction to fundamental algorithms and methodologies for data mining and machine learning. Topics include techniques in pattern discovery and predictive modeling. PREREQ: EDTECH 651, EDTECH 652.

EDTECH 672 DESIGN-BASED RESEARCH (3-0-3)(F/S/SU). Study and

application of design-based research methodology, aimed to improve educational practices through iterative analysis, design, development, implementation, and generation back to theory. Emphasis on collaboration among researchers and practitioners in real-world settings. PREREQ: EDTECH 650.

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

Department of Electrical and Computer Engineering

College of Engineering

Chair: Jim Browning
Engineering Building, Room 240
Phone: (208) 426-5788
Fax: (208) 426-2470
E-mail: ece@boisestate.edu

Graduate Faculty: Ahmed-Zaid, Barney Smith, Browning, Campbell, Cantley, Chen, Chiasson, Kuang, Loo, Mehrpouyan, Mitkova, Rafla, Salzman, Subbaraman, Smith, Welch

Graduate Degrees Offered

- Doctor of Philosophy in Electrical and Computer Engineering
- Master of Engineering in Electrical and Computer Engineering
- Master of Science in Electrical and Computer Engineering

Doctor of Philosophy in Electrical and Computer Engineering

Doctoral Program Coordinator: Kris Campbell
Engineering Building, Room 224
Phone: (208) 426-5968
Fax: (208) 426-2470
<https://coen.boisestate.edu/ece>
E-mail: kriscampbell@boisestate.edu

General Information

The Department of Electrical and Computer Engineering (ECE) offers a Doctor of Philosophy (Ph.D.) degree in Electrical and Computer Engineering. The degree requires completion of a prescribed course of study in ECE, satisfactory performance on the comprehensive examination and dissertation proposal, and original research resulting in a publicly-defended dissertation that contributes to the discipline. Please refer to Regulations for the Doctor of Philosophy Programs in the front of this catalog for additional information.

Graduate Assistantships

The ECE department's priority application deadline for fall admission is February 1; the priority deadline for spring admission is August 1. All applications received by this date are automatically considered for funding. Late applications, including those submitted for spring admission, may be considered at the department's discretion. Funding is awarded on a competitive basis. All offers are subject to change as dictated by availability of funds.

Doctoral Program Committee

The ECE doctoral program committee includes the ECE doctoral program coordinator, ECE master's programs coordinator, and at least two additional ECE faculty members. The duties of the doctoral program committee include providing recommendations for admission of prospective graduate students and administering the comprehensive examination.

Supervisory Committee

A student's supervisory committee is charged with general guidance, including developing a program of study, supporting the comprehensive examination and dissertation proposal process, supervising dissertation research, and participating in the dissertation defense. The supervisory committee includes a faculty member who serves as the student's primary advisor and chair of the supervisory committee as well as at least two additional faculty members. All committee members must be approved as graduate faculty in the ECE Department. One or more additional members may be appointed when such appointments enhance the function of the supervisory committee. In all cases, regular or research faculty members of the Department of Electrical and Computer Engineering must constitute a majority of the supervisory committee.

Application and Admission Requirements

Admission Requirements An applicant must satisfy the minimum admission requirements for the Graduate College (see *Graduate Admission Regulations*). Applicants are required to have earned a bachelor's or master's degree in electrical and computer engineering or closely-related field from an ABET-accredited program or accredited college or university, and must follow the application procedures specified below. Admission is competitive and the achievement of minimum requirements does not guarantee admission into the program.

Application Procedures A prospective student may apply at any time and should follow the general graduate application procedure for degree-seeking students (see *Graduate Admission Regulations*). Admission to the program will be based on: 1) transcripts, 2) three professional references, 3) scores on the general test of the Graduate Record Examination (GRE), and 4) a two-page statement of teaching and research interests. Students whose native language is not English must submit either a TOEFL score or an IELTS examination score. Test scores must be submitted directly to Boise State University (code R4018). Once the applicant's file is complete, it will be evaluated by the ECE doctoral program committee and an admission recommendation (regular, provisional, or denial) will be forwarded to the Dean of the Graduate College. The graduate dean will make the final admission decision and notify the applicant and the ECE doctoral program committee.

Advisor and Supervisory Committee In order to ensure proper mentoring of students, applicants may only be admitted to the ECE doctoral program with regular status if a graduate faculty member in the ECE department agrees to serve as his or her academic advisor. If a suitable faculty advisor cannot be identified, a qualified applicant may be admitted provisionally and assigned to a staff advisor for up to one year. This provisional status requires that the student identify a faculty advisor in the first year of study. Failure to secure a faculty advisor after one year will result in dismissal from the program.

Electrical and Computer Engineering

Transfer Credit Students can satisfy one-third (1/3) of the 66 credits required for the Ph.D. (i.e. 22 credits) using graduate coursework completed prior to admission to the doctoral program. Transfer courses must be consistent with the program of study planned by the student and approved by the supervisory committee. In addition, the student must have taken the courses at an accredited institution and must have earned a B or better in each course to be transferred. Transfer credits are subject to limitations and approval of the Dean of the Graduate College (see *Graduate Academic Regulations*).

Degree Requirements

The program of study for the Ph.D. in ECE requires at least 66 credits beyond the bachelor's degree or 44 credits beyond a master's degree, and adhere to all policies and procedures of the Graduate College. Courses applied to meet the 66-credit minimum requirement must be taken for a letter grade (A-F), except for ECE 691 Doctoral Comprehensive Examination (graded pass/fail), ECE 689 Dissertation Proposal (graded pass/fail), and ECE 693 Dissertation (initially graded IP - In Progress and later graded P or F depending upon the outcome of the dissertation defense). Credit for coursework must be distributed as shown in the degree requirements table. For those entering the program with a master's degree, no more than 22 credits of previous graduate coursework can be applied as course credit. For a student entering with a bachelor's degree, a maximum of 9 credits of post baccalaureate coursework can be applied towards the Ph.D. program. Each student's program of study must be approved by their supervisory committee.

Doctor of Philosophy in Electrical and Computer Engineering	
Course Number and Title	Credits
Core Sequence ENGR 500 Research Methods)	10
At least 3 courses from the following: ECE 500 Applied Electromagnetics ECE 510 Digital Integrated Circuit Physical Design ECE 520 Advanced Device Design and Simulation ECE 530 Digital Hardware Design ECE 650 Stochastic Signals and Systems ECE 660 Linear Systems	
Major Area of Concentration	12-15
Emphasis (Minor) Area	6-9
Electives (with supervisory committee approval)	6
Comprehensive Examination ECE 691 Doctoral Comprehensive Examination	1
Dissertation Proposal ECE 689 Dissertation Proposal	1
Culminating Activity ECE 693 Dissertation	24-30
Total	66

Areas of Concentration Six areas of concentration are available in electrical and computer engineering. These areas of concentration are denoted by the middle digit of the course number of ECE courses: Computer engineering (middle digit 3), circuits and devices (middle digit 1 or 2), power and control (middle digit 6 or 7), electromagnetics and optics (middle digit 0 or 8), semiconductor processes and devices (middle digit 2 or 4), and signals and systems (middle digit 5 or 6).

Major and Emphasis (Minor) Areas At least 12 credits of coursework are required in a major area of concentration. These credits are to be earned in graduate courses selected from one of the six areas defined above. In addition, at least 6 additional credits of graduate coursework is required in an emphasis (minor) area selected from a second area of concentration as defined in the list above.

Doctoral-Level Courses At least 12 course credits must be at the 600-level. The 600-level course credits may be counted towards core course requirements, major-area courses, minor-area courses, or approved electives.

Examination and Dissertation Requirements

Students admitted to the ECE Ph.D. program will be required to pass the comprehensive examination and successfully defend a dissertation proposal. The culminating activity for the Ph.D. in ECE includes the successful presentation and defense of a doctoral dissertation that makes a significant contribution to the discipline.

Comprehensive Examination The comprehensive examination process for ECE Ph.D. students requires a written report defended in an oral examination. Both the written report and the oral examination must clearly demonstrate the student's understanding of the scientific and technical aspects of presented research, including techniques and research methods, measurements, analysis, and theoretical foundations of the work.

A student is eligible for the comprehensive examination once they complete three core courses with a grade point average of no less than 3.55. Students are encouraged to complete the comprehensive exam after the third semester of study. The comprehensive examination is graded pass/fail. If a student fails the comprehensive examination, they are eligible to repeat it once. Failing the comprehensive examination a second time will result in dismissal from the doctoral program.

Details about eligibility and procedure for the comprehensive exam is found on the ECE website at <https://coen.boisestate.edu/ece/phd-comprehensive/>.

Dissertation Proposal The dissertation proposal presents the background, objectives, scope, methods, and timelines of anticipated dissertation research, and must be successfully defended before substantive research or other work towards the dissertation commences. As such, the dissertation proposal defense cannot occur in the same semester as the final oral examination. Students are encouraged to prepare and defend the dissertation proposal as soon as possible after successful completion of the Ph.D. comprehensive examination.

The dissertation proposal is graded pass/fail. Upon satisfactory completion of the dissertation proposal, a student becomes a doctoral candidate. If a student fails the dissertation proposal, they are eligible to repeat it once. Failing the dissertation proposal a second time will result in dismissal from the doctoral program.

Dissertation proposal templates and related forms are available on the ECE website at <https://coen.boisestate.edu/ece/current-students/phd/>.

Dissertation Requirements A successful dissertation entails original research conducted by the student at the doctoral level in a manner that meets rigorous peer-reviewed standards and makes significant contributions to the discipline. Format and style of the

dissertation document shall adhere to standards established by the Graduate College. The Graduate College offers a dissertation template that contains all required content and formatting. For templates and instructions, visit <https://graduatecollege.boisestate.edu/thesisdissertation/template/>.

Final Oral Examination Doctoral students in ECE must pass a final oral examination that probes their ability to describe and defend all aspects of the dissertation in both a public setting and a private conference with experts. A public defense of the dissertation is scheduled after the supervisory committee has reviewed a draft that is considered to be nearly a final version. The date of the defense is determined jointly by the supervisory committee and the student and must be consistent with any guidelines provided by the Graduate College. A defense committee is formed that consists of the following voting members: an appointed chair, the supervisory committee, and an external examiner. The chair of the defense committee is appointed by the Dean of the Graduate College and must be a graduate faculty member, but must not be the chair or a member of the supervisory committee. The external examiner is a faculty member from another university who is a recognized expert in the field of the dissertation research and is appointed to the defense committee by the Dean of the Graduate College. The external examiner may participate in the final oral examination in person or by teleconference. The chair of the defense committee conducts the defense according to the procedure established by the ECE doctoral program committee. A student who fails the defense will be dismissed from the program.

Final Approval of Dissertation If the defense is completed with a result of pass, the supervisory committee prepares a statement describing final requirements such as additions or modifications to the dissertation and any additional requirements such as archival of data. When these requirements have been met to the satisfaction of the supervisory committee, the approval page of the dissertation is signed by the chair of the supervisory committee.

Graduate College Requirements

The general requirements of the Graduate College also govern the Doctor of Philosophy in Electrical and Computer Engineering degree program.

Master of Engineering/Master of Science

General Information

The ECE Department offers two distinct engineering graduate degree programs. The first leads to a Master of Engineering in Electrical and Computer Engineering (M.Engr. in ECE). This is a non-thesis program with a focus on professional development. The second program leads to a Master of Science in Electrical and Computer Engineering (M.S. in ECE) and is designed to prepare students for research and further study at the doctoral level.

Application and Admission Requirements

Admission Requirements An applicant must satisfy the minimum admission requirements for the Graduate College (see *Graduate Admission Regulations*). Applicants are required to have earned a bachelor's degree in electrical and computer engineering or closely-related field from an ABET-accredited program or accredited college or university, and must follow the application procedures specified below. Admission is competitive and the achievement of minimum requirements does not guarantee admission into the program.

Application Procedures A prospective student may apply at any time and should follow the general graduate application procedure for degree-seeking students (see *Graduate Admission Regulations*). The applicant must also arrange to have GRE General Test scores submitted by the Educational Testing Service (www.ets.org) directly to Boise State University (code R4018). International students must submit either TOEFL scores or IELTS scores. Applicants holding a baccalaureate degree from Boise State's College of Engineering are not required to submit GRE scores.

Additional application materials required for all applicants include:

- Statement of Purpose and Research Interest
- Three letters of Recommendation
- Student Research Area Preferences Form

The statement of purpose should provide educational and professional background information for the applicant, describe his or her motivation for graduate study (e.g. career goals) and include the name of the advisor with whom the student wishes to study.

Once the applicant's file is complete, it will be evaluated by the ECE graduate committee and an admission recommendation will be forwarded to the Dean of the Graduate College. The Graduate Dean will make the final admission decision and notify the applicant and ECE graduate program of the final admission decision.

Electrical and Computer Engineering

Advisor and Supervisory Committee

Master of Engineering Applicants to the ECE M.Engr. will be automatically assigned an academic advisor by the department.

Master of Science In order to ensure proper mentoring of students, applicants may only be admitted to the ECE M.S. program if a graduate faculty member in the ECE department agrees to serve as their academic advisor. If a suitable faculty advisor cannot be identified, a qualified applicant may be admitted to the M.Engr. program and be assigned an academic advisor by the department.

Master of Engineering in Electrical and Computer Engineering

Graduate Program Coordinator: Hao Chen
Micron Engineering Center, Room 202E
Phone: (208) 426-1020
E-mail: haochen@boisestate.edu

Degree Requirements

Students must complete at least 31 graduate credits distributed as shown in the degree requirements table. All courses must be approved by the advisor and supervisory committee. A maximum of 3 credits of ECE 696 Directed Research may be applied to meet degree requirements. The culminating activity for the M. Engr. degree is the Comprehensive Examination (ECE 690). The comprehensive exam is to be taken after all core courses have been completed. The comprehensive examination cannot be attempted prior to the last semester of the program. If the comprehensive examination is failed on the first attempt, then the student will be permitted a second attempt. Failure on the second attempt will result in dismissal from the program.

Master of Engineering in Electrical and Computer Engineering	
Course Number and Title	Credits
Graduate Courses Related to Electrical and Computer Engineering Graduate courses in electrical engineering, computer engineering, or computer science; all courses to be selected with student input and approved by supervisory committee.	18-30
Other Graduate Courses Graduate courses in electrical and computer engineering or related field; all courses to be selected with student input and approved by the supervisory committee.	0-12
Culminating Activity ECE 690 Master's Comprehensive Examination	1
Total	31

Master of Science in Electrical and Computer Engineering

Graduate Program Coordinator: Hao Chen
Micron Engineering Center, Room 202E
Phone: (208) 426-1020
E-mail: haochen@boisestate.edu

Degree Requirements

Students must complete at least 30 graduate credits distributed as shown in the degree requirements table. All courses must be approved by the advisor and supervisory committee. A written thesis proposal with oral presentation to the supervisory committee is required prior to the completion of 15 credits applicable to the degree requirements. Work on the thesis can only be undertaken after approval of the thesis proposal by the supervisory committee. The thesis must constitute an original contribution to knowledge in electrical engineering and must be successfully defended at a final oral examination. All work directly related to the thesis must be represented by at least 6 credits of ECE 593.

Master of Science in Electrical and Computer Engineering	
Course Number and Title	Credits
Graduate Courses Related to Electrical and Computer Engineering Graduate courses in electrical engineering, computer engineering, or computer science; all courses to be selected with student input and approved by supervisory committee.	15-24
Other Graduate Courses Graduate courses in electrical and computer engineering or related field; all courses to be selected with student input and approved by the supervisory committee.	0-9
Culminating Activity ECE 593 Thesis	6
Total	30

Course Offerings

See *Course Numbering and Terminology* for definitions.

ECE — Electrical and Computer Engineering

ECE 500 APPLIED ELECTROMAGNETICS (3-0-3)(S). An applied study of electromagnetic theory and its applications to wave propagation in bounded structures, scattering and diffraction, antenna theory, S-parameters, and microwave engineering. PREREQ: ECE 300 or PHYS 382.

ECE 501 PLASMA ENGINEERING (3-0-3)(F)(Odd years). An introduction to plasma principles and the use of plasmas in semiconductor processing. The course provides an introduction to the basic concepts of the Debye length, plasma sheaths, and the properties of waves in plasmas. The principles involved in the chemistry and the physical aspects of plasma discharges are covered related to etch, deposition, and ion implantation. PREREQ: MATH 275, MATH 333 or MATH 433, and PHYS 212.

ECE 510 DIGITAL INTEGRATED CIRCUIT DESIGN (3-0-3)(F). An introduction to CMOS IC design, layout, and simulation. MOSFET operation and parasitics. Digital design fundamentals: digital logic families, latches, flip-flops, sequential logic and datapath subsystems. EDA tools for design, simulation, parasitic extraction and chip tape-out. PREREQ: ECE 310.

ECE 511 CMOS ANALOG IC DESIGN (3-0-3)(S). An introduction to CMOS analog integrated circuit design. High-frequency models for MOSFET, current mirrors, voltage references, negative feedback systems and stability, amplifiers, frequency compensation and op-amps. PREREQ: ECE 410 or ECE 510.

ECE 513 RF DESIGN (3-0-3)(S). Design of wireless systems and RF circuits including amplifiers, oscillators, mixers, filters, and matching networks. Comparison of semiconductor device type characteristics and applications. Use of various analysis, simulation, characterization, and measurement tools for low-noise design, stability analysis, distortion analysis and mitigation,

frequency synthesis, and transmission line characterization. PREREQ: ECE 300 and ECE 310 and ECE 350.

ECE 518 MEMORY AND PLL IC DESIGN (3-0-3)(S)(Odd Years). Transistor-level design of memory and clock synchronization circuits: DRAM, SRAM, Flash, and ReRAM, design and analysis of Phase-locked Loops (PLLs), Delay-locked Loops (DLLs) and Clock-Data Recovery (CDR) circuits. PREREQ: ECE 410 or ECE 510.

ECE 520 ADVANCED DEVICE DESIGN AND SIMULATION (3-0-3)(F/S). MOSFET device physics, scaling rules, analytical short channel models, hot-electron effects/modeling, LDD design, gate oxide breakdown and reliability, TDDb, GIDL, channel mobility, electromigration, BSIM3 device modeling, 2-D TCAD device simulation. PREREQ: ECE 320.

ECE 520L ADVANCED DEVICE CHARACTERIZATION LAB (0-3-1)(F/S). Advanced measurement and parameter extraction techniques for MOSFETs. High frequency CV, Quasistatic CV, Charge-Pumping measurements, PREREQ: ECE 320.

ECE 521 ADVANCED TOPICS IN SEMICONDUCTOR DEVICES (3-0-3)(F/S). Study of advanced semiconductor devices, particularly photonic, microwave, power, and high temperature/radiation resistant devices, including physics and applications. TCAD simulation and modeling of these devices will be included. PREREQ: ECE 420/520.

ECE 522 MICROWAVE SEMICONDUCTOR DEVICES (3-0-3)(F/S). Covers the various aspects of design, fabrication, and characterization of ultra-low-power, RF-CMOS devices. Short-channel CMOS device physics, Parasitic CMOS device elements, Advanced small-signal bulk and SOI RF-CMOS device models, Ultra-low-power device and circuit design techniques, On-wafer microwave measurement and calibration techniques, and S-parameter device evaluation methods. PREREQ: ECE 420/520.

ECE 530 DIGITAL HARDWARE DESIGN (3-0-3)(F). Advanced topics in digital system design emphasizing the specification and design of complex digital hardware systems. Applications include design of synchronous state machines, asynchronous digital systems, and simple digital control circuits using hardware descriptive languages for field programmable gate arrays and complex programmable logic. PREREQ: ECE 230 and CS 221.

ECE 532 (CS 541) COMPUTER ARCHITECTURE (3-0-3)(S). Structure of computer systems using processors, memories, input/output (I/O) devices as building blocks. Computer system instruction set design and implementation, including memory hierarchies, microprogramming, pipelining and multiprocessors. Issues and tradeoffs involved in the design of computer system architectures with respect to the design of instruction sets. Applications of hardware description languages (HDL) in the design of computer systems. May be taken for CS or ECE credit, but not both. PREREQ for CS 541: CS 117 or CS 121, and ECE 330; or regular admission to Doctor of Philosophy in Computing or Master of Science in Computer Science. PREREQ for ECE 532: CS 121 and ECE 330.

ECE 533 EMBEDDED AND PORTABLE COMPUTING SYSTEMS (3-0-3)(F/S). Comparison of commercially available microcontrollers and their use in embedded communications and control applications. Power consumption, software development, interprocessor communication, and interfacing with sensors, actuators, and input/output devices. Use of microcontroller cores implemented in programmable logic devices as an alternative to hardwired microcontrollers. An embedded system project is designed and built. PREREQ: ECE 330.

ECE 534 COMPUTER NETWORKS (3-0-3)(F/S). Concepts of computer networks and architectures. Network topology, connectivity analysis, delay analysis, local access design. Physical layer, data link layer, higher layer protocols. Study of networks as distributed embedded systems. Routing, flow control, congestion control. Local area networks. PREREQ: ECE 330.

ECE 535 SYSTEMS FOR MULTIMEDIA PROCESSING (3-0-3)(F/S). Study of the general information theory and its applications in speech, imaging, and video processing. Focuses on the underlying structures and architectures for efficient algorithm implementation of video and speech processing systems. Current and future trends in processing, storing, coding, decoding, restoring, and transmission of multimedia information. PREREQ: ECE 457 or ECE 557, and ECE 430 or ECE 530.

ECE 536 DIGITAL SYSTEMS RAPID PROTOTYPING (3-0-3)(F/S). Use of hardware description languages and hardware programming languages as a practical means to simulate/implement hybrid sequential and combinational

systems. Rapid prototyping techniques will be utilized during the implementation. This course focuses upon the actual design and implementation of sizeable digital design problems using the most up-to-date industry Computer Aided Design tools and Field-programmable Gate Arrays. PREREQ: ECE 430/530.

ECE 537 ASIC CHIP DESIGN (3-0-3)(F/S). Study of phases of ASIC development implementing standard, specialized and DSP applications. Course covers specifications and pre-design analysis mapping design units into architectures, evaluation of early design choices using CAD behavioral synthesis tools and design libraries, simulation, functional and timing verification issues, synthesis, design optimization, testing, and evaluation. The course supports individual and group projects to build ASICs implementing RISCs/DSPs/Superscalars/Fuzzy Logic based systems using standard ASIC design CAD tools. PREREQ: ECE 430/530 and ECE 432/532.

ECE 540 INTRO TO INTEGRATED CIRCUIT PROCESSING (3-0-3)(F). Fundamentals of integrated circuit fabrication technology; semiconductor substrates; theory of unit processes such as diffusion, oxidation, ion implantation, rapid thermal processing, photolithography, wet etching and cleaning, dry etching, thin-film deposition; chemical mechanical polishing; process integration; metrology; statistical process control; TCAD. PREREQ: ECE 320. COREQ: ECE 540L.

ECE 540L INTRO TO INTEGRATED CIRCUIT PROCESSING LAB (0-3-1)(F). Semiconductor clean-room practices including safety requirements, processes such as oxidation and diffusion, film deposition, photolithography, wet and dry etching, and chemical mechanical polishing. Fabrication and test of simple structures in lab. COREQ: ECE 540.

ECE 541 ADVANCED TOPICS IN SILICON TECHNOLOGY (3-0-3)(S). Advanced technologies for unit processes such as diffusion, oxidation, ion implantation, thin film deposition, etching, rapid thermal processing, chemical mechanical polishing, and lithography. CMOS, bipolar, and process integration. PREREQ: ECE 440 or ECE 540.

ECE 542 PHOTOLITHOGRAPHY (3-0-3)(S). Principles of optics, diffraction, interference, superposition of waves, imaging systems, fundamentals of microlithography, resolution, contact and projection lithography, photoresist processing, metrology. Phase shift masks, anti-reflective coatings, deep-ultraviolet lithography, off-axis annular illumination. Use of TCAD lithography simulation software. PREREQ: PERM/INST.

ECE 542L PHOTOLITHOGRAPHY LAB (0-3-1)(F/S). Cleanroom lab experience accompany ECE 542, utilizing a projection-printing wafer stepper, photoresist wafer track, SEM, and optical metrology equipment. Use of TCAD lithography simulation software. PREREQ: ECE 342. COREQ: ECE 542.

ECE 543 INTRODUCTION TO MEMS (3-0-3)(F/S). Overview of MEMS; MEMS device physics including beam theory, electrostatic actuation, capacitive and piezoresistive sensing, thermal sensors and actuators; basic MEMS fabrication techniques; MEMS technologies: bulk micromachining, surface micromachining, and LIGA; MEMS design and modeling; case studies in various MEMS systems. PREREQ: ECE 440 or ECE 540.

ECE 551 COMMUNICATION SYSTEMS (3-0-3)(S). Signals, noise, propagation and protocol in analog and digital communication systems. Bandwidth, Fourier transforms, signal to noise ratio and receiver noise figures. Introduction to modern wireless communication systems such as cellular, wireless data and satellite data systems. PREREQ: ECE 350, and MATH 360 or MATH 361.

ECE 552 WIRELESS COMMUNICATIONS (3-0-3)(F). Modern cellular communication systems, including propagation, handoff, noise, and interference studies. CDMA and other spread-spectrum systems. PREREQ: ECE 451 or ECE 551.

ECE 554 DIGITAL SIGNAL PROCESSING (3-0-3)(F). Modern digital signal processing in engineering systems. Review of continuous-time and discrete-time signals, spectral analysis; design of FIR and IIR digital filters. Fast Fourier Transform, two-dimensional signals, realization structure of digital filters, and filter design. PREREQ: ECE 350.

ECE 556 PATTERN RECOGNITION AND MACHINE LEARNING (3-0-3)(S) (Alternate years). Basic concepts of statistical and neural pattern recognition. Structure of pattern classification problems. Mathematics of statistical decision theory; multivariate probability functions, discriminant, parametric and nonparametric techniques. Bayesian and maximum likelihood estimation, feature selection, dimensionality reduction, neural network recognition and clustering. PREREQ: CS 221, and either MATH 360 or MATH 361.

Electrical and Computer Engineering

ECE 557 DIGITAL IMAGE PROCESSING (3-0-3)(F). Pictures and their computer representation. Image digitization, transformation, and prediction methods. Digital enhancement techniques, histogram equalization, restoration, filtering and edge detection. Color models and transformations. Wavelets and morphological algorithms. PREREQ: CS 221 and ECE 350.

ECE 561 (ME 561) CONTROL SYSTEMS (3-0-3)(S). Time and frequency domain analysis and design of feedback systems using classical and state space methods. Observability, controllability, pole placement, and observers. May be taken for ECE or ME credit, but not both. PREREQ: ECE 360 or ME 360.

ECE 564 ROBOTICS AND AUTOMATED SYSTEMS (3-0-3)(F/S). An introduction to robotics with emphasis on automated systems applications. Topics include: basis components of robotic systems; selection of coordinate frames; homogeneous transformations; solutions to kinematic equations; velocity and force/torque relations; manipulator dynamics; digital simulation of manipulator motion; motion planning; actuators of robots; sensors of robots; obstacle avoidance; and control design. PREREQ: ECE 360 or ME 360.

ECE 570 ELECTRIC MACHINES (3-0-3)(S). Magnetic materials and magnetic circuits, Transformers. Principles of electromechanical energy conversion, energy and coenergy concepts, forces and torques of electromagnetic origin. Introduction to rotating machines including synchronous machines and induction machines. PREREQ: ECE 212 and ECE 300.

ECE 572 POWER ELECTRONICS (3-0-3)(F). Power electronic switches, diode and controlled rectifiers, AC-AC phase control, DC-DC converters, inverters, introduction to electric drives and power quality fundamentals. PREREQ: ECE 212.

ECE 573 POWER SYSTEM ANALYSIS I (3-0-3)(F). Three-phase AC systems, generators, transformers, transmission lines, one-line diagrams, per-unit system, network calculations, load flow studies, power system operation. PREREQ: ECE 212 and ECE 300.

ECE 574 POWER SYSTEM ANALYSIS II (3-0-3)(S). Fault analysis, symmetrical components, power system transients, protection and relaying, transient stability, power system operation and control, power system economics, power quality, and power system reliability. PREREQ: ECE 473 or ECE 573.

ECE 601 ADVANCED ELECTROMAGNETIC THEORY (3-0-3)(S)(Even years). Advanced topics in static and dynamic electromagnetic field theory for engineering applications including bounded structures and radiators; solution of scalar and vector boundary value problems; Kirchhoff radiation theory; geometrical diffraction theory, and numerical methods. PREREQ: ECE 500.

ECE 602 PLASMA AND ELECTRON DEVICES (3-0-3)(F)(Even years). Advanced topics in plasma devices including plasma waves, plasma generation, and device applications for plasma processing and vacuum electronics. Advanced topics in microwave vacuum electron devices including oscillators and amplifiers for both high power and high frequency. PREREQ: ECE 500 and ECE 501.

ECE 614 ADVANCED ANALOG IC DESIGN (3-0-3)(F)(Even Years). Advanced analog design consideration including: noise analysis, feedback, fully-differential opamp design and simulation, behavioral modeling, switched capacitor circuits design and simulation, sample-and-hold circuits, offset-cancellation, autozeroing, and chopping. Comparators, introduction to Nyquist-rate ADCs (Flash, pipelined, SAR, folding) and DACs. PREREQ: ECE 411 or ECE 511.

ECE 615 MIXED-SIGNAL IC DESIGN (3-0-3)(F)(Odd Years). Data Conversion and spectral estimation fundamentals, delta-sigma modulator (DSM) architectures, decimation filters, discrete-time (switched-capacitor) as well continuous-time (CT) DSM design, cascaded DSMs, bandpass and complex DSMs. Behavioral modeling, simulation and circuit non-idealities in DSMs. PREREQ: ECE 411 or ECE 511.

ECE 629 QUANTUM EFFECTS IN MOS DEVICES (3-0-3)(F/S). Computational methods will be used to examine quantum mechanical effects in MOS devices. Effects such as tunneling, triangular quantum well effects and poly-Si depletion will be examined. PREREQ: ECE 320 and PHYS 310.

ECE 630 DIGITAL SYSTEMS VERIFICATION (3-0-3)(S)(Odd years). Application-oriented and practical aspects of digital hardware design verification methods, including traditional functional simulation, assertion-based verification methodology and a subset of formal verification techniques. Topics include functional simulation, coverage metrics, testbench design and automation, and event-and assertion-based verification. PREREQ: ECE 530.

ECE 631 DIGITAL SYSTEM TESTING AND TESTABLE DESIGN (3-0-3)(F/S). In-depth theory and practice of fault analysis, test set generation, and design

for testability of digital systems. Topics include system modeling; fault sources and types; fault simulation methods; automatic test pattern generation (ATPG) for combinatorial and sequential circuits; testability measures; design-for-testability; scan design; test compression methods; logic-level diagnosis; built-in self-testing (BIST); VLSI testing issues; processor and memory testing. Advance research issues, including topics on mixed signal testing are also discussed. PREREQ: ECE 430/530, and ECE 410/510.

ECE 632 ADVANCED COMPUTER ARCHITECTURE (3-0-3)(F/S). Study of up-to-date multiprocessor systems and parallel computing architectures. Covers basic architectural concepts and their performance evaluation, design principles of VLIW and superscalar architectures, multithread and data-flow computers, shared and distributed memory MIMDS, associative and neural architectures. Focuses on significant trends in building systems on a chip. PREREQ: ECE 432/532.

ECE 634 LARGE SCALE DISTRIBUTED SYSTEMS DESIGN (3-0-3)(F/S). Fundamental principles, critical issues and latest techniques involved in the design of advanced computer controlled systems. Emphasizes using design requirements, hardware-software tradeoffs, redundancy, and testability to develop highly reliable systems. Topics include software-hardware tradeoffs, memory hierarchy design, calculation of availability, simulation, and communication requirements. Tools and techniques used to develop systems. Incorporates case studies of actual systems. A design project will be included and consists of designing a system driven by embedded computers. PREREQ: ECE 432/532.

ECE 635 HARDWARE IMPLEMENTATION OF DSP ALGORITHMS (3-0-3)(F/S). Implementation methods of DSP algorithms in programmable logic environment. Hardware required for DSP implementation: architectures; arithmetic; digital filters including FIR, IIR and CIC. Course will also cover the efficient implementation of these algorithms and their impact on the implementation process and product costs. PREREQ: ECE 454/554 and ECE 430/530.

ECE 636 HARDWARE/SOFTWARE CODESIGN (3-0-3)(F/S). Covers system level design of embedded systems with a top-down design approach. The students will learn various design steps starting from system specifications to hardware/software implementation and will experience process optimization while considering various design decisions. Students will gain design experience with project/case studies using contemporary high-level methods and tools. PREREQ: ECE 436/536.

ECE 637 SYSTEM ON A PROGRAMMABLE CHIP (3-0-3)(F/S). Covers the design of embedded system within a single integrated circuit. Such a system consists of multiple intellectual property cores interconnected by common infrastructure. This course will also explore the challenges to design and test a complete system on chip. Exercises/projects will be given to design, synthesize, and simulate using modern computer aided design (CAD) tools. Resulting systems will be targeted in reprogrammable hardware. PREREQ: ECE 436/536.

ECE 640 ADVANCED MICROFABRICATION (3-0-3)(F/S). Advanced micro/nano-fabrication techniques; advanced process modeling and simulation of thermal processes, ion implantation, thin-film deposition, dry etching, CMP, and lithography; CMOS/device integration; process variability and control; metrology; parametric test. PREREQ: ECE 440/540.

ECE 646 FRONTIERS OF IC PROCESSING (3-0-3)(F/S). Recent and proposed developments in semiconductor process technology Course modules: Lithography, Deposition, Doping and Etch processes. PREREQ: ECE 440/540.

ECE 650 STOCHASTIC SIGNALS AND SYSTEMS (3-0-3)(S). Probability theory for countable and uncountable sample spaces. Topics include random variables, conditional probability, independence, transformation of random variables and their distributions, conditional expectation, mean-square estimation and the orthogonality principle. Stochastic processes studied include Bernoulli, geometric, Poisson, white noise, random walk, and Brownian motion.

ECE 651 INFORMATION AND CODING THEORY (3-0-3)(F/S). Information measures, characterization of information sources, coding for discrete sources, the noiseless coding theorems, construction of Huffman codes. Discrete channel characterization, channel capacity, noisy-channel coding theorems, reliability exponents, and rate distortion theory. PREREQ: ECE 451 or ECE 551, and ECE 650.

ECE 652 ADVANCED COMMUNICATIONS THEORY (3-0-3)(F/S). Principles of modern communication systems. Elements of information theory, source encoding, efficient signaling with coded waveforms, convolutional codes;

carrier recovery and synchronization under AGN channel; adaptive equalization; maximum likelihood estimation, Viterbi algorithm. PREREQ: ECE 451 or ECE 551, and ECE 650.

ECE 657 ADVANCED DIGITAL IMAGE PROCESSING (3-0-3)(F/S). Advanced course in digital image processing. Topics will include image storage formats, image compression techniques, acquisition system calibration, geometric transformations, edge detection and image segmentation, adaptive techniques, video, halftoning, 3D images and topics of specific student interest. PREREQ: ECE 557 or equivalent.

ECE 660 LINEAR SYSTEMS (3-0-3)(F). Methods of analysis for linear time-invariant systems. Topics include linear algebra, concept of state, modes, controllability, observability, canonical forms, state transition matrices, transfer functions, minimal realizations, and state feedback for trajectory tracking and disturbance rejection.

ECE 661 NONLINEAR SYSTEMS (3-0-3)(F/S). Phenomena peculiar to nonlinear systems. Linearization, iteration and perturbation procedures. Describing function stability analysis. Phase plane methods. Relaxation oscillations and limit cycles. Stability analysis by Lyapunov's method. Popov's theorem. Adaptive control systems. Sensitivity analysis. PREREQ: ECE 660.

ECE 666 MULTIVARIABLE CONTROL SYSTEMS (3-0-3)(S). Linearization of state variable models. Time response of linear time invariant systems. Controllability, observability, and stability of linear systems. Pole placement by state and output feedback. Observers. Linear quadratic regulator control. PREREQ: ECE 660.

ECE 670 ELECTRIC MACHINE DYNAMICS (3-0-3)(F)(Odd years). Dynamic modeling and simulation of AC machines using reference-frame theory and matrix transformations. Three-phase synchronous and induction machine models. Transfer functions and standstill parameter identification. Linearized machine equations and reduced-order models. Unregulated single-machine and multi-machine simulations. Introduction to steady-state and transient stability analysis. PREREQ: ECE 570.

ECE 671 POWER SYSTEM DYNAMICS (3-0-3)(S)(Even years). Dynamic modeling and simulation of power system components and their controls. Transient and steady-state stability analysis, stabilization of electromechanical oscillations via excitation control. Methods of coherency identification and dynamic equivalencing. Flexible AC Transmission (FACTS) devices. Subsynchronous resonance in power systems. Voltage stability and control. PREREQ: ECE 573 and ECE 670.

ECE 672 CONTROL OF ELECTRIC MACHINES (3-0-3)(F)(Even years). Analysis of symmetrical three-phase induction machines using reference-frame theory and space phasors. Scalar control, vector (field-oriented) control, and direct-torque control of induction motor drives. Squirrel-cage, wound-rotor, doubly-fed, and series-connected induction machines for wind generation. Control of single-phase induction machines and special machines. PREREQ: ECE 570.

ECE 681 MMIC DESIGN (3-0-3)(F/S). Technology, design and analysis of monolithic microwave integrated circuits; passive and active microwave circuit elements; high frequency substrates, individual design projects utilize modern computer-aided design software. PREREQ: ECE 500.

ECE 682 QUANTUM ELECTRONICS (3-0-3)(F). Quantized electromagnetic field, interaction of radiation and atomic systems, laser oscillation, semiconductor lasers, parametric amplification, phase conjugate optics. PREREQ: PHYS 412 or PHYS 512.

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

Department of English

College of Arts and Sciences

Chair: Michelle Payne

Associate Chair: Roger Munger
Liberal Arts Building, Room 228

Phone: (208) 426-3426

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<https://english.boisestate.edu/>

Graduate Faculty: Ballenger, Basu Thakur, Campbell, Clare, Douglas, Estrem, Finseth, Fredricksen, Hansen, Harvey, Hillard, Hindrichs, Keck, Mallette, Martinez, Moneyhun, Munger, O'Connor, Olsen-Smith, Payne, Penry, Shepherd, Shuck, Test, Thornes, Uehling, Westover, Wilhelm, Willerton, Zaerr

Graduate Degrees Offered

- Master of Arts in English, Literature
- Master of Arts in English, Rhetoric and Composition
- Master of Arts in Teaching English Language Arts
- Master of Arts in Technical Communication
- Graduate Certificate in Technical Communication

Master of Arts in English

Director M.A. in English: Tom Hillard
Liberal Arts Building, Room 233

Phone: (208) 426-2991

E-mail: thomashillard@boisestate.edu

<https://english.boisestate.edu/ma/>

General Information

The M.A. in English program at Boise State University is large enough to provide variety, yet small enough for flexibility in planning a course of study and for a collegial atmosphere. The Department's graduate faculty teach on all levels in addition to pursuing interests in scholarship, writing, editing, publishing, and related activities.

The Master of Arts in English program has two emphases:

1. The Master of Arts in English, Literature has a 15-hour core of required literature courses, but also includes 15-21 hours of electives that may be drawn from other areas of the English program. It serves students interested in future doctoral work in Literature or any career where reading, writing, and analytical skills are needed;
2. The Master of Arts in English, Rhetoric and Composition provides students with a strong foundation in both rhetorical theory and composition pedagogy. It prepares students for doctoral work in rhetoric and composition, as well as careers where reading, writing, and analytical skills are needed, including teaching writing at the community college level.

Students should consult with the Director of the M.A. in English to help determine which emphasis meets their career goals.

The Department of English provides excellent computer labs, including three administered by the Department itself, for word processing, desktop publishing, and network access to online resources and information about library holdings in the United States and abroad.

English

The Hemingway Center, administered by the Department of English, is another campus resource. It is the home of the Idaho Center for the Book, affiliated with the Library of Congress. The Center also oversees the Idaho Writers' Archive.

The Department of English offers Graduate Assistantships in Teaching and in the Writing Center. These assistantships offer a waiver of tuition and fees, including out-of-state tuition, and in addition carry a stipend of over \$10,400. Complete applications for assistantships are due January 15. In order to be considered for an assistantship, applicants must also submit all materials required for admission to the M.A. in English program by that date. Applicants should plan to apply to the program, have all undergraduate transcripts sent, arrange for letters of recommendation, and take the Graduate Record Examination well before this deadline. A list of program requirements is below. Information on assistantship applications can be obtained from the website or by e-mailing the director of the program.

Students who do not wish to enroll in a degree program but would like to take a course of interest should consult with the Director of the M.A. in English about whether the prerequisite of program admission can be waived.

Application and Admission Requirements

To be considered for regular status as a graduate student in the Department of English, an applicant must meet general Graduate College requirements (which include requesting that official transcripts from all institutions previously attended be sent to the Graduate College, Boise State University, Boise, Idaho 83725-1110) and the following department requirements:

1. A Bachelor of Arts in English. In lieu of this, an applicant must demonstrate a strong background in the field to be considered for admission into the program.
2. A GPA of at least 3.00 for the last sixty semester credit hours of undergraduate work.
3. Scores for the Graduate Record Examination (GRE), sent to the Graduate College.
4. An essay of 500-700 words explaining the applicant's goals in pursuing graduate study in English.
5. A writing sample of 8 to 10 pages, preferably academic writing completed within the past two years. For students who completed their undergraduate work more than one year before their application, professional writing of similar length, such as a grant proposal, a newsletter, or a business report, may be submitted to fulfill this requirement. The applicant's writing sample, in all cases, should be accompanied by a brief statement of the context for which the writing was done.
6. Three letters of recommendation from people who know the applicant's academic work.

Master of Arts in English, Literature

Director M.A. in English: Tom Hillard
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Degree Requirements

Master of Arts in English, Literature	
Course Number and Title	Credits
The Master of Arts in English, Literature offers two options for completion of the degree. The first is a 33-hour thesis/project option, which requires 15 hours of core courses and 15 hours of general electives plus a 3-credit thesis, project, or portfolio. This option is designed particularly for students who plan to continue their studies in a doctoral program, and others who wish to engage in an intensive research and writing experience. The other is a 36-hour course work degree, which includes 15 hours of core requirements and 21 hours of general electives. This degree is designed for students who wish to study a wide range of literature, rhetoric and composition, linguistics, English Education and/or Technical Communication courses.	
Core Requirements	
ENGL 500 Research Methods in Literary Studies	3
ENGL 510 Seminar in Major American or English Writer	3
*ENGL 530 Studies in a Literary Period	6
ENGL 588 Survey of Critical Theory	3
*Candidates must take at least two period courses. One of these must be in literature up to 1800, and the other in literature after 1800.	
Electives 15	
To be selected from other graduate offerings in Literature, Linguistics, English Education, Rhetoric and Composition, Creative Writing, and Technical Communication. The electives may include ENGL 598 Seminar (Teaching Assistants), a maximum of six credits of ENGL 400G courses, and a maximum of three credits of independent work in ENGL 590, ENGL 595, and/or ENGL 596.	
Culminating Activity 3-6	
Thesis, Portfolio, or Project	
Students take 3 credits of ENGL 591 Project, ENGL 592 Portfolio or ENGL 593 Thesis in their final semester. With the help of an advisor, the student selects a thesis or project topic or develops material for inclusion in a portfolio and prepares a prospectus before the student's final semester. After completion of the thesis, portfolio, or project, the student must pass an oral defense.	
Course Work	
Students take six additional hours of electives as described above, for a total of 21 hours of electives.	
Total	33-36
Additional information	
No credits taken outside the English Department may be applied toward graduation requirements. Only three (3) credits of Thesis, Portfolio, or Project may be applied toward graduation requirements. No more than six credits earned in pass/fail or workshop courses may be applied toward a graduate degree (see Graduate Catalog under "Academic Policies, Credit Limits for Pass/Fail Courses, Workshops, and Directed Research").	

Master of Arts in English, Rhetoric and Composition

Director M.A. in English: Tom Hillard
 Liberal Arts Building, Room 233
 Phone: (208) 426-2991
 E-mail: thomashillard@boisestate.edu
<https://english.boisestate.edu/ma/>

Degree Requirements

Master of Arts in English, Rhetoric and Composition	
Course Number and Title	Credits
Required Core Courses	
ENGL 554 Methods for Research in Writing and Rhetoric	3
ENGL 555 Writing in Rhetoric and Composition Studies	3
ENGL 561 Composition Theory and Practice	3
ENGL 562 Theories of Rhetoric	3
Writing and Rhetoric Electives	6
Courses to be selected from the following:	
ENGL 502 Teaching Creative Nonfiction, Poetry, and Fiction Writing	
ENGL 511 Rhetorical Theory for Workplace Writers	
ENGL 513 Technical Editing	
ENGL 515 Visual Rhetoric and Information Design	
ENGL 516 Topics in Print Document Production	
ENGL 524 Creative Nonfiction Writing Workshop	
ENGL 534 Form and Theory of Creative Nonfiction	
ENGL 536 Proposal Development	
ENGL 537 Writing for Social Media and Online Communities	
ENGL 545 Contemporary Issues and Institutional Contexts in Rhetoric and Composition (repeatable once)	
Writing, Teaching, and Learning Electives	6
Courses to be selected from the following:	
ENGL 501 The Teaching of Writing	
ENGL 503 Writing Center Pedagogy and Administration	
ENGL 540 Issues in Writing, Teaching, and Learning (repeatable once)	
ENGL 567 Grammar and the Teaching of Writing: Theory and Practice	
ENGL 582 Selected Topics in Teaching English Language Arts (when topic involves writing instruction)	
ENGL 590 Practicum/Internship	
ENGL 598 Seminar (Teaching Assistants)	
English Electives	6
To be selected from graduate offerings in Literature, Linguistics, Rhetoric and Composition, Technical Communication, Creative Writing and English Education. The electives may include a maximum of three credits of independent work in ENGL 595, ENGL 596, and ENGL 696.	
Culminating Activity	3
ENGL 591 Project or ENGL 592 Portfolio or ENGL 593 Thesis	
<i>Total</i>	33

Master of Arts in Teaching English Language Arts

Director of Teaching English Language Arts: Jim Fredricksen
 Liberal Arts Building, Room UNX1-103A
 Phone: (208) 426-7084
 E-mail: jimfredricksen@boisestate.edu
<https://english.boisestate.edu/englishteaching/>

General Information

The Master of Arts in Teaching English Language Arts is designed to enhance the professional knowledge and teaching skills of practicing teachers from elementary through high school who are interested in supporting their students' achievement in literacy. The broad-based program may combine work from several university resources, including: courses in English, Literacy Education, and the Boise State Writing Project. The program works within the teacher's current instructional context to connect research and theory in literacy learning with effective classroom teaching practices.

The three major strands (writing/composing, reading/literature, language) in the program requirements reflect the three areas of concentration required by the national standards for English language arts teachers including the National Council of Teachers of English (NCTE) and National Council for Accreditation of Teacher Education (NCATE), and required by the National Professional Board of Teaching Standards (NPBTS).

Application and Admission Requirements

An applicant must satisfy the minimum admission requirements of the Graduate College (see *Graduate Admission Regulations*).

In addition, admission to this program requires the following:

1. At least two years of teaching experience.
2. Two letters of recommendation from people who can describe your academic ability and your experience with and commitment to effective teaching.
3. A statement of 500-1000 words describing your professional goals and the ways in which the program can help you achieve them.

Degree Requirements

Master of Arts in Teaching English Language Arts	
Course Number and Title	Credits
Writing/Composing Courses to be selected from the following: ED-LLC 545 Writing Processes, Instruction, and Assessment: K-8 ENGL 501 The Teaching of Writing ENGL 502 Teaching Creative Nonfiction, Poetry and Fiction Writing ENGL 561 Composition Theory and Practice ENGL 562 Theories of Rhetoric ENGL 579 Boise State Writing Project Invitational Institute ENGL 582 Selected Topics in Teaching English Language Arts (when topic concerns writing instruction) ENGL 594 Workshop (concerning writing instruction)*	6-9
Reading/Literature Courses to be selected from the following: ED-LLC 541 Assessment and Instruction: Reading Difficulties K-12 ED-LLC 546 Advanced Children's Literature ED-LLC 547 Advanced Young Adult Literature ENGL 581 Literature for use in Junior and Senior High Schools ENGL 582 Selected Topics in Teaching English Language Arts (when topics reading/literature instruction) ENGL 594 Workshop (concerning reading/literature instruction)* (credits vary)	6-9
Language Study/Linguistics Courses to be selected from the following: ED-LLC 548 Psycholinguistics and Literacy ENGL 505 Linguistics ENGL 567 Grammar and the Teaching of Writing: Theory and Practice ENGL 582 Selected Topics in Teaching English Language Arts (when topic concerns language/grammar instruction) ENGL 585 Selected Topics in Linguistics ENGL 594 Workshop (concerning language instruction)*	6-9
Research Courses to be selected from the following: ED-LLC 557 Research Base for Contemporary Literacy Curricula ENGL 500 Research Methods in Literary Studies ENGL 554 Methods for Research in Writing and Rhetoric ENGL 577, 578 Teacher Research in Literacy I and II ENGL 582 Selected Topics in Teaching English Language Arts (when topic concerns teacher research methods)	3
Electives to bring total graduate-level courses to 30 credits. Use courses from English, Literacy, or other approved courses.*	0-9
Culminating Activity ENGL 592 Portfolio	3
Total	33
*The total number of credits cannot exceed 10 for ENGL 590, 594-598, 696, 697, and any pass-fail and undergraduate courses (or equivalent transfer credits); see Restrictions on Certain Courses for details. No more than 6 credits of 400-level G courses may be counted toward the degree. No teacher in-service credits may be used.	

Master of Arts in Technical Communication

Director of Technical Communication: Roger Munger

Liberal Arts Building, Room 227

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<https://english.boisestate.edu/techcomm/>

General Information

Technical communication is a human-centered discipline in which people create, shape, and communicate technical information so that other people can use it safely, effectively, and efficiently. The Master of Arts in Technical Communication prepares students for careers in writing, editing, designing, presenting, and managing information in the technical, scientific, medical, environmental, and not-for-profit fields. Our students focus on the rhetorical elements of technical and workplace communication, drawing on such disciplines as rhetoric and composition theory, linguistics, STEM communication, cognitive psychology, sociology, interaction design, human factors engineering, and cultural and gender studies. Courses in writing, editing, visual rhetoric, and user experience prepare students for subsequent elective courses chosen based on a student's academic and career goals. While some students might seek careers writing software documentation, others might develop content for websites, blogs, proposals, and interactive social media. They might work as the sole writer for a local not-for-profit or work with a team of developers located around the globe. Or, they may become online community managers or documentation developers for software, gaming, or entertainment studios. The MATC degree provides an interdisciplinary approach to technical communication so that students can customize their own academic paths. Students without workplace experience as a technical communicator and those who want to explore different areas of the profession may also complete a three-credit internship.

Application and Admission Requirements

Applications for the M.A. in Technical Communication program are reviewed as they are received; there is no application deadline. You may enter the program in either the fall or the spring semester.

To apply, you will need to upload the following documents to your application file:

- A 1,000-word statement on why you wish to enter the program. In part, this statement functions as a writing sample. In part, it helps the faculty determine if this program is appropriate for you; that is, it helps faculty decide whether this program will help you achieve your educational and professional goals;
- Three letters of recommendation, from employers or professors. The faculty are looking for whether the references think you have the talent, skill, and professional work habits that will make it likely you will succeed in this graduate program; and
- A current resume.

You are encouraged to apply to the M.A. in Technical Communication program if you possess a bachelor's degree with at least a 3.00 GPA. If you have a lower GPA, you may be admitted with provisional status, which stipulates that you must achieve a 3.00 GPA in the first 12 credits of your graduate coursework. There is no GRE requirement. Visit our Web site for more information on how to apply.

Once the applicant's file is complete, it will be reviewed by the Director of Technical Communication, who will provide an admission recommendation to the Dean of the Graduate College. The Dean will make the final admission decision and notify the applicant.

Degree Requirements

The course of study for the Master of Arts in Technical Communication consists of 31 hours of required courses, electives, and a culminating portfolio. To fulfill the elective requirements, you may take additional graduate courses in technical communication or another discipline; however, you may apply to the degree no more than six credits in subjects other than technical communication. Your electives will be chosen by you and your advisor.

You may petition the Director of Technical Communication to be exempted from up to six hours of required courses. This petition will be evaluated on the basis of your demonstrated experience and professional competence. If you receive an exemption, you will substitute an equivalent number of elective credits. (Note that you will still be permitted to apply to your degree no more than six credits from outside technical communication.)

Master of Arts in Technical Communication	
Course Number and Title	Credits
ENGL 511 Rhetorical Theory for Workplace Writers	3
ENGL 512 Technical Rhetoric and Applications	3
ENGL 513 Technical Editing	3
ENGL 515 Visual Rhetoric and Information Design	3
ENGL 535 User Experience	3
Electives	15
ENGL 516 Topics in Print Document Production	
ENGL 518 Writing Software Documentation	
ENGL 519 Technical Publications Management	
ENGL 521 Topics in On-screen Document Production	
ENGL 536 Proposal Development	
ENGL 537 Writing for Social Media and Online Communities	
ENGL 590 Internship	
Students who wish to substitute up to two alternative courses outside of the technical communication program may petition the Director of Technical Communication.	
Culminating Activity	
ENGL 591 Portfolio	1
Total	31

See the course descriptions for prerequisites. Selected prerequisites may be waived or taken concurrently with the consent of your committee.

You may petition your committee to be exempted from up to six hours of required course work. This petition will be evaluated on the basis of your demonstrated experience and professional competence. If you receive an exemption, you will substitute an equivalent number of elective credits. (Note that you will still be permitted to apply to your degree no more than 6 credits from outside technical communication.)

Graduate Certificate in Technical Communication

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<https://english.boisestate.edu/techcomm/>

General Information

The Graduate Certificate in Technical Communication is intended for students enrolled in any graduate degree program and for local professionals. A graduate student in geophysics, for instance, might wish to earn the certificate because he knows that he will be making presentations at professional conferences and writing journal articles. An accountant might wish to improve her technical communication skills to enhance her work performance. The certificate enables students to choose a unified, coherent group of courses in technical communication and related fields from other disciplines that will improve their understanding of the public role of written communication and their on-the-job skills.

Application and Admission Requirements

The minimum requirement for admission to the certificate program is a baccalaureate degree from a regionally accredited college or university and admission to the Graduate College. In addition, applicants must submit with their application a resume and a 500-word statement explaining how the Graduate Certificate relates to their broader educational goals.

Application Procedures

An applicant to the certificate program should follow the general application procedures for admission to a graduate program (see *Graduate Admission Regulations*). Once the applicant's file is complete, it will be reviewed by the Director of Technical Communication, who will provide an admission recommendation to the Dean of the Graduate College. The Dean will make the final admission decision and notify the applicant.

Certificate Requirements

Graduate Certificate in Technical Communication	
Course Number and Title	Credits
Required Courses	
ENGL 512 Technical Rhetoric and Applications	3
ENGL 513 Technical Editing	3
ENGL 535 User Experience	3
Electives	
ENGL 511 Rhetorical Theory for Workplace Writers	6
ENGL 515 Visual Rhetoric and Information Design	
ENGL 516 Topics in Print Document Production	
ENGL 518 Writing Software Documentation	
ENGL 519 Technical Publications Management	
ENGL 521 Topics in On-screen Document Production	
ENGL 536 Proposal Development	
ENGL 537 Writing for Social Media and Online Communities	
ENGL 590 Internship	
Students who wish to substitute an alternative course for one of the two listed electives may petition the Director of Technical Communication.	
Total	15

Course Offerings

See *Course Numbering and Terminology* for definitions.

ENGL — English

ENGL 401G ADVANCED NONFICTION WRITING (3-0-3)(F/S). Advanced practice in nonfiction genres, and study of how writers read and learn from other writers. Experimentation with subjects, voice, organization, and style. Students may take the course twice, for a total of 6 credits. Students seeking graduate credit will produce a greater quantity and high quality of original work, will have a separate and more extensive reading list, and will be expected to participate more fully in class activities. PREREQ: ENGL 201.

ENGL 500 RESEARCH METHODS IN LITERARY STUDIES (3-0-3)(F/S). An introduction to research techniques and resources in advanced literary study. The course includes the use of bound and electronic reference sources, methods of bibliography and textual criticism, the significance of biographical, archival, and historical evidence in literary study, and standard conventions of scholarly documentation. PREREQ: ADM/PROG or PERM/INST.

ENGL 501 THE TEACHING OF WRITING (3-0-3)(F,S). Theories and methods of teaching writing with focus on secondary school. Emphasis on research about the learning process in writing and the teacher's role in creating effective writing instruction. COREQ: ENGL 581.

ENGL 502 TEACHING CREATIVE NONFICTION, POETRY, AND FICTION WRITING (3-0-3)(F/S). Theories and practices for teaching secondary school students, college students, and others how to write in genres such as creative nonfiction, poetry, and fiction. Emphasis is on teaching in classroom and workshop settings. PREREQ: ADM/PROG or PERM/INST.

ENGL 503 WRITING CENTER PEDAGOGY AND ADMINISTRATION (3-0-3)(F). Emphasis on composition theory, writing pedagogy, and writing program administration as they pertain to tutoring and writing center work. A writing-center based empirical research project is required. Includes tutoring and administrative duties in the Boise State Writing Center. PREREQ: PERM/INST.

ENGL 505 LINGUISTICS (3-0-3)(F/S)(Alternate years). Modern linguistic theories and their application to literature and teaching English. An examination of how various grammatical models represent the complexities of language sound, sequence, and structure. Application of theory to language at work. Alternate years. PREREQ: ADM/PROG or PERM/INST.

ENGL 509 BOOK ARTS (3-0-3)(F/S). A historical survey of various aspects of bookmaking, including papermaking, typography, printing, binding, and desktop publishing, as well as book distribution/ marketing, and production of artist's and eccentric bookworks. Course culminates in production of a classroom edition of each student's original writings or art works in an appropriate format devised by the student. PREREQ: ENGL 309 or PERM/INST.

ENGL 510 SEMINAR IN MAJOR AMERICAN OR ENGLISH WRITER (3-0-3)(F/S). A consideration of minor and major artistic creations of an author with attention to major influences on the writer and his/her influences on others. Aspects of investigation to include the life of the author and its relation to his/her work, the society and culture of the times, his/her place and stature in the genres in which he/she worked, his/her use or disregard of tradition, as well as an investigation of contemporary criticism and critical evaluation since the writer's time. Repeatable for credit. PREREQ: ADM/PROG or PERM/INST.

ENGL 511 RHETORICAL THEORY FOR WORKPLACE WRITERS (3-0-3)(F). An introduction to rhetorical theories and concepts relevant to workplace settings, such as rhetorical genre theory, applied linguistics, ethics, and the rhetoric of science. Interdisciplinary approaches include cultural studies, STEM communication, linguistics, psychology and sociology.

ENGL 512 TECHNICAL RHETORIC AND APPLICATIONS (3-0-3)(S). An advanced study of technical communication for those students who are or expect to become professional technical communicators. Topics of study include modern theories of rhetoric, focusing on semantics, syntax, readability, pragmatics, and hypertext. Students will write reports, proposals, manuals, and online documents related to their own backgrounds and fields of interest. PREREQ: ADM/PROG or PERM/INST.

ENGL 513 TECHNICAL EDITING (3-0-3)(F). An advanced course in the editing of technical documents. Major projects are related to each student's field of interest. Topics of study include the theory and ethics of editing, content editing, copy editing, developmental editing, production editing, and online editing. PREREQ: ADM/PROG or PERM/INST.

ENGL 515 VISUAL RHETORIC AND INFORMATION DESIGN (3-0-3)(S). A study and application of the rhetorical elements of design, including color, line, form, images, and type. Students will be introduced to desktop publishing, graphics, and Web-authoring software. Students will apply principles of visual rhetoric in creating print and online technical documents. PREREQ: ADM/PROG or PERM/INST.

ENGL 516 TOPICS IN PRINT DOCUMENT PRODUCTION (3-0-3)(F)(Even years). Study and application of the principles and techniques involved in taking print documents from conception to production. Topics will vary but can include desktop publishing, estimating time and cost, selecting paper and binding, working with pre-press and printing companies, and selecting appropriate distribution systems. The course assumes experience with personal computers and desktop publishing software. This course may be taken twice for credit. PREREQ: ADM/PROG or PERM/INST.

ENGL 518 WRITING SOFTWARE DOCUMENTATION (3-0-3)(S)(Odd years). The study and application of principles for creating effective print and online documentation. Topics can include content design and organization, writing style, graphic design, hypertext, and usability testing. The course also addresses strategies for working successfully as a technical communicator. PREREQ: ADM/PROG or PERM/INST.

ENGL 519 TECHNICAL PUBLICATIONS MANAGEMENT (3-0-3)(S)(Odd years). Analysis and application of the principles of management and organizational behavior as they apply to the technical publications field. In a case-study environment focused on the publications process, students learn the techniques and practices of managing technical publications groups within organizational settings, while studying relevant principles of motivational theory and human behavior. PREREQ: ADM/PROG or PERM/INST.

ENGL 520 GENRE (3-0-3)(F/S). A study of a well defined literary category, such as novel, short story, epic, or tragedy. Examination of representative texts in order to discover the evolution of a specific literary genre while at the same time establishing its typical features. Repeatable for credit. PREREQ: ADM/PROG or PERM/INST.

ENGL 521 TOPICS IN ON-SCREEN DOCUMENT PRODUCTION (3-0-3)(S)(Even years). Study and application of the principles involved in designing, creating, and managing information on the screen. Topics vary but can include advanced Web design, help systems, and multimedia applications. Students practice effective hypertext and screen-design techniques from the fields of cognitive science, software psychology, and human factors. This course may be taken twice for credit. PREREQ: ADM/PROG or PERM/INST.

ENGL 525 LITERARY TRANSLATION WORKSHOP (3-0-3)(F/S). Students read works of theory and practice in literary translation, translate short works of literature, submit their work for workshop critique, and contribute to the discussion of others' writing. Languages and genres translated vary with instructor. Repeatable for credit. PREREQ: ADM/PROG or PERM/INST.

ENGL 530 STUDIES IN A LITERARY PERIOD (3-0-3)(F/S). A study of a selected chronological period of American or British literature with focus on major authors, genres, or topics. Repeatable for credit. PREREQ: ADM/PROG or PERM/INST.

ENGL 535 USER EXPERIENCE (3-0-3)(F). User experience focuses on understanding—and designing experiences tailored to—human behavior. In this course learn to create successful visual and emotional user experiences while exploring links between usability and desirability, humanity and technology. PREREQ: ADM/PROG or PERM/INST.

ENGL 536 PROPOSAL DEVELOPMENT (3-0-3)(F)(Odd years). Study of principles of effective proposal development and grant writing for businesses and nonprofits. Topics include identifying funding sources, developing grant applications, creating proposals in response to requests/call for proposals, writing collaboratively within an organization, and giving convincing and audience-appropriate presentations. PREREQ: ADM/PROG or PERM/INST.

ENGL 537 WRITING FOR SOCIAL MEDIA AND ONLINE COMMUNITIES (3-0-3)(S)(Even years). Apply interactive Internet-based technologies to easily collaborate, share, link and generate content. Analyzing user-created content and online communities, students will learn techniques and best practices for using the social web to enhance workplace communication using tools such as blogs, micro-blogs, wikis, social networking sites, tag clouds, and syndication. PREREQ: ADM/PROG or PERM/INST.

ENGL 538 (OPWL 517) WRITING IN PROFESSIONS (3-0-3)(F). Overview of communication practices and standards in workplace settings. Topics include editing and revision, research and citation practices, social and cultural aspects of technical communication, workplace-writing style, and common documents produced in business and industry, such as proposals, informal reports, formal reports, and prospectuses. Not for credit toward degrees from the English department. May be taken for ENGL or OPWL credit, but not both. PREREQ: PERM/INST.

ENGL 540 ISSUES IN WRITING, TEACHING, AND LEARNING (3-0-3)(F/S). Investigates the theories, practices, and conditions that influence the development of writing ability and other literacies. May focus on issues in learning theory, an examination of composing practices, or social contexts that influence student growth. Topics might include transfer and inquiry-based learning, practices like revision or teaching with technology, or writing in social contexts like community-based organizations. Repeatable once for credit. PREREQ: ADM/PROG or PERM/INST.

ENGL 545 CONTEMPORARY ISSUES AND INSTITUTIONAL CONTEXTS IN RHETORIC AND COMPOSITION (3-0-3)(F/S). Theoretical exploration of current topics in rhetoric and composition as well as contexts for writing instruction and research. Introduces students to emerging issues in the discipline like multimodal composing, contemporary rhetorical theory, cultural studies, and new technologies. May also examine contemporary contexts for literacy instruction and practices as well as theories of composing in the workplace and community. Repeatable once for credit. PREREQ: ADM/PROG or PERM/INST.

ENGL 550 LITERATURE AND CULTURE (3-0-3)(F/S). The interaction between a body of literature and the social, economic, and political forces that characterize the culture in which it originates. The influence of culture on literary form and content. Repeatable for credit. PREREQ: ADM/PROG or PERM/INST.

ENGL 554 METHODS FOR RESEARCH IN WRITING AND RHETORIC (3-0-3)(F/S). An introduction to research methods appropriate for conducting research in various writing contexts. Explores a range of empirical and rhetorical strategies for research, including developing research questions, choosing appropriate research methods, and addressing ethical issues in conducting research with human subjects. PREREQ: ADM/PROG or PERM/INST.

ENGL 555 WRITING IN RHETORIC AND COMPOSITION STUDIES (3-0-3)(F). Provides an overview of writing expectations and publication opportunities in the field of rhetoric and composition as well as identifying opportunities for the study and practice of rhetoric and writing beyond the field (e.g. community organizations, political discourse, interdisciplinary conversations). Helps students consider options for the culminating activity of the program. PREREQ: Admitted to the Master of Arts in English, Rhetoric and Composition program or PERM/INST.

ENGL 561 COMPOSITION THEORY AND PRACTICE (3-0-3)(F)(Even years). A study of writing as both subject and activity. Examines theories and their application in multiple contexts with attention to the ethical dimensions of writing, including cultural awareness. PREREQ: ADM/PROG or PERM/INST.

ENGL 562 THEORIES OF RHETORIC (3-0-3)(F)(Odd years). Main currents in historical and contemporary rhetorical theory. Attention is given to the Western tradition as well global rhetorics. Themes may include the importance of rhetoric in the public forum, the role of rhetoric in education, and the ethical obligations of the rhetor. PREREQ: ADM/PROG or PERM/INST.

ENGL 567 GRAMMAR AND THE TEACHING OF WRITING: THEORY AND PRACTICE (3-0-3)(F/S). A study of the theory and practice of teaching grammar and usage from rhetoric and composition perspectives. The course examines a variety of approaches to instruction in grammar and conventions of discourse communities. Prepares students for teaching writing in secondary schools and two- and four-year colleges, and for further graduate study. PREREQ: ENGL 561, ENGL 598, or PERM/INST.

ENGL 570 LITERARY MOVEMENTS (3-0-3)(F/S). A focus on a significant literary movement, the works of its major and minor contributors, its theories and its practice, its relation to its time, its place in literary history, its influence on writers past and present. Repeatable for credit. PREREQ: ADM/PROG or PERM/INST.

ENGL 577 TEACHER RESEARCH IN LITERACY I (1-0-1)(F). Introduces K-13 teachers to techniques of classroom research such as ethnography, practitioner action research, reflective practice, and narrative inquiry. The first part of a one-year course. PREREQ: ADM/PROG or PERM/INST.

ENGL 578 TEACHER RESEARCH IN LITERACY II (2-0-2)(S). Applications for K-13 teachers of classroom research techniques learned in ENGL 577. Participants complete a teacher research project. The second part of a one-year course. PREREQ: ENGL 577 or PERM/INST.

ENGL 579 BOISE STATE WRITING PROJECT INVITATIONAL INSTITUTE (6-0-6)(SU). An intensive seminar sponsored by the National Writing Project in which accomplished teachers work together to 1) study ways to improve student writing, 2) share successful teaching practices through teaching demonstrations, 3) work on their own composing in various genres, 4) reflect upon their composing processes as a means to improve their teaching, and 5) develop a research literature review and teaching plan for an area of literacy instruction. Also includes professional development instruction. PREREQ: Must apply and be invited to participate.

ENGL 580 ENGLISH TEACHING: WRITING, LITERATURE, AND LANGUAGE (3-0-3)(F/S). Research, theories, issues, and methods of teaching secondary school English language arts; instructional planning; and integration of composition, literature, and language instruction. COREQ: ED-CIFS 561 and ED-LLC 544.

ENGL 581 LITERATURE FOR USE IN JUNIOR AND SENIOR HIGH SCHOOLS (3-0-3)(F/S). A literary content course for prospective teachers of secondary school English. Primary emphasis on critical reading of literature for adolescents in secondary school. Secondary emphasis on methods of analysis appropriate to students. All genres as well as classic and popular authors. PREREQ: Two literature courses or PERM/INST. COREQ: ENGL 501.

ENGL 582 SELECTED TOPICS IN TEACHING ENGLISH LANGUAGE ARTS (3-0-3)(F/S). Study of current theories and topics in teaching the English Language Arts in composition, language, or literary theory of special interest to the experienced teacher. A specific focus will be announced each time the course is offered. Although targeted primarily at classroom teachers, the course may be appropriate for others who offer instruction, including technical writing trainers and teachers of literacy in GED centers, workplace literacy projects, and community education projects. Alternate years. PREREQ: ENGL 301 or ENGL 381 or ENGL 481 or teaching experience or PERM/INST.

ENGL 585 SELECTED TOPICS IN LINGUISTICS (3-0-3)(F/S). An investigation of a particular topic in linguistics, drawn generally from psycholinguistics, sociolinguistics, semantics, pragmatics, discourse, syntax, or morphology. Course work will include lecture, discussion, and a paper or project, depending on the nature of the topic. Repeatable once for credit. PREREQ: LING 305 and admission to program, or PERM/INST.

ENGL 588 SURVEY OF CRITICAL THEORY (3-0-3)(F/S). A survey of major contemporary theories of literary criticism and their effects on literary studies. PREREQ: ADM/PROG or PERM/INST.

ENGL 598 SEMINAR (TEACHING ASSISTANTS)(3-0-3)(F). Focuses on writing theory and practice, the teaching community, and the Department's English Composition courses for first semester Teaching Assistants. The seminar will provide information and support for the assistants while they learn to meet their obligations as classroom teachers. PREREQ: PERM/INST.

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

Department of Geosciences

College of Arts and Sciences

Chair: James McNamara

Environmental Research Building, Room 1160

Phone: (208) 426-2902

Fax: (208) 426-4061

<https://earth.boisestate.edu>

Graduate Faculty: Benner, Brand, Brandt, Flores, Glenn, Johnson, Kohn, Marshall, Matson, McNamara, Michaels, Mikesell, Liberty, Northrup, Pelton, Pierce, Schmitz, Wanless, Wilkins

Graduate Degrees Offered

- Doctor of Philosophy in Geophysics
- Doctor of Philosophy in Geosciences
- Master of Earth Science
- Master of Science in Geophysics
- Master of Science in Geoscience
- Graduate Certificate in Geographic Information Analysis

Interdisciplinary Participation

- Master of Science in Hydrologic Sciences

Graduate Program Committee

The Graduate Program Committee of the Department of Geosciences consists of the graduate program coordinators for geophysics, geosciences, hydrologic science, and earth science, plus the chair of the Department. The duties of the Graduate Program Committee are defined by the Department and are consistent with policies set by the university. These duties include development of recommendations for admission of prospective graduate students, decisions on transfer credits and required background courses, decisions on the award of departmental graduate fellowships and assistantships, and appointment of Supervisory Committees for graduate students.

Graduate College Requirements

The general requirements of the Boise State Graduate College also govern the geophysics, geosciences, and earth science degree programs.

Doctor of Philosophy in Geophysics

Program Coordinator: Jeffrey B. Johnson
 Environmental Research Building, Room 3163
 Phone: (208) 426-2959
 E-mail: jeffreybjohnson@boisestate.edu

General Information

The Doctor of Philosophy in Geophysics degree requires completion of a prescribed course of study in geophysics and an area of emphasis outside of geophysics, satisfactory performance on a comprehensive examination, and independent completion of original research that results in a publicly defended dissertation that contributes significantly to geophysical knowledge.

Graduate Teaching and Research Fellowships

Graduate fellowships including tuition and fee waivers are funded from three sources: appropriated state funds, endowments, and research grants and contracts. Applicants to the Ph.D. in Geophysics program who submit all documents required by the admission procedure by January 1 of any given year will be considered for a state appropriated or endowed graduate fellowship to start the following fall semester; notification of successful applicants will be during March and April. Information on graduate fellowships funded by research grants and contracts is available from the Coordinator of the geophysics doctoral program.

Supervisory Committee

The Supervisory Committee is charged with general guidance of the doctoral student, including design and approval of the program of study, administration of the comprehensive examination, supervision of the dissertation research, and participation in the dissertation defense. The Supervisory Committee consists of a principal advisor who acts as chair, one member from the student's chosen area of emphasis outside of geophysics (see Credit Requirements below), and at least two additional members, all of whom must be members of the university regular or research faculty and must also be members of the Graduate Faculty. One or more additional members may be appointed when such appointments enhance the function of the Committee. In all cases, regular or research faculty members of the Department of Geosciences must constitute a majority of the Supervisory Committee.

Application and Admission Requirements

Applicants are required to have a Bachelor's or Master's degree in a physical science, engineering, computer science, or mathematics from an accredited college or university. Admission will be competitive and will be based on transcripts, professional references, scores on the general test of the Graduate Record Examination (GRE), and evaluation of a technical manuscript provided by the applicant as evidence of technical writing skills. Students whose native language is not English must submit a TOEFL score of 587 or higher for the written exam or 95 Internet-based test (iBT). Application materials should be requested from the Coordinator, Geophysics Doctoral Program, Boise State University, 1910 University Drive, Boise, ID 83725, telephone (208) 426-1631 or E-mail: lliberty@boisestate.edu.

Degree Requirements

Doctor of Philosophy in Geophysics	
Course Number and Title	Credits
GEOPH 501 Properties and Processes in Geophysics I	4
GEOPH 502 Properties and Processes in Geophysics II	4
Geophysics courses approved by the supervisory committee and by the graduate programs committee.	12
Additional elective courses in related fields as approved by the supervisory committee and by the graduate programs committee.	12
GEOPH 601 Introduction to Research Program Development	1
GEOS 598 Graduate Seminar Enrollment in Graduate Seminar is required each semester of all graduate students on campus; one credit may be applied towards graduation.	1
GEOPH 687 Doctoral Preliminary Examination	1
GEOS 691 Doctoral Comprehensive Examination	1
GEOPH 693 Dissertation	30
<i>Total</i>	66

Credit Requirements

Courses applied to meet the 66-credit minimum requirement must be taken for a letter grade (A-F), except that GEOPH 693 Dissertation is initially graded IP (In-Progress) and later graded P (Pass) or F (Fail) depending on the outcome of the dissertation defense. All geophysics electives must be graduate GEOPH courses with at least 12 credits at the 600 level. It is highly recommended that all geophysics graduate students take GEOPH 605 (Inversion Theory and Geophysical Applications) early in their program as one of their geophysics electives. Courses that comprise the area of emphasis outside of geophysics will typically be chosen from geosciences, physics, chemistry, engineering, computer science, or public policy, and must be approved by the Supervisory Committee. Courses taken to satisfy background requirements are not eligible to meet the credit requirements. On-campus graduate students are required to enroll for GEOPH 598 Graduate Seminar each and every time it is offered but GEOPH 598 may not be applied to meet the geophysics elective requirement.

Comprehensive Examination

The objective of the comprehensive examination is to judge depth and breadth of knowledge in geophysics and the area of emphasis. The examination is to be developed and administered by the Supervisory Committee. A student must take the comprehensive examination in the semester following completion of 36 course credits that are to be applied to the program requirements (exclusive of GEOPH 693 Dissertation but inclusive of transfer credits). The outcome of the examination is determined by the Supervisory Committee and must be pass or fail. A student who fails the comprehensive examination is dismissed from the Ph.D. program.

Dissertation Requirements

The dissertation must be the result of independent and original research by the student and must constitute a significant contribution to geophysical knowledge equivalent to multiple peer-reviewed publications. The style and format of the dissertation are to conform to the standards of the Department of Geosciences and the Graduate College.

Dissertation Defense

A public defense of the dissertation is scheduled after the Supervisory Committee has reviewed a draft that is considered to be nearly a final version. The date of the defense is determined jointly by the Supervisory Committee and the student and must be consistent with any guidelines provided by the Graduate College. A Defense Committee is formed that consists of a non-voting Graduate Faculty Representative (GFR) and the following voting members: the chair and members of the Supervisory Committee and an external examiner. The GFR chairs the Defense Committee and is appointed by the Dean of the Graduate College in accordance with Graduate College guidelines. The GFR must have Full Graduate Faculty status, must be from outside the student's discipline, and cannot be a member of the Supervisory Committee. The external examiner is a faculty member from another university who is a recognized expert in the field of the dissertation research and is appointed to the Defense Committee by the Dean of the Graduate College. Attendance at the defense by external examiner is not required. A written evaluation of the dissertation must be submitted by the external examiner in the event that he or she does not attend the defense. If a written evaluation is submitted, it must include a pass/fail vote and must be delivered to the chair of the defense committee at least 3 weeks prior to the defense. The written evaluation provided by the external examiner is distributed to the other members of the Defense Committee at least 2 weeks before the defense. The chair of the Defense Committee conducts the defense according to the procedure established for the Department of Geosciences by the Graduate Program Committee. A majority vote is used to decide the outcome (pass or fail). In the event of a split vote, the Dean of the Graduate College will also cast a vote after consultation with the defense chair and the Supervisory Committee. A student who fails the defense may be permitted to try again but failure a second time will result in dismissal from the program.

Final Approval of the Dissertation

If the defense is completed with a result of pass, the Supervisory Committee prepares a statement describing final requirements such as additions or modifications to the dissertation and any additional requirements such as archival of data. When these requirements have been met to the satisfaction of the Supervisory Committee, the approval page of the dissertation is signed by the members of the Committee.

Doctor of Philosophy in Geosciences

Doctoral Program Coordinator: Mark Schmitz
Environmental Research Building room 5155
Phone: (208) 426-5907
Fax: (208) 426-4061
E-mail: markschmitz@boisestate.edu

General Information

Boise State University offers a Doctor of Philosophy in Geosciences through the Department of Geosciences. The degree requires completion of a prescribed course of study in geosciences, satisfactory performance on a comprehensive examination, and independent completion of original research that results in a publicly defended dissertation that contributes significantly to geoscientific knowledge.

Graduate Teaching and Research Fellowships

Graduate fellowships including tuition and fee waivers are funded from three sources: appropriated state funds, endowments, and research grants and contracts. Applicants to the Ph.D. in Geosciences program who submit all documents required by the admission procedure by February 1 of any given year will be considered for a state appropriated or endowed graduate fellowship to start the following fall semester; notification of successful applicants will be during March and April. Information on graduate fellowships funded by research grants and contracts is available from the coordinator of the doctoral program in geosciences.

Graduate Program Committee

The Graduate Program Committee of the Department of Geosciences consists of the graduate program coordinators for each of the graduate programs in the department, plus the chair of the Department. The duties of the Graduate Program Committee are defined by the Department and are consistent with policies set by the university. These duties include development of recommendations for admission of prospective graduate students, decisions on transfer credits and required background courses, decisions on the award of departmental graduate fellowships and assistantships, and appointment of Supervisory Committees for graduate students.

Supervisory Committee

The Supervisory Committee is charged with general guidance of the doctoral student, including design and approval of the program of study, administration of the comprehensive examination, supervision of the dissertation research, and participation in the dissertation defense. The composition of the Supervisory Committee is recommended by the Graduate Program Committee and approved and appointed by the Graduate College.

Application and Admission Requirements

An applicant must follow the general application procedures for admission to a graduate program (see *Graduate Admission Regulations*). Applicants are required to have a Bachelor's or Master's degree in a geosciences or a related discipline from an accredited college or university. Admission will be competitive and will be based on transcripts, professional references, scores on the general test of the Graduate Record Examination (GRE), and evaluation of a letter of intent which describes the applicant's professional interests and plans for the future. Students whose native language is not

English must submit a TOEFL score of 587 or higher for the written exam or 95 Internet-based test (iBT). Application materials should be requested from the coordinator, Geosciences Doctoral Program, Boise State University, 1910 University Drive, Boise, ID 83725, telephone (208) 426-5907 or E-mail: markschmitz@boisestate.edu.

Degree Requirements

Doctor of Philosophy in Geosciences	
Course Number and Title	Credits
Geosciences courses (GEOG, GEOPH, or GEOS) approved by the supervisory committee and by the graduate programs committee	16
Additional elective courses in related fields as approved by the supervisory committee and by the graduate programs committee	16
GEOS 601 Introduction to Research Program Development	1
GEOS 598 Graduate Seminar Enrollment in Graduate Seminar is required each semester of all graduate students on campus; one credit may be applied towards graduation.	1
GEOS 687 Doctoral Preliminary Examination	1
GEOS 691 Doctoral Comprehensive Examination	1
GEOS 693 Dissertation	30
<i>Total</i>	66

Graduate Seminar

On-campus graduate students are required to enroll for GEOS 598 graduate seminar each and every semester it is offered but GEOS 598 may not be applied to meet the Geosciences elective requirement.

Comprehensive Examination

The objective of the comprehensive examination is to judge depth and breadth of knowledge in Geosciences, and it is developed and administered by the Supervisory Committee. A student must take the comprehensive examination prior to the end of their fourth semester. The outcome of the examination is determined by the Supervisory Committee and must be one of the following: pass or fail.

Dissertation Requirements

The dissertation must be the result of independent and original research by the student and must constitute a significant contribution to geoscientific knowledge equivalent to multiple peer-reviewed publications. The style and format of the dissertation are to conform to the standards of the Department of Geosciences and the Graduate College.

Dissertation Defense

A public defense of the dissertation is scheduled after the Supervisory Committee has reviewed a draft that is considered to be nearly a final version. The Supervisory Committee and the student determine the date of the defense jointly and must be consistent with any guidelines provided by the Graduate College. The defense is conducted according to the procedure established by the Department of Geosciences and governed by the policies of the Graduate College.

Final Approval of the Dissertation

If the defense is completed with a result of pass, the Supervisory Committee prepares a statement describing final requirements such as additions or modifications to the dissertation and any additional requirements. When these requirements have been met to the satisfaction of the Supervisory Committee, the members of the Committee sign the approval page of the dissertation.

Graduate College Requirements

The general requirements of the Boise State Graduate College also govern the Doctor of Philosophy in Geosciences degree program.

Master of Earth Science

Graduate Program Coordinator: James McNamara
Environmental Research Building, Room 4165
Phone: (208) 426-1354
E-mail: jmcnamar@boisestate.edu

General Information

The Master of Earth Science (MESci) is a professional science degree program without a thesis requirement designed for students who are in the workforce or considering a career path where a thesis would not be a requirement. The curriculum in the MESci is built around proven course strengths in our MS Geosciences, Geophysics, and Hydrologic Sciences programs. The MESci requires the student to select from one of three emphasis areas, with core content in each paralleling those other programs. This provides the MESci student with similar core skills, knowledge base, and focus as in the thesis-based programs, skills which have proved vital to a broad range of fields, including policy, regulation, or management, in the areas of environment, natural resources, and urban planning. A student would fill the remaining program requirements with coursework agreed to by their committee and the department's Graduate Programs Committee (GPC). Without the thesis requirement, students may be able to complete the degree and enter or advance within the workforce more rapidly. The Master of Earth Science is a graduate degree platform that will provide its graduates with a rigorous degree that will enhance their competitive edge in the job marketplace.

Application and Admission Requirements

Application for admission may be made by graduates of accredited institutions holding a baccalaureate degree in earth science education, geology, or related discipline. Regular admission may be awarded to applicants who have earned a minimum grade point average of 3.00 during the last two years of academic work; admission will be based on grade point, GRE scores, and letters of recommendation. Continued enrollment in the program requires a minimum of 3.00 grade point (B) average and satisfactory progress toward the degree.

Degree Requirements

Master of Earth Science	
Course Number and Title	Credits
Select one of the following core clusters: Geology Core (4 of the following 6 courses) GEOS 523 Advanced Geomorphology GEOS 525 Whole Earth Geochemistry GEOS 541 Plate Tectonics GEOS 560 Volcanology GEOS 607 Paleoclimatology and Paleoceanography GEOS 611 Basin Analysis Hydrologic Science Core GEOS 512/CE 512 Hydrogeology GEOS 516 Hydrology GEOS 518 Applied Hydrologic Modeling GEOS 526/CE 526 Aqueous Geochemistry Geophysics Core GEOPH 501 Properties and Processes in Geophysics I GEOPH 502 Properties and Processes in Geophysics II GEOPH 605 Inversion Theory and Geophysical Applications	11-12
Elective coursework in geosciences and related fields. Elective coursework must be approved by the student's supervisory committee and the Department's graduate programs committee.	23-24
GEOS 598 Graduate Seminar	1
GEOS 690 Master's Comprehensive Examination	1
Total	37-38

Master of Science in Geoscience

Graduate Program Coordinator: Mark Schmitz
Environmental Research Building, Room 5155
Phone: (208) 426-5907
E-mail: markschmitz@boisestate.edu

General Information

The program leading to the degree of Master of Science (M.S.) in geosciences is designed to prepare students for professional careers or further graduate studies in earth, environmental, or hydrological sciences. Completion of the program requires completion of an individually tailored curriculum approved by the graduate program committee, and original research that culminates in a publicly defended thesis. Opportunities for research span a wide range of fundamental and applied science topics in earth, environmental and hydrological sciences. Students are encouraged to contact individual faculty members for further information.

Application and Admission Requirements

Application for admission may be made by graduates of accredited institutions holding a baccalaureate degree in geology or related discipline. Regular admission may be awarded to applicants who have earned a minimum grade point average of 3.00 during the last two years of academic work; admission will be based on grade point, GRE scores, and letters of recommendation. Continued enrollment in the program requires a minimum 3.00 grade point (B) average and satisfactory progress toward the degree.

Degree Requirements

Master of Science in Geoscience	
Course Number and Title	Credits
The student must complete a minimum of 30 credits, of which 20 or more are required to be at the 500-level.	
Select one of the following: 12 credits of GEOG, GEOPH, or GEOS courses approved by student's supervisory committee Or Geology Core (4 of the following courses) GEOS 523 Advanced Geomorphology GEOS 525 Whole Earth Geochemistry GEOS 541 Plate Tectonics GEOS 560 Volcanology GEOS 607 Paleoclimatology and Paleoceanography	12
GEOS 601 Introduction To Research Program Development Mandatory for the first year on campus for all students	1
GEOS 598 Graduate Seminar Enrollment in Graduate Seminar is required each semester of all graduate students in residence; one credit may be applied towards graduation.	1
GEOS 593 Thesis	6
Additional elective courses as approved by the supervisory committee and by the coordinator of the M.S. Geoscience program.	10
Total	30

Credit Requirements

All 30 credits must be taken for a letter grade, except for GEOS 593 Thesis credit which will be graded Pass/Fail.

Thesis Requirements

A thesis representing research of sufficient quality to warrant publication in a peer-reviewed journal is required of all candidates for the Master of Science in Geosciences. Actual publication is not required, but is held out as a goal for all graduate students. The research results must be presented at a formal public defense, and the final written thesis must be approved by the supervisory committee, by the Coordinator of the geosciences graduate program, and by the Dean of the Graduate College. In order to provide sufficient time for thorough evaluation of thesis research, a student should allow 3-6 months between preparation of the first draft of the thesis and the day of the formal defense. Frequent communication between the student, the supervisory committee, and the Coordinator is essential throughout this period.

Master of Science in Geophysics

Graduate Program Coordinator: Jeffrey B. Johnson
 Environmental Research Building, Room 3163
 Phone: (208) 426-2959
 E-mail: jeffreybjohnson@boisestate.edu

General Information

The Master of Science in Geophysics degree requires 30 total credits distributed as follows: 12 graduate geophysics course credits, 12 credits in approved science or engineering courses, and at least 6 thesis research credits leading to an approved thesis. The overall goal of the graduate geophysics program is to provide a balanced education in the following areas:

- geophysical theory and methods including the quantification of error and resolution;
- problem definition, characteristics of an acceptable scientific solution, and an understanding of the effort required to reach an acceptable solution;
- the interrelationship of geophysics with other scientific and engineering disciplines;
- oral and written technical communication;
- project management and teamwork;
- an introduction to the geoscience profession beyond the classroom including the establishment of professional contacts.

Achievement of these educational objectives requires that a graduate student be exposed to classroom and laboratory instruction, thesis research, seminars, field trips, preparation of proposals and papers, presentations at professional meetings, short-term work assignments on sponsored projects, and interaction with a wide variety of faculty, research staff, students, and off-campus scientists and engineers. Current research emphases at Boise State include the following:

- applications of surface and borehole geophysical methods to hydrogeological, environmental, and engineering problems;
- geophysical measurement of the engineering properties of earth materials;
- determination of the relationship between geophysical and hydrological parameters;
- use of marine sedimentology and borehole geophysics to study the interaction between the oceans and continental climate;
- investigation of physical process dynamics during cold season flooding.

The geophysics program is well equipped with modern digital field instrumentation and computational facilities.

The Boise State University Master of Science program in geophysics interacts cooperatively with Idaho State University (ISU) in that up to 12 credits earned in approved courses at ISU can be applied to a Master of Science in Geophysics at BSU or ISU. In addition, faculty at BSU and ISU may form joint supervisory committees when expertise from outside of the student's resident institution is judged to be beneficial. These cooperative efforts by BSU and ISU add flexibility and geographic accessibility to graduate education in geophysics within Idaho.

Graduate Assistantships, Teaching and Research Fellowships

Graduate assistantships and fellowships including tuition and fee waivers are funded from three sources: appropriated state funds, endowments, and research grants and contracts. Applicants to the M.S. Geophysics program who submit all documents required by the admission procedure by February 1 of any given year will be considered for a state appropriated or endowed graduate assistantships and fellowships to start the following fall semester; notification of successful applicants will be during February and March. Information on graduate fellowships funded by research grants and contracts is available from the Coordinator of the geophysics graduate program.

Supervisory Committee

Each admitted student will be assigned a supervisory committee whose purpose is to design the program of courses, guide the student's research, conduct the thesis defense, and approve the final thesis. The supervisory committee consists of at least three members: a chair from BSU who takes on the primary advising role, and at least two members chosen in any combination from BSU, ISU, or other institutions (selection based on a direct interest in the student's research). The Coordinator of the geophysics graduate program works closely with each supervisory committee and will serve as temporary advisor to each new student until a supervisory committee can be assigned.

Application and Admission Requirements

Applicants should have a B.S. or equivalent degree from an accredited institution in one of the following fields: geophysics, geosciences, hydrology, physics, chemistry, mathematics, or engineering. Evaluation for admission requires three personal references, transcripts from all colleges and universities attended, and scores on the GRE General Test. Students whose native language is not English must submit a TOEFL score of 587 or higher for the written exam or 95 Internet-based test (iBT). A copy of a report resulting from a previous university course, professional position, or research experience is also requested as evidence of the applicant's ability to complete a significant project and write an acceptable scientific report. Preference is given to those applicants whose records indicate a high probability for successful completion of publishable graduate research. Application materials should be requested from the Coordinator, Geophysics Graduate Program, Boise State University, 1910 University Drive, Boise, ID 83725.

Degree Requirements

Master of Science in Geophysics	
Course Number and Title	Credits
Credit Requirements The Boise State University Master of Science in Geophysics requires 30 semester credits distributed as follows:	
GEOPH 501 Properties and Processes in Geophysics I	4
GEOPH 502 Properties and Processes in Geophysics II	4
GEOPH 601 Introduction to Research Program Development Mandatory for the first year on campus for all students	1
GEOS 598 Graduate Seminar Enrollment in Graduate Seminar is required each semester of all graduate students on campus; one credit may be applied towards graduation.	1
Elective courses approved by the supervisory committee and by the Coordinator of the geophysics graduate program. (at least 6 credits must be at the GEOPH 500-level or GEOPH 600-level)	14
GEOPH 593 Thesis	6
Total	30

Credit Requirements

All 30 credits must be taken for a letter grade, except for GEOPH 593 Thesis credit which will be graded Pass/Fail.

Thesis Requirements

A thesis representing research of sufficient quality to warrant publication in a peer-reviewed journal is required of all candidates for the Master of Science in Geophysics. Actual publication is not required, but is held out as a goal for all graduate students. The research results must be presented at a formal public defense, and the final written thesis must be approved by the supervisory committee, by the Coordinator of the geophysics graduate program, and by the Dean of the Graduate College. In order to provide sufficient time for thorough evaluation of thesis research, a student should allow 3-6 months between preparation of the first draft of the thesis and the day of the formal defense. Frequent communication between the student, the supervisory committee, and the Coordinator is essential throughout this period.

Graduate Certificate in Geographic Information Analysis

Graduate Program Coordinator: James McNamara
Environmental Research Building, Room 4165
Phone: (208) 426-1354
E-mail: jmcnamar@boisestate.edu

General Information

This certificate program is interdisciplinary in its application of geospatial technologies towards solving problems with spatial elements, and is open to graduate students of any major where geospatial information technologies and analysis may be applied. The prescribed and elective coursework is designed to meet the demands in industry and research where demonstrable literacy is required in these technologies. Applicants must be seeking a graduate degree for admission to this program.

Certificate Requirements

Graduate Certificate in Geographic Information Analysis	
Course Number and Title	Credits
Core Courses Select two from the following: GEOG 560 Introduction to Geographic Information Systems GEOG 561 Remote Sensing and Image Processing GEOG 562 Geographic Information Analysis GEOS 661 Advanced Image Processing	6
Electives Nine credits in courses that represent a disciplinary or interdisciplinary focus area. Courses must be approved by the graduate program coordinator and cannot include more than 3 undergraduate credits. Examples of focus areas include Landscape Ecology, Watershed Processes, Geologic Hazards, Resource Management and Land Use, Environmental Quality, Crime, and Urban and Regional Planning.	9
Total	15

Course Offerings

See *Course Numbering and Terminology* for definitions.

Additional course work will be required to receive graduate credit for undergraduate G courses.

GENSCI — General Science

GENSCI 501 HISTORY OF SCIENCE (3-0-3)(F/S). This is a survey of humanity’s efforts to understand the natural world. “Ancient Science” is presented as an introduction to the evolution of science since the 16th century. “Modern Science” is presented with emphasis on the development of modern scientific thought. Historical illustrations of the nature of scientific research in the evolution of science are presented.

GEOG — Geography

GEOG 560 INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS (2-2-3)(F/S). Theory, concepts, principles, and practice of spatial data capture, storage, analysis, and display within a geographic information systems environment.

GEOG 561 REMOTE SENSING AND IMAGE PROCESSING (2-2-3)(F/S). Fundamentals and applications of single frequency (including LiDAR), multispectral, and hyperspectral remote sensing for physical, natural, engineering, and social sciences. Emphasis on acquiring, processing, integrating, and interpretation of imagery. PREREQ: GEOG 560 or PERM/INST.

GEOG 562 GEOGRAPHIC INFORMATION ANALYSIS (2-2-3)(F/S). For graduate students with previous GIS experience or course work. Covers the operations and spatial analysis capabilities of a GIS, including spatial data models and data structure, spatial data management, and the spatial statistical

analyses used to solve various problems. Lab fee. PREREQ: GEOG 561 or PERM/INST.

GEOG 570 (GEOS 570) EARTH SYSTEM SCIENCE AND GLOBAL WARMING (3-0-3)(F/S). Survey of interactions among physical biogeochemical processes involved in climate and climate feedback. Explore in detail scenarios of global warming for the next century and their reliability. May be taken for GEOG or GEOS credit but not both. PREREQ: PERM/INST.

GEOPH — Geophysics

GEOPH 501 PROPERTIES AND PROCESSES IN GEOPHYSICS I (3-2-4)(F).

Study of the physical processes that operate within the solid Earth and the subsurface properties that govern those processes. Emphasis on mechanical deformation and seismic and electromagnetic wave propagation. Required core class for all geophysics graduate students. PREREQ: PERM/INST.

GEOPH 502 PROPERTIES AND PROCESSES IN GEOPHYSICS II (3-2-4)(S).

Study of the physical processes that operate within the solid Earth and the subsurface properties that govern those processes. Emphasis on thermal processes and the dynamics of fluids. Required core class for all geophysics graduate students. PREREQ: GEOPH 501 and GEOS 412, or PERM/INST.

GEOPH 510 BOREHOLE GEOPHYSICS (2-3-3)(Offered as justified).

Principles of geophysical, geological, and hydrological measurements in boreholes with emphasis on applications to hydrogeology and petroleum geology. Geological interpretation and formation evaluation of conventional petroleum industry well logs. Integration of borehole geophysics, seismic reflection data, and geology for water resource studies and petroleum exploration. PREREQ: PERM/INST.

GEOPH 511 INTEGRATED RESERVOIR ANALYSIS (3-1-3)(S). Integration of fundamentals and applications from geology, geophysics, and reservoir engineering to characterize petroleum and geothermal reservoirs. Students will work with real data and computer software to develop a reservoir. PREREQ: MATH 170, GEOS 220 or GEOS 315, or PERM/INST.

GEOPH 513 HYDROGEOPHYSICS (2-2-3)(S)(odd years). Application of geophysical methods to problems in groundwater hydrology including in situ estimation of aquifer parameters, evaluation of groundwater resources, delineation of thermal and chemical pollution of groundwater, and mapping of saltwater intrusion. PREREQ: GEOS 343, GEOS 512, or PERM/INST.

GEOPH 515 STRATIGRAPHIC INTERPRETATION OF SEISMIC DATA (3-0-3)

(S). Seismic sequence and seismic facies analysis, isochronous reflections, seismic stratigraphy of depositional systems, sea level cycles, seismic modeling, hydrocarbon indicators, lithology from velocity and seismic amplitude variation with offset, use of shear waves and vertical seismic profiling. Interpretation project involving seismic modeling. PREREQ: GEOPH 565 or GEOS 465.

GEOPH 520 GEOPHYSICAL APPLICATIONS OF DIGITAL SIGNAL

PROCESSING (2-3-3)(F/S). Review of digital linear system theory. Digital representation of geophysical data. Geophysical applications of convolution, fast-Fourier transform (FFT), correlations, least squares filters, deconvolution, multi-channel, and two-dimensional operations. Emphasis on processing of seismic reflection data, potential field maps, and earthquake seismograms. Computer laboratory exercises. PREREQ: MATH 333.

GEOPH 522 DATA ANALYSIS AND GEOSTATISTICS (3-0-3)(F). Review of basic statistics to cover traditional and recent data analysis techniques, with focus on spatial datasets. Parametric and non-parametric probability density functions, monte-carlo and bootstrap resampling, and principal component analysis. GIS software with focus on using quantitative geostatistical techniques for spatial interpolation and analysis, such as variogram modeling, kriging, and co-kriging. Some experience with programming recommended. PREREQ: PERM/INST.

GEOPH 555 GRAVIMETRIC AND MAGNETIC METHODS (2-2-3)(F/S).

Comprehensive discussion of modern gravimetric and magnetic methods of subsurface investigation. Applications to exploration geology (mining and petroleum), engineering geology, hydrogeology, and crustal geology. PREREQ: GEOPH 303, GEOS 101 or PERM/INST.

GEOPH 560 ELECTRICAL AND ELECTROMAGNETIC METHODS (2-2-3)

(F/S). Comprehensive discussion of modern electrical and electromagnetic methods of subsurface investigation, including ground penetrating radar. Applications to exploration geology (mining and petroleum), engineering geology, hydrogeology, and crustal geology. PREREQ: GEOPH 303, GEOS 101 or PERM/INST.

GEOPH 565 SEISMIC METHODS (2-2-3)(F/S). Comprehensive discussion of modern seismic methods of subsurface investigation. Applications to exploration geology (mining and petroleum), engineering geology, hydrogeology, and crustal geology. PREREQ: GEOPH 303, GEOS 101 or PERM/INST.

GEOPH 566 SNOW AND ICE PHYSICS (3-0-3)(S)(Even years).

Physics of water in its solid form at a wide range of spatial and temporal scales. Micro-scale processes including formation of solid precipitation, deposition, metamorphism, sublimation, melt, transition to firn, and ice deformation. Medium-scale processes including snow redistribution, energy balance, stratigraphy, slope stability, and avalanche dynamics. Large-scale processes including snowmelt, regional avalanche forecasting, glacier/ice sheet hydrology, ice cores, permafrost and sea ice. PREREQ: MATH 175.

GEOPH 567 SNOW SCIENCE FIELD METHODS (0-3-2)(S). Introduction to traditional and cutting-edge methods for measuring snow properties for snow hydrology and avalanche applications. Weekly hands-on measurements in nearby Dry Creek and Reynolds Creek Experimental Watersheds to monitor snow conditions during the winter and spring. PREREQ: PERM/INST.

GEOPH 575 GEOPHYSICAL APPLICATIONS OF DIGITAL SIGNAL

PROCESSING (2-2-3)(F/S). Review of digital linear system theory. Digital representation of geophysical data. Geophysical applications of convolution, fast-Fourier transform (FFT), correlations, least squares filters, deconvolution, multi-channel and two-dimensional operations. Emphasis is on processing of seismic reflection data, potential field maps, and earthquake seismograms. Computer laboratory exercises. PREREQ: GEOPH 301 or GEOS 343, or PERM/INST.

GEOPH 601 (GEOS 601) INTRODUCTION TO RESEARCH PROGRAM

DEVELOPMENT (1-0-1)(F). Overview of requirements for research and development of technical writing skills through the preparation of abstracts, proposals for research funding, and thesis proposals. May be taken for GEOPH or GEOS credit, but not both. PREREQ: PERM/INST.

GEOPH 605 INVERSION THEORY AND GEOPHYSICAL APPLICATIONS

(3-0-3)(F). Application of the concepts of inverse theory to problems in geophysics and geophysical imaging. Continuous (integral) and discrete methods, with emphasis on latter. Review of linear algebra, eigenvalue decomposition, basis functions, basis vectors, metrics, objective functions, transformation and representation, error analysis, linear and nonlinear inverse methods, gradient descent methods, grid searches, simulated annealing. Computer laboratory exercises. PREREQ: MATH 301.

GEOPH 610 GEOPHYSICAL METHODS IN GEOTECHNICAL ENGINEERING

(3-0-3)(F)(Odd years). Application of geophysical methods to earthquake engineering, soil dynamics, and vibrations due to construction. Methods for the geophysical assessment of soil profiles with emphasis on the amplification and propagation of stress waves. Response of soils, foundations, and structures built on or out of soils to waves and vibrations created by earthquakes or heavy construction and pile driving. Estimation of seismic hazards, characterization of strong ground motion, wave propagation, local site effects, and different representations of soil dynamics.

GEOPH 623 (CE 623)(GEOS 623) ADVANCED HYDROGEOLOGY (3-0-3)(F).

Treatment of groundwater occurrence and flow, theory fundamental mechanisms, hydrologic parameters, flow regimes and systems, geologic controls. May be taken for CE, GEOPH, or GEOS credit, but not for more than one department. PREREQ: MATH 275, MATH 333, and GEOS 412 or GEOS 512 or CE 412 or CE 512, or PERM/INST.

GEOPH 624 (CE 624)(GEOS 624) APPLIED HYDROGEOLOGY (3-0-3)(S).

Quantitative determination of hydrologic parameter values and groundwater flow conditions. Conceptual models and geologic context, boundary condition, analytical and numerical solution techniques, measurement methods, applications to engineering and environmental problems. May be taken for CE, GEOPH, or GEOS credit, but not for more than one department. PREREQ: CE 623 or GEOPH 623 or GEOS 623 or PERM/INST.

GEOPH 630 ESTIMATION OF EARTHQUAKE GROUND MOTION (2-2-3)

(F/S). Procedures for estimation of earthquake ground motion for applications such as the siting and design of critical facilities, city and land use planning, building codes, and evaluation of insurance needs. Topics include seismicity, seismotectonic features, regional seismic attenuation, ground motion parameters, response spectra, local amplification, and estimation of uncertainty. Students interested in earthquake ground motion are also encouraged to consider GEOPH 610 as a related course. Scheduled offering based on student interest. PREREQ: GEOPH 677; GEOS 314, or PERM/INST.

GEOPH 640 ELECTROMAGNETIC AND SEISMIC WAVE PROPAGATION (3-0-3)(S)(Odd years). Derivation of wave equations and solutions in idealized media including layered media. Source effects. Attenuation in earth materials. Numerical computation of wave fields including finite-element and finite-difference methods. Computer laboratory exercises. PRE/COREQ: GEOPH 502 or PERM/INST.

GEOPH 641 (GEOS 641) GEODYNAMICS (3-0-3)(F/S). Identifies and quantitatively analyzes the processes governing the dynamic behavior of Earth at a variety of spatial and temporal scales. Offered upon sufficient student interest. May be taken for GEOPH or GEOS credit, but not both. PREREQ: PERM/INST.

GEOPH 653 DESIGN OF GEOPHYSICAL MONITORING SYSTEMS FOR SURFACE OR SUBSURFACE PROCESSES (2-2-3)(F/S). Application of design principles to in situ geophysical monitoring systems for time-dependent surface or subsurface processes such as slope instabilities and migration of contaminants in groundwater. Scheduled offering based on student interest. PREREQ: GEOS 343, GEOPH 502, GEOPH 605; or PERM/INST.

GEOPH 660 VOLCANO GEOPHYSICS (1-6 credits)(Offered as justified). Focus on multi-parametric observations and interpretation of geophysical data collected at active volcanoes. Studies grounded in broadband seismology. Acquisition, signal processing, interpretation, and presentation of volcano data in written and oral format. Preparation should include advanced math and computer skills. PREREQ: PERM/INST.

GEOPH 667 SOIL AND ROCK PHYSICS (3-1-3)(offered as justified). Fundamentals of rock and soil mechanics, from elastic rock deformation to rock failure. Rock physics concepts integrated into geophysical applications for the understanding of rock types, pore fluids, and pressures acting on the rocks. Lab experiments and/or modeling. PREREQ: PERM/INST.

GEOPH 677 EARTHQUAKE SEISMOLOGY (3-0-3)(F)(Even years). Physics of the earthquake source, with special emphasis on earthquakes at volcanoes, tectonic earthquakes, volcano-tectonic earthquakes, long-period earthquakes, volcanic tremor, seismometry, earthquake location, fault-plane solutions, earthquake source mechanism, interpretation of seismograms, earthquake magnitude, surface waves, waveform modeling, Earth structure, mainshock-aftershock sequences, earthquake swarms, and b-values. PREREQ: MATH 333 or PERM/INST.

GEOS—Geoscience

GEOS 505 INTRODUCTION TO NUMERICAL METHODS FOR THE GEOSCIENCES (1-2-3)(S). Programming and numerical methods using MATLAB. Standards and practices of programming within MATLAB. Survey of numerical methods critical to geoscientists, including root finding, interpolation and extrapolation, linear algebra, numerical integration, solving differential equations, and simulation and random numbers. PREREQ: MATH 175 or equivalent.

GEOS 511 HYDROLOGY: LAND-ATMOSPHERE INTERACTION (3-0-3)(F). Introduction to the hydrologic cycle and connections between the land surface and atmosphere. Atmospheric circulation, global hydrologic budget, atmospheric radiation, meteorology and climatology of rainfall, snow processes, surface energy and moisture balance, turbulent fluxes, and modeling and remote sensing. PREREQ: MATH 175.

GEOS 512 (CE 512) HYDROGEOLOGY (3-0-3)(S). Introduction to the hydrologic cycle focusing on subsurface water and its relationship to surface water. Physics of flow through porous media, physical properties of aquifer systems, methods to determine aquifer characteristics, groundwater modeling and relationships between groundwater and streamflow. May be taken for CE or GEOS credit, but not both. PREREQ: CE 330 or ME 330 or MATH 175.

GEOS 516 HYDROLOGY (3-0-3)(F). Interdisciplinary earth science concerned with movement and occurrence of water. Watershed-based hydrologic phenomena including hydrologic cycle water-cycle analysis, precipitation, evapotranspiration, snow-snowmelt, streamflow, floods, routing and surface runoff events. Application of analytical techniques to solve water resource problems. PREREQ: MATH 175 or PERM/INST.

GEOS 518 APPLIED HYDROLOGIC MODELING (2-2-3)(S). Review, critical analysis, and application of surface hydrology modeling techniques used in hydrology and engineering practice. Covers empirical, statistical, and physics-based approaches. Application of commonly used modeling software to practical problems. PREREQ: GEOS 516 or PERM/INST.

GEOS 523 ADVANCED GEOMORPHOLOGY (V-V-3)(F/S). Study of Quaternary dating methods, applications of geomorphology to environmental problems, mapping and landscape analysis using GIS, soils, geomorphic

response to Quaternary climate change, and climatic, tectonic and autocyclic controls on geomorphic processes. Field trips and a field-based research project required. PREREQ: PERM/INST.

GEOS 525 WHOLE EARTH GEOCHEMISTRY (3-0-3)(F/S). Basic tools and topics of modern geochemistry with an emphasis on solid-earth applications. Essentials of thermodynamics, kinetics, radiogenic and stable isotopes, and trace element chemistry necessary to study Earth processes in the crust, mantle, hydrosphere and atmosphere. PREREQ: PERM/INST.

GEOS 526 (CE 526) AQUEOUS GEOCHEMISTRY (3-0-3)(F/S). Basic tools and topics of aqueous geochemistry with an emphasis on low temperature processes in natural waters. Essentials of thermodynamics, kinetics, aqueous speciation, mineral-water interaction, and elemental cycling in the context of surficial earth processes and environmental challenges. May be taken for CE or GEOS credit, but not both. PREREQ: PERM/INST.

GEOS 529 FIELD HYDROGEOLOGIC METHODS (1-4-3)(Offered as justified). Field observations and data collection at active drilling projects. Survey course covering water well design and construction, geologic data collection from well cuttings, geophysical methods, and other technical, legal and environmental aspects of water well drilling and operation. Requires weekly 4-hour field trips to local drill sites. PREREQ: GEOS 512 and PERM/INST.

GEOS 531 GEOLOGY AND TECTONICS OF WESTERN NORTH AMERICA (3-0-3)(F/S). Class traces the timeline of processes and events that shaped the continental architecture of Western North America by integrating all relevant aspects of geology and geophysics. A research paper is required. PREREQ: Graduate standing or PERM/INST.

GEOS 535 INTRODUCTION TO GEOINFORMATICS (3-0-3)(F/S). Explores theory and practice of digital information systems applied to the geosciences. Databases, GIS, schemas, standards and protocols, and examples. PREREQ: PERM/INST.

GEOS 540 TECTONICS SEMINAR (2-0-2)(F/S). Examination of specific orogenic systems, tectonic environments, and tectonic processes. PREREQ: GEOS 314, PERM/INST.

GEOS 541 PLATE TECTONICS (3-0-3)(F/S)(On demand). Reviews and clarifies geologic and geophysical foundations of plate tectonic theory. Characteristics of modern tectonic environments and their use in interpreting the Earth's geologic history. PREREQ: PERM/INST.

GEOS 551 PRINCIPLES OF SOIL SCIENCE (3-0-3)(F/S)(Offered as justified). Physical, chemical, and biological characteristics of soils, the factors that govern soil formation, soils as a tool for interpreting landscape evolution and climatic change, and the feedbacks among geologic, hydrologic, and ecologic systems that influence pedogenesis. Demonstration laboratory exercises and field trips will be required. Background in geology and chemistry encouraged. PREREQ: PERM/INST.

GEOS 560 VOLCANOLOGY (3-0-3)(F)(Alternate years). Study of volcanic processes and deposits, with focus on advances in volcanology since 1980 eruption of Mt. St. Helens. Course content aimed at students desiring to improve skills in working with volcanic rocks in the context of the geologic record, as well as students interested in volcanic hazards assessment. Field trip required. PREREQ: Graduate standing in geosciences or PERM/INST.

GEOS 561 EARTH SCIENCE TEACHING TECHNIQUES (3-0-3 or 4-0-4)(F/S). This course is a study of the objectives, methods, and materials of instruction in Earth Sciences. Emphasis will be placed on the preparation and presentation of lectures, laboratory exercises and field trips. This course provides the student with internship experience in the laboratory and lecture classroom. PREREQ: Graduate status or PERM/INST.

GEOS 562 ADVANCED FIELD METHODS IN VOLCANOLOGY (2-V-3)(F). Students increase their aptitude for observing and interpreting volcanic deposits in the field through field discussion and field reports that (1) clearly distinguish observation from interpretation, and (2) support interpretations with field observations and reference to the published literature. Class time is used to discuss volcanic processes and field observations. Field trips required. PREREQ: GEOS 460/560 or PERM/INST.

GEOS 570 (GEOG 570) EARTH SYSTEM SCIENCE AND GLOBAL WARMING (3-0-3)(F/S). Survey of interactions among physical biogeochemical processes involved in climate and climate feedback. Explore in detail scenarios of global warming for the next century and their reliability. May be taken for GEOG or GEOS credit, but not both. PREREQ: PERM/INST.

GEOS 580 SELECTED TOPICS IN WATERSHED HYDROLOGY (1-3 credits)(F). Detailed investigation of select hydrologic processes and applications.

Topics will vary each year and may include runoff generation, snow hydrology, watershed management, hydrologic modeling, sediment transport, land-use hydrology and field methods among others. Repeatable for credit. PREREQ: PERM/INST.

GEOS 583 SELECTED TOPICS IN GEOMORPHOLOGY (1-3 credits)(F/S).

Selected topics in geomorphology such as environmental geomorphology, soils and geomorphology, and post-fire erosion. May be repeated for credit. PREREQ: PERM/INST.

GEOS 584 SELECTED TOPICS IN TECTONICS (1-3 credits)(S)(Odd years).

Exploration of an individual topic chosen from within the discipline of tectonics. Subject of study in a given semester may be based on geography (e.g., evolution of the Cordilleran Orogen) or tectonic process (e.g., continental rifting and extension). May be repeated for credit. PREREQ: PERM/INST.

GEOS 585 SELECTED TOPICS IN ISOTOPE GEOSCIENCE (1-3 credits)(F/S)

(Offered as justified). Investigation of selected isotope geoscience methods and applications. Topics vary and may include aspects of stable, cosmogenic, rare gas, and radiogenic isotope geochemistry. May be repeated for credit. PREREQ: PERM/INST.

GEOS 586 SELECTED TOPICS IN VOLCANOLOGY (1-3 credits)(F/S).

Explores research questions, methods and recent advancements in volcanology through discussions on a series of volcanology research papers. Repeatable for credit. PREREQ: PERM/INST.

GEOS 589 SELECTED TOPICS IN SEISMOLOGY (1-3 credits)(F/S).

Theory and techniques for using seismic and acoustic wave data to characterize the material through which the waves propagate as well as the source of the wave excitation. Selected topics range from but are not limited to seismic imaging to monitoring to data processing. Data visualization and interpretation also make up a component of this course. Repeatable for credit. PREREQ: PERM/INST.

GEOS 598 GRADUATE SEMINAR (0-1 to 0-3).

The preparation and presentation of oral and written reports on topics in earth science and/or science education. Presentation of oral reports may take the form of debate. Preparation of visual aids and geologic illustrations will be emphasized. PREREQ: Admission to candidacy or PERM/INST.

GEOS 601 (GEOPH 601) INTRODUCTION TO RESEARCH PROGRAM DEVELOPMENT (1-0-1)(F).

Overview of requirements for research and development of technical writing skills through the preparation of abstracts, proposals for research funding, and thesis proposals. May be taken for GEOPH or GEOS credit, but not both. PREREQ: PERM/INST.

GEOS 605 TOPICS IN GEOMORPHOLOGY (3-0-3)(F/S).

Topical investigation of geomorphic processes, including the influences of geology, hydrology, biology, climate, tectonics, and time on landscape evolution and ecosystems development. Includes field investigations. May be repeated for credit. PREREQ: PERM/INST.

GEOS 607 PALEOCLIMATOLOGY AND PALEOCEANOGRAPHY (3-0-3)(F/S).

Will survey the driving forces of atmospheric and oceanic circulation, and how this information can be retrieved from the geological record from physical, biotic, trace element, and isotopic proxies. PREREQ: PERM/INST.

GEOS 611 BASIN ANALYSIS (3-0-3)(S).

Study of the formation and evolution of sedimentary basins. Emphasis on the concepts and qualitative tools necessary to understand how sedimentary basins are formed, their specific stratigraphic architectures, and modern approaches to correlation. PREREQ: PERM/INST.

GEOS 615 TIME-SERIES ANALYSIS OF THE GEOLOGIC RECORD (3-0-3)

(F/S). Analysis of modern methods for the quantification of time in the geologic record, including bio-, chemo-, magneto- and physical stratigraphy, high precision geochronology, and orbital tuning. Application to elucidating the records of tectonic reconstruction, paleobiological evolution, and paleoclimate change. PREREQ: PERM/INST.

GEOS 616 WATERSHED PROCESSES (3-0-3)(F). Hydrologic processes operating in watersheds, and relationships among hydrologic, biogeochemical, and geomorphologic processes. PREREQ: PERM/INST.

GEOS 620 COUPLED LAND-ATMOSPHERE MODELING (2-2-3)(F)(Offered even years).

Overview of hydrometeorological theory underlying contemporary hydrometeorologic modeling. Application to the use of state-of-the-art research coupled land-atmosphere models, particularly the Weather Research and Forecasting (WRF) model. PREREQ: GEOS 505 or PERM/INST.

GEOS 621 GLOBAL HYDROLOGIC CHANGE (3-0-3)(F)(Offered odd years).

In-depth study of projected changes to the global hydrologic cycle associated with climate change. Review of theory and recent literature on global hydrologic change and process-oriented, quantitative analysis of outputs of the Fifth Coupled Model Intercomparison Project.

GEOS 623 (CE 623)(GEOPH 623) ADVANCED HYDROGEOLOGY (3-0-3)(F).

Treatment of groundwater occurrence and flow, theory fundamental mechanisms, hydrologic parameters, flow regimes and systems, geologic controls. May be taken for CE, GEOPH, or GEOS credit, but not for more than one department. PREREQ: MATH 275, MATH 333, and GEOS 412 or GEOS 512 or CE 412 or CE 512, or PERM/INST.

GEOS 624 (CE 624)(GEOPH 624) APPLIED HYDROGEOLOGY (3-0-3)(S).

Quantitative determination of hydrologic parameter values and groundwater flow conditions. Conceptual models and geologic context, boundary condition, analytical and numerical solution techniques, measurement methods, applications to engineering and environmental problems. May be taken for CE, GEOPH, or GEOS credit, but only in one department. PREREQ: CE 623 or GEOPH 623 or GEOS 623 or PERM/INST.

GEOS 630 (CE 630) VADOSE ZONE HYDROLOGY (3-0-3)(F)(Even years).

Laboratory and field methods for characterizing physical and hydraulic properties of soils, solution of variably saturated flow problems using analytical and numerical techniques. Computer simulations of flow and transport in variably saturated soils. May be taken for CE or GEOS credit, but not for both. PREREQ: CE 412, GEOS 412, CE 512, or GEOS 512 or PERM/INST.

GEOS 633 (CE 633) CONTAMINANT HYDROGEOLOGY (3-0-3)(F)(Odd years).

The fate and transport of dissolved solutes and non-aqueous phase liquids in groundwater systems. Students will analyze field data and develop conceptual models for contaminated sites. The role of engineers and hydrologists in environmental litigation will be addressed through case studies. May be taken for CE or GEOS credit, but not for both. PREREQ: CE 412 or CE 512 or GEOS 412 or GEOS 512, or PERM/INST.

GEOS 636 STABLE ISOTOPE GEOCHEMISTRY (3-0-3)(F/S).

Comprehensive overview of theory, methods, and applications of stable isotope geochemistry to a wide range of earth science problems. PREREQ: PERM/INST.

GEOS 638 RADIOGENIC ISOTOPE GEOCHEMISTRY AND

GEOCHRONOLOGY (3-0-3)(F/S). Comprehensive overview of theory, methods, and applications of radiogenic isotope geochemistry and geochronology to a wide range of earth science problems. PREREQ: PERM/INST.

GEOS 641 (GEOPH 641) GEODYNAMICS (3-0-3)(F/S).

Identifies and quantitatively analyzes the processes governing the dynamic behavior of Earth at a variety of spatial and temporal scales. May be taken for GEOPH or GEOS credit, but not both. PREREQ: PERM/INST.

GEOS 643 ADVANCED STRUCTURAL GEOLOGY (2-3-3)(F)(Alternate years).

Geometric, kinematic and dynamic analysis of plutonic rocks and metamorphic tectonites. Structural elements in plutons, their formation and interpretation as indicators of the tectonic environment during emplacement. Mesoscopic and microscopic study of rock fabrics, the mechanisms and processes of their formation and deformation, and their use as kinematic and strain indicators. PREREQ: PERM/INST.

GEOS 645 PHYSICS AND CHEMISTRY OF MOUNTAIN BUILDING (3-0-3)

(F/S). An introduction to modern methods for analyzing the pressure-temperature-time paths and histories of metamorphic terrains comprising modern and ancient mountain belts; subjects to include quantitative geothermobarometry, chemical diffusion and closure temperature theory, geochronology and thermochronology, the thermal structure and evolution of mountain belts. PREREQ: PERM/INST.

GEOS 647 ADVANCED IGNEOUS PETROLOGY (3-0-3)(S)(Odd years).

A study of igneous rocks with emphasis on their origin and the processes responsible for their diversity. Exercises will make use of the petrographic microscope and the departmental computer facilities. A field trip is required. PREREQ: PERM/INST.

GEOS 652 METHODS IN HYDROLOGIC SCIENCES (1-V-3)(S).

Application of laboratory and field methods to problems in hydrology, biogeochemistry, and aqueous geochemistry, inclusive of experimental design, sampling techniques, analytical methods and data analysis. PREREQ: PERM/INST.

GEOS 661 ADVANCED IMAGE PROCESSING (2-2-3)(S).

Techniques for data derived in the visible, infrared, and microwave spectra. Concepts of laser altimetry and terrestrial laser scanning (TLS) through hands-on field training

and data acquisition and image processing. Topics may include preprocessing, endmember analysis, point cloud analysis, spectral unmixing, classification, and accuracy assessment. Practical application of theory for graduate student to apply in thesis and dissertation research. PREREQ: GEOG 561 or PERM/INST.

GEOS 680 SELECTED TOPICS IN HYDROMETEOROLOGIC MODELING (1-4 credits)(F/S)(Offered as justified). Topics related to simulation of hydrologic systems including coupled land-atmosphere modeling, hydrologic forecasting and data assimilation, modeling biogeochemical cycling, land modeling in integrated Earth system modeling, and physics-based watershed modeling.

GEOS 681 SELECTED TOPICS IN REMOTE SENSING (1-3 credits)(F/S). Theory and techniques of using remotely sensed data for mapping and analysis of the environment. Topics will vary within a focus on image processing techniques for selected hydrologic, biogeochemical, geomorphologic, and ecological processes. Repeatable for credit. PREREQ: PERM/INST.

GEOS 683 SELECTED TOPICS IN SOIL SCIENCE (1-4 credits)(Offered as justified). Selected topics related to aspects of soil science, including the physical, chemical, and biological characteristics of soils. May be presented in lectures, laboratory exercises and field trips. PREREQ: Background in geology and chemistry.

GEOS 685 SELECTED TOPICS IN BIOGEOCHEMISTRY (1-4 credits)(Offered as justified). Topics related to aspects of biogeochemistry including biogeochemical cycling, nutrient and contaminant fate in the environment, ecohydrology, reactive transport modeling, microbial processes in the environment, and climate change processes. May be presented in lectures, laboratory exercises and field trips. PREREQ: Background in chemistry, environmental sciences.

GEOS 693 DISSERTATION (0-V-V). Original research and analysis of results culminating in the preparation of a dissertation. (Pass/Fail.)

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

Department of History

College of Arts and Sciences

Chair: Nicholas Miller
 Library Building, Room 192
 Phone: (208) 426-1255
<https://history.boisestate.edu>
 E-mail: historygradbsu@boisestate.edu

Graduate Faculty: Bieter, Brady, Finstuen, Gill, Huntley, Klein, Lubamersky, Madsen-Brooks, McClain, Miller, Pinto, Wakild, Walker, Woods

Graduate Degrees Offered

- Master of Arts in History
- Master of Applied Historical Research

General Information

The Master of Arts in History and the Master of Applied Historical Research degrees prepare students for work in the field of history. The History Masters programs are based upon a solid, committed faculty and multiple resources. With sixteen faculty members, the department of history offers courses in a wide variety of topics in the fields of non-western, United States, and European history. Graduate faculty are deeply involved in research and writing in their respective major fields (for more information on the faculty, see the department web page: <http://history.boisestate.edu>). The department of history encourages a collegial atmosphere in which students and faculty work closely together. Its main goal is to prepare students for further study or for a successful career in history. Besides a faculty rich in its diversity and talents, the location of the university in the capital city of Idaho gives students access to the State Archives, Idaho State Historical Museum, the state's Law Library, the Survey Research Center, the Frank Church Archive, and other research facilities. Boise State University's Albertsons library has a collection of almost 550,000 bound volumes and periodicals and subscribes to more than 4,900 serials. It is also a selective US Government and Canadian document depository, as well as an Idaho State depository. The interlibrary loan system makes the holdings of other excellent collections accessible to Boise State students. Several large corporations with home offices in Boise have opened their archives to students and faculty doing research on department-supported topics.

Advising of Incoming Graduate Students The coordinator of graduate studies in history will act as temporary advisor for all newly admitted students until an initial advisor is assigned. The student will establish a supervisory committee as soon as possible, normally during the first semester enrolled. The committee chair will serve as the student's permanent advisor and thesis, portfolio, or project director. Other members of the committee will be chosen by the student and his or her advisor. The entire program leading to the degree will be planned by the student in conjunction with his or her supervisory committee.

Application and Admission Requirements

Application Procedures The history department accepts new candidates for the fall or spring semesters. To be admitted for the fall semester and be considered for departmental funding, applications must be received by January 15. To be admitted for fall without funding, the application deadline is April 1. Those seeking to start in spring semester must submit applications by September 15. An applicant must satisfy the minimum admission requirements of the Graduate College (see *Graduate Admission Regulations*).

Applicants must also submit the following items using the university's online application process: a letter of application explaining why the student wishes to be admitted and what area of research they hope to pursue, a sample of the applicant's writing skills (e.g., seminar paper, senior thesis, or published article), and at least two letters of recommendation from persons competent to judge the applicant's potential for graduate study in history. Students also must provide their Graduate Record Examination (GRE) scores. To be considered for a Graduate Assistantship, the GRE scores must be received by January 15. The History Department can take no action on the application until all of the above materials have been received. One year of a foreign language is required for the MA degree; a year of a foreign language or approved tool credits is required for the MAHR. Until a student completes the language/tool requirement, they will retain provisional status.

Admission Requirements Minimum requirements include a bachelor's degree in history, or its equivalent, from an accredited institution or a strong history background (more than 20 semester hours) within their undergraduate program. Minimum standards for admission with regular status to the history graduate program include a minimum GPA of 3.00 with 3.20 in history and 3.20 for the last two years of undergraduate study. Students not meeting these minimum requirements for admission with regular status may be granted provisional status. However, meeting minimum standards is not a guarantee of acceptance.

Master of Arts in History

Coordinator of Graduate Studies: Lisa McClain
 Library Building, Room 177
 Phone: (208) 426-1985
 E-mail: historygradbsu@boisestate.edu

The Master of Arts in History prepares students to work as research historians, to continue in history doctoral programs, or to advance the preparation of history teachers in K-12 education. It is best suited for those seeking a career in an academic-related field. Students in the M.A. program may choose either the thesis or portfolio option as their culminating activity. The thesis option is recommended for students seeking entrance into a Ph.D. program or into an academic research-and-publication-based career. It is a written exploration of a historical topic, based upon primary source research, which defends an analytical argument that is original and compelling. The topic and scope of the thesis will be determined by the student in consultation with the advisory committee. The portfolio option is recommended for students who teach in the K-12 public school system and/or who do not plan to pursue additional graduate degrees.

Degree Requirements

Master of Arts in History	
Course Number and Title	Credits
HIST 500 The Nature of History	3
HIST 501 The Study of History	3
Culminating Activity Thesis	27
Approved History Electives (12-21 cr)	
Approved Electives Outside of History (0-9 cr)	
HIST 593 Thesis (6 cr)	
Portfolio	
Approved History Electives in Major Field (12 cr)	
Approved History Electives in Minor Field (6 cr)	
Additional History Electives (0-6 cr)	
Approved Electives Outside of History (0-6 cr)	
HIST 592 Portfolio (3 cr)	
Total	33
One year of foreign language is required for graduation; these credits do not count towards the required 33 credits for the degree.	

Master of Applied Historical Research

Coordinator of Graduate Studies: Lisa McClain
 Library Building, Room 177
 Phone: (208) 426-1985
 E-mail: historygradbsu@boisestate.edu

The Master of Applied Historical Research gives students the opportunity to combine an existing expertise with the study of history. Possible emphases include public history, urban affairs, the environment, policy studies (local, state, or international), and applied cultural studies. This is a professional degree aimed at those seeking a career in some area of public history (e.g. museums, national parks, archives, government or non-profit research). The applied research project is the culminating activity for the Master of Applied Historical Research. All projects, regardless of the medium, must include a substantial analytical written portion of no less than 5,000 words. The written portion must place the research in appropriate scholarly context. It must demonstrate scholarly competence in writing, research, analysis, and historical documentation.

Degree Requirements

Master of Applied Historical Research	
Course Number and Title	Credits
HIST 500 The Nature of History	3
HIST 501 The Study of History	3
HIST 502 Applied Historical Research	3
Approved History Electives (18 cr)	18
or	
Approved History electives (6-18 cr)	
Approved internships and/or non-history electives (0-12 cr)	
HIST 591 Project	6
Total	33
One year of foreign language or a technical equivalent is required for graduation; these credits do not count towards the required 33 credits for the degree.	

Course Offerings

See *Course Numbering and Terminology* for definitions.

HIST — History

HIST 500 THE NATURE OF HISTORY (3-0-3)(F). Analysis of what historians do and how the discipline has developed over time. Examines the major controversies over method and interpretation. Oral and written participation and a major paper are required. PREREQ: Admission to History graduate program or PERM/INST or PERM/GRAD COORD.

HIST 501 THE STUDY OF HISTORY (3-0-3)(S). Critical analyses of historical scholarship and source materials on a selected broad topic in global history. Emphasis placed upon honing professional skills, class discussion, historiography, and the nature of historical research. PREREQ: Admission to History graduate program or PERM/INST or PERM/GRAD COORD

HIST 502 APPLIED HISTORICAL RESEARCH (3-0-3)(S). A seminar on the use and abuse of history in nonacademic settings. Potential topics include the application of historical thinking and methods in foreign policy, business history, city planning, historic preservation, environmental assessment, library and archives, historic sites, and museums. PREREQ: Admission to the graduate program or PERM/CHAIR.

HIST 580 SELECTED TOPICS: GRADUATE SEMINAR IN EUROPEAN HISTORY (3-0-3)(F/S/SU). Critical analyses of source materials and historical scholarship on topics of restricted scope in European History. Emphases placed upon student reports, class discussions, individual research on relevant topics and the writing of historical papers. PREREQ: Admission to History graduate program or PERM/INST.

HIST 581 SELECTED TOPICS: GRADUATE SEMINAR IN THE HISTORY OF THE AMERICAS (3-0-3)(F/S/SU). Critical analyses of source materials and historical scholarship on topics of restricted scope in Canadian, U.S., or Latin American History. Emphases placed upon student reports, class discussions, individual research on relevant topics and the writing of historical papers. PREREQ: Admission to History graduate program or PERM/INST.

HIST 582 SELECTED TOPICS: GRADUATE SEMINAR IN NON-WESTERN HISTORY (3-0-3)(F/S/SU). Critical analyses of source materials and historical scholarship on topics of restricted scope in African, Asian, or Middle Eastern History. Emphases placed upon student reports, class discussions, individual research on relevant topics and the writing of historical papers. PREREQ: Admission to History graduate program or PERM/INST.

HIST 585 SELECTED TOPICS: THEMES IN HISTORY (3-0-3)(F/S/SU). Critical analyses of historical scholarship and source materials on a selected topic in history. Emphases placed upon analyzing scholarship, class discussion, and the nature of historical research. Intensive reading and writing. May be repeated for credit. PRE/COREQ: HIST 500 or Admission to History graduate program or PERM/INST.

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

Master of Science in Hydrologic Sciences

College of Arts and Sciences

College of Engineering

Department of Geosciences

Graduate Program Coordinator: Alejandro Flores
Environmental Research Building, Room 4151
Phone: (208) 426-2903
Fax: (208) 426-4061
E-mail: lejoflores@boisestate.edu
<https://earth.boisestate.edu>

Department of Biological Sciences

Contact: Kevin Feris
Science Building, Room 226
Phone: (208) 426-5498
Fax: (208) 426-1040
E-mail: kevinferis@boisestate.edu
<https://biology.boisestate.edu/>

Department of Civil Engineering

Contact: Arvin Farid
Environmental Research Building, Room 3137
Phone: (208) 426-4827
Fax: (208) 426-4800
E-mail: arvinfarid@boisestate.edu
<https://coen.boisestate.edu>

General Information

The program leading to the degree of Master of Science (M.S.) in Hydrologic Sciences requires completion of a core curriculum in the hydrologic sciences, elective courses chosen to meet student goals, and original research that culminates in a publicly defended thesis. The emphasis is on the scientific principles governing the movement of water and water-borne material through natural systems, the interaction of water with geological and biological systems, and tools to quantify and predict those movements and interactions. Participation by faculty members from the Department of Geosciences, Department of Biological Sciences, and the Department of Civil Engineering provides enriched delivery of courses and enhanced student guidance.

Graduate Teaching and Research Fellowships

Graduate fellowships including tuition and fee waivers are funded from three sources: appropriated state funds, endowments, and research grants and contracts. Applicants to the M.S. in Hydrologic Science program who submit all documents required by the admission procedure by February 1 of any given year will be considered for a state appropriated or endowed graduate fellowship to start the following fall semester. Information on graduate fellowships funded by research grants and contracts is available from the coordinator of the graduate program in hydrologic science. Prospective students are encouraged to contact individual faculty members for further information about research projects.

Student Guidance

The graduate program coordinator will assign a temporary faculty advisor to each student prior to the first semester of enrollment. By the end of the first semester, the advisor, in consultation with the student, will initiate the appointment of a three-person supervisory committee that will assume responsibility for student guidance.

Application and Admission Requirements

An applicant must follow the general application procedures for admission to a graduate program (see *Graduate Admission Regulations*). Applicants are required to have a baccalaureate degree in a science or engineering discipline from an accredited college or university, and undergraduate courses equivalent to one year each of calculus, chemistry, and calculus-based physics. An applicant must also provide GRE General Test scores, three letters of recommendation from academic faculty, a letter of intent outlining goals for graduate study, and a course summary form; detailed instructions may be obtained at <https://earth.boisestate.edu/degrees/graduate/>, or from the graduate program coordinator. Once the file for an applicant is complete, it will be evaluated and an admission recommendation (regular, provisional, or denial) will be forwarded to the Graduate Dean. The Graduate Dean will make the final admission decision and notify the applicant. Admission is competitive and is not guaranteed to any applicant.

Degree Requirements

Master of Science in Hydrologic Sciences	
Course Number and Title	Credits
ENGR 500 Research Methods or GEOS 601 Introduction To Research Development	1
GEOS 598 Graduate Seminar or Supervisory Committee approved seminar in CE or BIOL Enrollment in Graduate Seminar is required each semester for students with advisors in the Department of Geosciences; one credit may be applied towards graduation.	1
Hydrologic Sciences Core GEOPH 522 Data Analysis and Geostatistics or BIOL 601 Biometry	3
GEOS 512/CE 512 Hydrology	3
GEOS 516 Hydrology	3
GEOS 518 Applied Hydrologic Modeling	3
GEOS 526/CE 526 Aqueous Geochemistry	3
GEOS 652 Methods in Hydrologic Science	3
Electives Approved by the Supervisory Committee (at least 3 credits must be at 600 level)	6
Culminating Activity BIOL 593 Thesis or CE 593 Thesis or GEOS 593 Thesis	6
Total	32

Interdisciplinary Studies Program

College of Arts and Sciences

Program Director: Nicole Molumby
Education Building, Room 601
Phone: (208) 426-1414
Fax: (208) 426-3006
E-mail: ids@boisestate.edu

Graduate Degrees Offered

- Master of Arts in Interdisciplinary Studies
- Master of Science in Interdisciplinary Studies

General Information

Boise State University offers a Master of Arts/Master of Science degree program in Interdisciplinary Studies. In consultation with faculty, students may combine courses from more than one college or more than one department to create an individualized program of educational experience. The program is designed for mature students who wish to continue education at the graduate level but do not seek specialized training in a major area. The program is not a substitute for the traditional master's degree; rather, it is intended for students with broader interests in several fields or those whose career goals do not match fully with a single, identifiable academic unit or department. Emphasis is placed on continued intellectual and cultural development in a constantly changing society where new intellectual and career interests may extend over several traditional specializations.

The Interdisciplinary Studies (IDS) Program is administered by the Graduate College, housed in the College of Arts and Sciences, and directly supervised by the Director of Interdisciplinary Studies. A university-wide Interdisciplinary Studies Committee consists of the Graduate Dean or Associate Dean and members from a broad range of disciplines appointed by the appropriate Dean. The Director of Interdisciplinary Studies serves as the chair of that committee and oversees the program. Each student in the program also has a graduate committee composed of three faculty members from the disciplines making up the student's interdisciplinary program. The student's graduate committee has the responsibility of helping the student select a particular program of study and recommends to the Interdisciplinary Studies Committee that it be accepted as the student's formal plan of study, thereby indicating that the members of the committee regard it as a viable program of graduate study. The Interdisciplinary Studies Committee is responsible for approving the members of the proposed graduate committee and for deciding whether to approve the student's plan of study.

Application and Admission Requirements

A prospective student must first satisfy general admission requirements and complete the application process for admission to the Graduate College (see *Graduate Admission Regulations*). General admission to the Graduate College does not guarantee admission to a graduate program in Interdisciplinary Studies. For admission to the MA or MS Program in Interdisciplinary Studies, a student must meet the following admission requirements:

1. A cumulative GPA in all prior college level work of at least 3.00 (although students who fall below this requirement but who have a cumulative GPA of at least 3.25 for the most recent 60 credit hours will also be considered).
2. Successful completion of the IDS Program's admission process, which includes:
 - a. meeting with the IDS Program Director to discuss expectations and be advised as to the remainder of the admission process,
 - b. selection of a graduate committee composed of 3 graduate faculty members, one of whom is to serve as committee chair,
 - c. meeting with graduate committee to discuss and prepare a degree plan,
 - d. submission of a completed *Personal Data* form,
 - e. submission of a completed form stating committee has met and approved that degree plan,
 - f. submission of a degree plan and three-page written statement of justification which:
 - states intellectual, professional, or vocational reasons for requesting entry into the program;
 - explains why traditional degree programs do not meet the applicant's needs; and
 - justifies the selection of courses in relation to the conception of the individualized program as a whole,
 - g. submission of two letters of recommendation.
 - h. approval of the graduate committee and degree plan by the university-wide IDS Committee.

Although each applicant's prior academic record will be examined to determine whether there are compelling reasons for making an exception, normally the Interdisciplinary Studies Committee will not consider proposed degree plans from students who fail to meet requirement 1). Applicants who wish to submit additional supporting materials such as GRE scores, letters of recommendation, or a preliminary description of their proposed program of study may do so.

Applications to the IDS Program are considered only twice a year, in October and in March. Application and admission materials as described above must be submitted by **October 1** for processing during the fall semester or by **March 1** for processing during the spring semester.

Applicants are strongly encouraged to submit completed IDS application materials by March 1st or October 1st of the semester prior to the semester of proposed entry into the program, so as to avoid commencing course work which may not be accepted as part of an approved degree plan. The student's graduate committee and degree plan must be approved before the completion of more than 6 credits toward the program.

Degree Requirements

Master of Arts or Master of Science Interdisciplinary Studies

Each program is developed individually according to the student's interests and background but must be intellectually defensible and clearly interdisciplinary in nature. In addition to any Graduate College requirements not mentioned here, the requirements of the IDS Program are as follows:

1. Course work must be selected from a minimum of two academic areas.
2. No more than 6 credits of work completed prior to approval of the degree plan by the IDS Committee may be included in the program.
3. No more than 11 credits of 300G or 400G courses may be applied toward the program.
4. No more than 9 transfer credits may be included in the program.
5. No more than 9 credits of independent study (596) may be included in the program.
6. Courses may not be challenged for credit.
7. The degree will consist of a total of no less than 33 credits, of which no more than 16 credits may be earned in the College of Business. Students may select (with IDS Committee approval) from a thesis/project option or a written examination option. The thesis/project will carry 6 credits. Under either option, the student will be required to draw critically upon the two or more disciplines studied and to integrate disciplinary insights.
8. Students completing the thesis/project option will, upon completion of that option, meet with their 3-person graduate committee for a final review of the thesis or project.
9. Students completing the examination option will take a written examination prepared by their 3-person graduate committee, with whom they will subsequently meet for a review of results.
10. Minor revisions to the plan of study may be approved by the Director of Interdisciplinary Studies upon the recommendation of the student's graduate advisor; major changes must be approved by the university-wide IDS Committee.
11. All work toward the MA/MS degree in Interdisciplinary Studies must be completed within a period of seven years.

Course Offerings

See *Course Numbering and Terminology* for definitions.

INTDIS — Interdisciplinary Studies

INTDIS 591 PROJECT (0-V-6). Students are expected to draw critically upon the two or more disciplines studied and to integrate disciplinary insights. Before beginning the Project, a prospectus must be approved by the student's graduate committee. After its completion, the Project must be defended at an oral examination scheduled by the graduate advisor. **PREREQ:** Admission to candidacy.

INTDIS 593 THESIS (0-V-6). A Thesis must reflect scholarly integration of the two or more disciplines studied and demonstrate original research or new and logical interpretation of existing data. Before beginning the Thesis, a prospectus must be approved by the student's graduate committee. After its completion, the Thesis must be defended at an oral examination scheduled by the graduate advisor. **PREREQ:** Admission to candidacy.

Department of Kinesiology

College of Health Sciences

Chair: John McChesney
Bronco Gymnasium, Room 209
Phone: (208) 426-4270
Fax: (208) 426-1894
E-mail: johnmchesney@boisestate.edu

Graduate Faculty: Bell, Brown, Conger, Ford, Gao, Gibson, Greufe-Hall, Johnson, Kempf, Lucas, Martin, McChesney, Moorcroft, Petranek, Pfeiffer, Shimon, Simonson, Spear

Graduate Degrees Offered

- Master of Athletic Leadership
- Master of Kinesiology, Behavioral Studies
- Master of Kinesiology, Biophysical Studies
- Master of Kinesiology, Socio-historical Studies
- Master of Science in Kinesiology, Behavioral Studies
- Master of Science in Kinesiology, Biophysical Studies
- Master of Science in Kinesiology, Socio-historical Studies

Master of Athletic Leadership

Program Coordinator: Scott Moorcroft
Bronco Gymnasium, Room 208
Phone: (208) 426-4274
E-mail: malprogram@boisestate.edu

General Information

The Master of Athletic Leadership is designed to enhance the leadership skills of current and future athletic leaders for service in intercollegiate, interscholastic, and/or youth sport athletic programs. The program is practitioner-oriented with a strong emphasis on participant development of essential leadership competencies for creating and maintaining athlete-centered athletic programs.

Application Requirements

An applicant must satisfy the minimum admission requirements of the Graduate College (see *Graduate Admission Regulations*).

Admission Requirements

The student must apply for admission to and be recommended for admission by the Athletic Leadership Admissions Committee. Enrollment is competitive with a new cohort beginning the program each summer. The following admission materials must be submitted to the program director by February 1.

1. Letter of application describing the applicant's background and professional goals and aspirations.
2. A current resume.
3. Official scores from the verbal, quantitative, and analytical reports of the Graduate Record Examination (GRE) The GRE must have been taken within five years of application. Applicants posting verbal and analytical writing scores of 33% and above will receive favorable attention.
4. Three letters of recommendation addressing your professional competencies, potential for leadership, personal and professional

Kinesiology

integrity, and any other information that will help the selection committee make an informed decision.

Degree Requirements

Master of Athletic Leadership	
Course Number and Title	Credits
Requirements	
KIN-AL 501 Foundations of Athletic Leadership	3
KIN-AL 502 Athletic Organizational Communication	3
KIN-AL 503 Athletic Program Management	3
KIN-AL 504 Philosophy of Sport and Athletic Leadership	3
KIN-AL 505 Sociology of Sport and Athletic Leadership	3
KIN-AL 506 Psychological Aspects of Athletic Leadership	3
KIN-AL 507 Athletic Leadership Academy	2
KIN-AL 508 Athletic Leadership Practicum I	5
KIN-AL 509 Athletic Leadership Practicum II	5
Culminating Activity	
KIN-AL 592 Portfolio	2
Total	32

Master of Kinesiology

Master of Science in Kinesiology

Graduate Program Coordinator: Shelley Lucas
Bronco Gymnasium, Room 101
Phone: (208) 426-2446
E-mail: smlucas@boisestate.edu

General Information

The Master of Kinesiology (MK) and the Master of Science in Kinesiology (MSK) are designed to accommodate students with diverse academic backgrounds. The MK program is practitioner oriented, concluding with a capstone course. The MSK is research oriented and suited for those students particularly interested in pursuing a doctoral or professional degree. This degree requires the completion of a thesis, which must be successfully defended at a final oral examination. Both programs offer three areas of emphasis: behavioral, biophysical, and socio-historical studies. When applying for admission to either the MK or MSK program, applicants will select one area of emphasis.

Application and Admission Requirements

An applicant must satisfy the minimum admission requirements of the Graduate College (see *Graduate Admission Regulations*). Application materials must be received by May 1. (Students are admitted in fall semester only.) Students will be admitted when the following criteria are met; however, meeting these minimum requirements does not guarantee admission to a program:

1. An appropriate pattern of classes providing a foundation for the graduate area of study as determined by Kinesiology Department Graduate Faculty has been completed, including exercise physiology.
2. Official scores from the verbal, quantitative, and analytical reports of the Graduate Record Examination have been received. The GRE must have been taken within five years of application. Applicants posting verbal and quantitative scores of 33% and above will receive favorable attention.
3. Letter of application describing the applicant's background, academic interests, career goals and potential faculty mentor.

4. A current resume.
5. Three letters of reference.

Degree Requirements

Master of Kinesiology	
Course Number and Title	Credits
Core Requirements	
Select one course from each of the following areas:	
Behavioral Studies	
KINES 530 Psychology of Exercise and Sport	
KINES 560 Motor Learning	
Biophysical Studies	
KINES 510 Physiology of Activity	
KINES 520/ME 520 Advanced Biomechanics	
Socio-historical Studies	
KINES 535 Sociology of Exercise and Sport	
KINES 550 Philosophy of Exercise and Sport	
KINES 582 Selected Topics in Sport History	
KINES 598 Graduate Seminar	
(Enrollment is required each Fall semester of all graduate students in residence; two credits may be applied toward graduation.)	
Methods of Inquiry	
KINES 551 Research Design in Exercise and Sport	
Select one of the following courses:	
ED-LLC 503 Applied Theoretical Foundations of Bilingual Education/ESL and Multiculturalism	
ED-ESP 552 Language Arts for Special Educators	
HIST 500 The Nature of History	
KINES 552 Applied Statistical Methods	
KINES 572 Grant Writing	
SOC 500 Advanced Social Statistics	
SOC 502 Qualitative Social Research Methods	
SOC 571 Feminist Sociological Theory	
Approved Electives	
A list of approved electives for each of the three areas of emphasis, Behavioral Studies, Biophysical Studies, and Socio-historical Studies, is available on the departmental website https://kinesiology.boisestate.edu .	
Culminating Activity	
KINES 590 Practicum/Internship	2
KINES 591 Project	1
(These courses are to be taken together during the final semester of enrollment.)	
Total	37-38

Degree Requirements

Master of Science in Kinesiology	
Course Number and Title	Credits
Core Requirements	
Select one course from each of the following areas:	
Behavioral Studies	
KINES 530 Psychology of Exercise and Sport	
KINES 560 Motor Learning	
Biophysical Studies	
KINES 510 Physiology of Activity	
KINES 520/ME 520 Advanced Biomechanics	
Socio-historical Studies	
KINES 535 Sociology of Exercise and Sport	
KINES 550 Philosophy of Exercise and Sport	
KINES 582 Selected Topics in Sport History	
KINES 598 Graduate Seminar	
(Enrollment is required each Fall semester of all graduate students in residence; two credits may be applied toward graduation.)	
<i>Continued</i>	

<i>Master of Science in Exercise and Sport Studies continued</i>	
Methods of Inquiry KINES 551 Research Design in Exercise and Sport Select one of the following courses: ED-LLC 503 Applied Theoretical Foundations of Bilingual Education/ESL and Multiculturalism ED-ESP 552 Language Arts for Special Educators HIST 500 The Nature of History KINES 552 Applied Statistical Methods KINES 572 Grant Writing SOC 500 Advanced Social Statistics SOC 502 Qualitative Social Research Methods SOC 571 Feminist Sociological Theory	6
Approved Electives A list of approved electives for each of the three areas of emphasis, Behavioral Studies, Biophysical Studies, and Socio-historical Studies, is available on the departmental website https://kinesiology.boisestate.edu .	15
KINES 593 Thesis	5
KINES 688 Thesis Proposal	1
Total	37-38

Course Offerings

See *Course Numbering and Terminology* for definitions.

KIN-AL — Kinesiology–Athletic Leadership

KIN-AL 501 FOUNDATIONS OF ATHLETIC LEADERSHIP (3-0-3)(SU).

Emphasizes the knowledge, skills, and dispositions needed of leaders in athletic programs. Includes a study of advanced leadership theory and its application to athletic programs and a focus on personal leadership development. PREREQ: ADM/PROG.

KIN-AL 502 ATHLETIC ORGANIZATIONAL COMMUNICATION (3-0-3)(SU).

Analysis of organizational communication theory and research as related to athletic leadership. Examines communicative practices associated with relationship development, leadership, and collaboration. PREREQ: ADM/PROG.

KIN-AL 503 ATHLETIC PROGRAM MANAGEMENT (3-0-3)(SU). Examines managerial responsibilities of athletic leaders including legal liability, sport law, finance and marketing, personnel management, and program evaluation. PREREQ: ADM/PROG.

KIN-AL 504 PHILOSOPHY OF SPORT AND ATHLETIC LEADERSHIP (3-0-3)(F/S). Examines philosophical and ethical issues within sport and society and their corresponding relevancy to athletic leadership settings. PREREQ: ADM/PROG.

KIN-AL 505 SOCIOLOGY OF SPORT AND ATHLETIC LEADERSHIP (3-0-3)(F/S). Examines sociological and cultural issues within sport and society and their corresponding relevancy to athletic leadership settings. PREREQ: ADM/PROG.

KIN-AL 506 PSYCHOLOGICAL ASPECTS OF ATHLETIC LEADERSHIP (3-0-3)(SU). Examines individual differences and environmental factors relevant to athletic leadership as identified by sport and exercise psychology theory and research. Focuses on applying psychological skills training programs to athletes, coaches, and administrators. PREREQ: ADM/PROG.

KIN-AL 507 ATHLETIC LEADERSHIP ACADEMY (2-0-2)(F/S). Provides training and mentoring from current and former athletic leaders from Boise State University and other institutions regarding various facets of athletic leadership. PREREQ: ADM/PROG.

KIN-AL 508 ATHLETIC LEADERSHIP PRACTICUM I (0-5-5)(F/S). Provides students with a supervised practical experience in athletic leadership under the direct supervision of a qualified mentor. PREREQ: ADM/PROG.

KIN-AL 509 ATHLETIC LEADERSHIP PRACTICUM II (0-5-5)(F/S). Continuation of KIN-AL 508. PREREQ: KIN-AL 508.

KINES — Kinesiology

KINES 503 (ZOO 503) HEAD AND NECK ANATOMY (2-2-3)(F,S). Use of human cadavers to study dissections of head and neck with emphasis on clinical relevance. Integument, osteology, myology, circulatory systems,

lymphatics, oral and dental tissues, neuroanatomy, cranial nerves, general innervation, and salivary glands. May be taken for KINES or ZOO credit but not both. PREREQ: BIOL 191-192 or BIOL 227-228 or PERM/INST.

KINES 506 SPORTS NUTRITION (3-0-3)(S)(Odd years). An integration of exercise physiology and nutrition, this course will investigate nutrition as it relates to exercise performance. PREREQ: Admission to M.K. or M.S. in Kinesiology program, or PERM/INST.

KINES 510 PHYSIOLOGY OF ACTIVITY (3-0-3). A study of the various factors affecting human performance and subsequent adaptations of the body to single and repeated bouts of exercise.

KINES 515 EXERCISE PHYSIOLOGY LAB (2-2-3). Practical application of the principles that govern response and adaptation of the human body to exercise, utilizing laboratory equipment to collect data and analyze results. PREREQ: KINES 510 or PERM/INST.

KINES 520 (ME 520) ADVANCED BIOMECHANICS (3-0-3)(F). Mechanical principles and analytical methods used in traditional and contemporary biomechanics. Topics include functional anatomy, joint kinematics, inverse dynamics, mechanical properties of biological materials, and modeling of the musculoskeletal system. May be taken for KINES or ME credit, but not both. PREREQ: ENGR 220 or PERM/INST.

KINES 525 (ME 525) LABORATORY TECHNIQUES IN BIOMECHANICS (3-0-3)(S). An introduction to the analysis techniques used to study the mechanics of human motion. Topics include cinematography, videography, force transducers, electromyography and computer analysis techniques. May be taken for KINES credit or ME credit, but not both. PREREQ: KINES 520/ME 520 or PERM/INST.

KINES 530 PSYCHOLOGY OF EXERCISE AND SPORT (3-0-3). A study of psychological factors as they relate to exercise, sport and performance. Content includes personality traits, motivation, anxiety/arousal, and intervention/coping strategies.

KINES 531 PHYSICAL ACTIVITY AND AGING (3-0-3)(F/S). Physiological aspects of aging and the influence of physical activity on the aging process, functional abilities, independence, and quality of life.

KINES 532 APPLIED SPORT PSYCHOLOGY (3-0-3)(F/S). Examines issues related to the psychological impact of competition and examines psychological skills training applicable to physical educators, coaches, and athletes, as well as how these skills may be useful in the psychological rehabilitation of the injured athlete and career termination.

KINES 533 PSYCHO-SOCIAL ASPECTS OF YOUTH SPORT COACHING (3-0-3)(F/S/SU). Provides an overview of positive youth development through sport literature: (a) activities and actions that foster positive youth development; (b) skills to become self-regulated learners; and (c) motivational climates that promote mastery. Takes an integrative approach to the science and practice of organized sports (school and nonschool) and psychosocial development of children and youth.

KINES 535 SOCIOLOGY OF EXERCISE AND SPORT (3-0-3). A study of the relationships among sport and other facets of society, including social organization, group behavior and social interaction patterns.

KINES 536 SOCIOLOGICAL AND PHILOSOPHICAL ASPECTS OF YOUTH SPORT COACHING (3-0-3)(F/S/SU). Examination of issues and controversies in youth sport from sociological and philosophical perspectives with particular attention to the role of coaches.

KINES 540 APPLIED PRINCIPLES OF CONDITIONING (2-2-3). Advanced study of the conditioning process. Emphasis on application of the conceptual to practical situations. Involves program planning, objectives, exercise analysis for conditioning specificity, exercise prescription and other conditioning variables affecting performance. PREREQ: KINES 510 or PERM/INST.

KINES 545 CLINICAL EXERCISE PHYSIOLOGY AND PRESCRIPTION (3-0-3). The study of clinical exercise physiology through special considerations: risk detection and reduction; age-related adaptations; various chronic illnesses; cardiovascular, musculoskeletal, and metabolic diseases; and their application to exercise prescription.

KINES 550 PHILOSOPHY OF EXERCISE AND SPORT (3-0-3). A study of the philosophical foundations underlying exercise and sport. Topics include values development, design and evaluation of individual and program philosophy and goal structuring.

KINES 551 RESEARCH DESIGN IN EXERCISE AND SPORT (3-0-3)(S). Includes critical analysis of published research in terms of research design, statistical procedures, concepts of validity, experimentation and control;

classification of various research methods; various types of research problems; and the relevant attributes of experimental designs. A research proposal is a requirement of the course.

KINES 552 (MHLTHSCI 552) APPLIED STATISTICAL METHODS (3-0-3)(F,S). An introduction to statistical techniques utilized in the treatment of data. The techniques to be covered include measures of central tendency and variability, correlation measures, probability, analysis of variance, and regression analysis. May be taken for KINES or MHLTHSCI credit, but not both. **PREREQ:** Completion of an undergraduate statistics course and graduate standing in MHS or Kinesiology, or PERM/INST.

KINES 560 MOTOR LEARNING (3-0-3). A study of the relevant empirical evidence and research in the field of motor learning and performance, including the learning process, feedback, timing, information processing, transfer, perception, motivation and practice conditions.

KINES 561 DEVELOPMENTAL ISSUES IN YOUTH SPORT (3-0-3)(F/S/SU). Raises critical awareness of the developmental issues (motor, cognitive, and social) surrounding youth sport and specialization. Explores issues from a motor behavior perspective, integrating expertise literature from motor learning and applying concepts of sport readiness and developmentally appropriate activities from the motor development literature.

KINES 570 (MHLTHSCI 570) HEALTH PROMOTION (3-0-3)(F/S). Coverage of individual, interpersonal, and group/community theories of health behavior change, with emphasis on designing, implementing, and evaluating theory-based interventions. Other topics include studying the impact of diversity and social and economic factors on health, and improving the effectiveness of health behavior change programs for underserved groups. May be taken for KINES or MHLTHSCI credit, but not both.

KINES 572 (MHLTHSCI 572) GRANT WRITING (3-0-3)(SU). Examination of the process of securing resources from external entities. Students will learn and apply a variety of techniques employed in proposal development and grant authorship. May be taken for KINES or MHLTHSCI credit, but not both.

KINES 574 (MHLTHSCI 574) HEALTH PROMOTION AND OPTIMAL AGING (3-0-3)(F)(Even years). Focus on promoting healthful behavior and quality of life among older adults. Application of theory, research, and practice to gerontological health promotion and wellness. May be taken for KINES or MHLTHSCI credit, but not both.

SELECTED TOPICS:

KINES 581 SELECTED TOPICS IN YOUTH SPORT.

KINES 582 SELECTED TOPICS IN SPORT HISTORY.

KINES 583 SELECTED TOPICS IN SPORTS NUTRITION.

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

Department of Literacy, Language, and Culture

College of Education

Chair: Maggie Chase

Education Building, Room 504

Phone: (208) 426-3206

E-mail: maggiemagie@boisestate.edu

Graduate Faculty: Boothe, Chase, Mulhern, Peralta, Rodriguez, Son, Steiner, Stewart

Graduate Degree Offered

- Master of Arts in Education, Literacy
- Master of Education in Bilingual Education
- Master of Education in English as a New Language

General Information

The Department of Literacy, Language, and Culture offers courses that reflect a balanced approach to literacy learning and prepares educational professionals to work effectively with diverse student populations in K-8 general, bilingual, and English as a new language (ENL) classrooms. The coursework prepares candidates to apply foundational knowledge from literacy, linguistics and language acquisition theory and to develop, implement, and manage culturally and linguistically responsive instruction, performance tasks, and assessments in the K-8 classroom.

Master of Arts in Education, Literacy

Graduate Program Coordinator: Maggie Chase

Education Building, Room 503

Phone: (208) 426-3206

E-mail: maggiemagie@boisestate.edu

General Information

The Master of Arts in Education, Literacy, is designed to extend each candidate's academic and professional background in the field of literacy and language learning and development through the combination of course requirements that meet the standards for reading professionals recommended by the International Reading Association. Certified teachers will have the option of earning an Idaho State Literacy endorsement.

Application and Admission Requirements

1. Apply to the Graduate College and satisfy the minimum admissions requirements of the Graduate College (see *Graduate Admission Regulations*).
2. Hold a baccalaureate degree from an accredited institution of higher learning.
3. A list of your teaching experience.
4. A statement of 500-1000 words that explains your professional goals and the ways in which the program will help you achieve them.

Degree Requirements

Master of Arts in Education, Literacy	
Course Number and Title	Credits
Literacy and Educational Foundations	
ED-CIFS 506 Issues in Education	3
ED-LLC 540 Foundation of Literacy Instruction	3
Research in Literacy	3
ED-CIFS 503 Fundamentals of Educational Research	
ED-LLC 556 Applied Research in Large-Scale Literacy Assessment	
ED-LLC 557 Research Base for Contemporary Literacy Curricula	
ED-LLC 560 Interpreting Research in Literacy	
Assessment and Instruction	
ED-LLC 541 Assessment and Instruction: Reading Difficulties K-12	3
ED-LLC 542 Best Practices in Literacy Improvement	3
Diversity of Literacy Learners	3
ED-LLC 502 Methods of Teaching English Language Learners	
ED-LLC 548 Psycholinguistics and Literacy	
ED-LLC 559 Language, Literacy and Culture	
Literacy Leadership	
ED-LLC 551 Literacy Leadership	3
Literature for Youth	3
ED-LLC 506 Multicultural Literature: Promoting Social Justice	
ED-LLC 546 Advanced Study of Children's Literature	
ED-LLC 547 Advanced Young Adult Literature	
Writing Instruction	3
ED-LLC 545 Writing Processes, Instruction, and Assessment: K-8	
ED-LLC 558 Advanced Writing Processes and Assessment	
New Literacies	3
ED-LLC 550 Advanced Content Area Literacy	
ED-LLC 552 Technology and Literacy	
EDTECH 531 Teaching and Learning in Virtual Worlds	
EDTECH 532 Educational Games and Simulations	
EDTECH 533 YouTube for Educators	
EDTECH 541 Integrating Technology into the Classroom Curriculum	
Culminating Activity	3-6
Thesis	
Students who wish to complete the thesis option must do so with the assistance of his or her advisor. Students are required to complete ED-LLC 556 or ED-LLC 557 for the Research in Literacy requirement as well as 6 credits in the following: ED-LLC 593 Thesis (6 cr)	
Capstone	
Professional Growth Aligned to Standards	
This capstone option is required for certified or practicing teachers. ED-LLC 692 Capstone Course (Professional Growth Aligned to Standards) (3 cr)	
Or	
Literacy in Society	
This capstone option is for students who are not certified teachers. ED-LLC 692 Capstone Course (Literacy in Society) (3 cr)	
Total	33-36
Completion of the required courses in the Master of Arts in Education, Literacy may qualify the candidate for a State of Idaho Literacy Endorsement for state certification. With the assistance of his or her advisor, the candidate can select appropriate courses to meet endorsement requirements. A complete list of courses that meet the Idaho State Literacy Endorsement requirements can be found at https://education.boisestate.edu/literacy .	

Master of Education in Bilingual Education

Graduate Program Coordinator: Arturo Rodriguez
 Education Building, Room 507
 Phone: (208) 426-2243
 E-mail: arturorodriguez@boisestate.edu

General Information

To be a bilingual teacher is to be prepared to teach all content area subjects in two languages, Spanish and English, and to teach them in the context of both the Latino and Anglo cultures. Bilingual teachers must be fluent in Spanish and English.

Application and Admission Requirements

1. Apply to the Graduate College and satisfy the minimum admissions requirements of the Graduate College (see Graduate Admission Requirements).
2. Hold a baccalaureate degree from an accredited institution of higher learning.
3. A list of your teaching experience.
4. A statement of 500-1000 words that explain your professional goals and the ways in which the program will help you achieve them.

Program Requirements

The courses are all structured in terms of learning outcomes, and students will be assisted in achieving those outcomes through active, performance-based pedagogical strategies.

1. Learning is a constructive/developmental process.
2. The acquisition through application of content knowledge is essential.
3. Teaching is a collegial act and requires collaboration.
4. Education is essentially democratic, ergo political act.
5. Providing Spanish language competence.

In this program, educators will examine multiple points of view, multiple theories, and practical applications that are grounded in a plurality of concerns, in order to create excellent classroom and other learning environments to educate a widely diverse student population. While teachers will be exposed to current theory, research, and practice, they will also spend a large proportion of their time constructing knowledge for themselves, with faculty guidance, through applied learning projects. In addition, they will participate in a capstone course, which is the culminating activity required to be taken after all course work has been completed.

Literacy, Language, and Culture

An electronic written assessment will be provided to new students in the M.Ed. in Bilingual Education during the first weeks of classes. Students will have twenty minutes to complete the essay. A final electronic written assessment will be made available during the first weeks of classes to all students completing the M.Ed. in Bilingual Education.

Special Notice

Cost per 3-credit-hour class is the same for Idaho residents and non-residents.

Degree Requirements

Master of Education in Bilingual Education	
Course Number and Title	Credits
ED-CIFS 506 Issues in Education	3
ED-LLC 500 The Bilingual/ENL Curriculum: Creating, Planning, Implementation	3
*ED-LLC 501 Culturally Diverse Learners	3
ED-LLC 502 Methods of Teaching English Language Learners	3
*ED-LLC 503 Applied Theoretical Foundations of Bilingual Education/ENL and Multiculturalism	3
ED-LLC 504 Literacies for Bilingual and English Language Learners	3
ED-LLC 505 Applied Linguistics: From Theory to Practice	3
*ED-LLC 507 Parental Involvement: Building a Community of Bilingual/ENL Learners	2
*ED-LLC 509 Field Experience in Bilingual Classrooms	1-2
*ED-LLC 531 Advanced Assessment of Learners in the Bilingual/ENL Classroom	3
ED-LLC 692 Capstone Course (P/F)	2-3
Total	30-31
<p>This master's program is for both elementary and secondary teaching P-12. The Bilingual Education program uses only the Spanish and English languages and the Latino and Anglo cultures. It requires a student to be bilingual in Spanish and English prior to entering the program. Completion of the Bilingual Education program does not qualify the candidate for state certification. However, these courses may be used toward certification renewal or endorsement.</p> <p>To earn Bilingual endorsement student must have advanced level score on ACTFL and three upper division Spanish language courses (9 credit hours) one in writing and one in literature.</p> <p>*Courses approved for State of Idaho Bilingual/ENL K-12 endorsement.</p>	

Master of Education in English as a New Language

Graduate Program Coordinator: Arturo Rodriguez
 Education Building, Room 507
 Phone: (208) 426-2243
 E-mail: arturorodriguez@boisestate.edu

General Information

The primary purpose of English as a New Language (ENL) is to teach students English, enabling them to succeed in schools where English is the language of instruction. ENL is not designed to do the work of bilingual education, that is, teach all of the content subjects in a way that will maintain students at grade level. It is designed primarily to teach English by using vocabulary and structures commonly found in the content area classes.

Application and Admission Requirements

1. Apply to the Graduate College and satisfy the minimum admissions requirements of the Graduate College (see Graduate Admission Requirements).
2. Hold a baccalaureate degree from an accredited institution of higher learning.
3. A statement of 500-1000 words that explain your professional goals and the ways in which the program will help you achieve them.

Degree Requirements

Master of Education in English as a New Language	
Course Number and Title	Credits
ED-CIFS 506 Issues in Education	3
ED-LLC 500 The Bilingual/ENL Curriculum: Creating, Planning, Implementation	3
*ED-LLC 501 Culturally Diverse Learners	3
*ED-LLC 502 Methods of Teaching English Language Learners	3
*ED-LLC 503 Applied Theoretical Foundations of Bilingual Education/ENL and Multiculturalism	3
ED-LLC 504 Literacies for Bilingual and English Language Learners	3
*ED-LLC 505 Applied Linguistics: From Theory to Practice	3
ED-LLC 507 Parental Involvement: Building a Community of Bilingual/ENL Learners	2
*ED-LLC 510 Field Experience in ESL Classrooms	1-2
*ED-LLC 531 Advanced Assessment of Learners in the Bilingual/ENL Classroom	3
ED-LLC 692 Capstone Course (P/F)	2-3
Total	30-31
<p>This master's program is for both elementary and secondary teachers P-12. The ENL program uses primarily the Spanish language for examples but is applicable to all non-English languages. It does not require a student to be bilingual. Completion of the ENL program does not qualify the candidate for state certification. However, these courses may be used toward certification renewal or endorsement.</p> <p>To earn ENL endorsement student must have 4 credits in a world language.</p> <p>*Courses approved for State of Idaho Bilingual/ENL K-12 endorsement.</p>	

Course Offerings

See *Course Numbering and Terminology* for definitions.

ED-LLC — Literacy, Language, and Culture

ED-LLC 500 THE BILINGUAL/ENL CURRICULUM: CREATING, PLANNING, IMPLEMENTATION (3-0-3)(F/S). For teachers preparing to teach bilingual and/or English language learners. Theory and best practices of planning and creating an effective curriculum for bilingual and ENL classrooms. Participants examine both planned curriculum based upon specific objectives, and generative curriculum based on learners' needs, experiences and interests. Students will design a model curriculum for a bilingual and/or ENL classroom.

ED-LLC 501 CULTURALLY DIVERSE LEARNERS (3-0-3)(F/S). Through the use of ethnographic tools, students will gain a better understanding of cultural and linguistic issues in their schools, local, and global communities.

ED-LLC 502 METHODS OF TEACHING ENGLISH LANGUAGE LEARNERS (3-0-3)(F/S). Informed by a pedagogy of teaching English language learners that maximizes language, literacy and biliteracy acquisition. Students will learn how to develop content subject material that is pedagogically responsible to linguistically and culturally diverse learners by learning pedagogical scaffolds that place students at the center of the learning process.

ED-LLC 503 APPLIED THEORETICAL FOUNDATIONS OF BILINGUAL EDUCATION/ENL AND MULTICULTURALISM (3-0-3)(F/S). The study and analysis of successful bilingual education, English as a New Language, and Multicultural program practices. Students research and critique the foundations of Bilingual/ENL program policy and practices (Federal and State Law) that demonstrate the characteristics of successful bilingual, ENL, and multicultural classrooms (i.e., teachers' ability to articulate pedagogy used in the classroom).

ED-LLC 504 LITERACIES FOR BILINGUAL AND ENGLISH LANGUAGE LEARNERS (3-0-3)(SU). Theoretical foundations and methods of teaching literacy to emergent bilinguals in multiple settings including bilingual (Spanish-English), general education, and English language development classrooms. Participants learn the processes and effective strategies for teaching reading and writing to bilingual and English language learners. Taught in Spanish and English.

ED-LLC 505 APPLIED LINGUISTICS: FROM THEORY TO PRACTICE (3-0-3)(SU). Aids teachers in building a meta-linguistic awareness through an exploration of foundations of language as a system including: phonology, morphology, syntax, semantics, pragmatics, and discourse. Includes an emphasis on teaching implications of linguistics for emergent bilinguals in various educational contexts and understanding the role of linguistics, including socio-linguistics, when considering the ELD standards.

ED-LLC 506 MULTICULTURAL LITERATURE: PROMOTING SOCIAL JUSTICE (3-0-3)(F/S). Students examine multicultural literature by engaging in critical literacy, substantive discussion, reflective writing, visual representation, and dramatic enactment. A main theme throughout this class is how to use the collection of literature as a tool for curriculum transformation, to promote social justice and encourage empowerment. Students will learn to take the words from the page to inform and transform their worlds.

ED-LLC 507 PARENTAL INVOLVEMENT: BUILDING A COMMUNITY OF BILINGUAL/ENL LEARNERS (2-0-2)(F/S/SU). Participants critically examine why school-community partnerships are particularly valuable in multicultural settings. They examine texts of parental involvement in schooling and actual practices and address questions of power relations, politics of exclusion and the privilege of race, gender, class, and culture. Students explore practices that respect diversity and honor all parents, students, community members, and teachers.

ED-LLC 508 ADVANCED THEORIES OF SECOND LANGUAGE ACQUISITION (3-0-3)(F/S/SU). Psycholinguistic processes and strategies by which readers and writers construct and reconstruct the message of a text. Application of theoretical conclusions to the teaching practices. Exploration and discussion of major theoretical arguments from current theorists and the pedagogical implications of second language acquisition research that focuses on language, literacy, and learning. Participants will apply knowledge to teaching primary and secondary children the English language.

ED-LLC 509 FIELD EXPERIENCE IN BILINGUAL CLASSROOMS (0-V-V)(F/S). Participants gain experience planning, instructing and assessing learners in a bilingual setting and document evidence of their impact on learners. Includes some observation and collaboration with mentor teachers and/or university supervisor. Fifty clock hours per credit minimum.

ED-LLC 510 FIELD EXPERIENCE IN ENL CLASSROOMS (0-V-V)(F/S). Participants gain experience planning, instructing and assessing learners in an educational setting with ELLs and document evidence of their impact on learners. Includes some observation and collaboration with colleagues, mentor teachers and/or university supervisor. Fifty clock hours per credit minimum.

ED-LLC 511 CONTEMPORARY ISSUES IN BILINGUAL EDUCATION/ESL (2-0-2)(F/S/SU). Current issues and their political ramifications in the fields of bilingual/multicultural education, and English as a second language. Critique of current trends in education and creating an awareness of how teachers can enhance their advocacy for students, parents and stakeholders.

ED-LLC 531 ADVANCED ASSESSMENT OF LEARNERS IN THE BILINGUAL/ENL CLASSROOM (3-0-3)(F/S). Exploration of issues of assessment for emergent bilinguals including purposes, advantages, biases and limitations of assessments and accommodations. Knowledge of standards-based language proficiency assessments used for identification and exit from language support programs. Development of performance-based assessment tools and techniques to inform classroom instruction. COREQ: ED-LLC 502.

ED-LLC 532 ADVANCED PRINCIPLES AND PRACTICES IN TEACHING LANGUAGE ARTS (3-0-3)(F/SU). Study of the theoretical constructs of reading, the psychological and pedagogical foundations of reading instruction, and learn to create and improve reading education programs in elementary and secondary classrooms.

ED-LLC 540 FOUNDATIONS OF LITERACY INSTRUCTION (3-0-3)(F/S/SU). Studies the theoretical constructs of literacy processes, the psychological, pedagogical and historical foundations of literacy instruction, and the creation and improvement of literacy education programs in elementary and secondary schools.

ED-LLC 541 ASSESSMENT AND INSTRUCTION: READING DIFFICULTIES K-12 (3-0-3)(S/SU). Diagnostic, standardized, and informal (performance-based) assessment procedures will be studied, evaluated, learned, and practiced. Instructional strategies for elementary and secondary students with reading difficulties will be learned and linked to assessment procedures. PREREQ: Admission to graduate program.

ED-LLC 542 BEST PRACTICES IN LITERACY IMPROVEMENT (2-1-3)(F/SU). Diagnostic instructional and assessment procedures will be used with 1-3 elementary or secondary students in the Boise State Tutoring Program in Reading. Each participant prepares a professional quality client report. One meeting per week with the client outside of class time is required. PREREQ: ED-LLC 541 or the equivalent.

ED-LLC 543 SEMINAR IN LITERACY EDUCATION (3-0-3)(F/S/SU). Covers current issues and trends in literacy education and leadership techniques. PREREQ: ED-LLC 540 or PERM/INST.

ED-LLC 544 CONTENT LITERACY IN SECONDARY SCHOOL (3-0-3)(F/S/SU). Emphasis on using instructional materials in the various content subjects and developing instructional skills to meet the reading, writing, and studying needs of all learners in today's diverse society. Students will examine professional literature on best teaching practices. PREREQ: Admission to Graduate Secondary Teacher Certification and ED-ESP 550. Instructor permission to waive prerequisites may be given to all students not enrolled in the secondary education certification program (Block I-III). COREQ: ED-CIFS 561 and the content methods course for the declared major.

ED-LLC 545 WRITING PROCESSES, INSTRUCTION, AND ASSESSMENT: K-8 (3-0-3)(S). Focuses on ways to reach, teach, assess, and motivate a diverse range of student writers. Emphasizes the writing process and writing in a variety of genres, including digital media.

ED-LLC 546 ADVANCED STUDY OF CHILDREN'S LITERATURE (3-0-3)(F/SU). In-depth literary analysis of children's literature from preschool to early adolescence, including multicultural literature. Development of children's literature activities for classroom, libraries, and other settings.

ED-LLC 547 ADVANCED YOUNG ADULT LITERATURE (3-0-3)(SU). Offers an update in diverse young adult literature, as well as research, critical analysis and instructional strategies for a variety of settings. Intended for teachers, librarians, media generalists, and others working with young adults.

ED-LLC 548 PSYCHOLINGUISTICS AND LITERACY (3-0-3)(F/SU). Psychological processes and strategies by which readers and writers construct and reconstruct the message of a text. Application of theoretical conclusions to teaching practices.

ED-LLC 549 IDAHO COMPREHENSIVE LITERACY COURSE (3-0-3)(F/S/SU). Research-based best reading practices focused on language structure and

Materials Science and Engineering Programs

literacy instruction, comprehension research, material selection, and assessment and intervention strategies. Contemporary and historical perspectives will be examined.

ED-LLC 550 ADVANCED CONTENT AREA LITERACY (3-0-3)(SU). Examines newest research in content literacy and explores in greater depth fundamental topics. Includes vocabulary, comprehension, writing to learn, study strategies, and coaching of content teachers. For students seeking Idaho State Literacy Endorsement. Undergraduate content area literacy course recommended.

ED-LLC 551 LITERACY LEADERSHIP (3-0-3)(S). Focuses on the roles of literacy leaders, leading and mentoring teachers in effective literacy practices, designing effective school-wide professional development, advocating for literacy both in school contexts and community settings, promoting change for 21st century learning, and participating in professional organizations and conferences.

ED-LLC 552 TECHNOLOGY AND LITERACY (3-0-3)(SU). Examines appropriate and effective uses of technology in literacy development. Explores impact of technology on definition of literacy. New literacies are defined and explored.

ED-LLC 554 REVIEW OF LITERACY PROCESSES AND PRACTICES (3-0-3)(F/S/SU). Examines the interrelationship of the literacy processes through the examination of epistemological, philosophical, theoretical, and pedagogical literacy models.

ED-LLC 555 DIRECTING AND SUPERVISING READING PROGRAMS (3-0-3)(F/SU). The literacy specialist's leadership role in the planning and delivery of reading instruction from goal setting, program planning, decision-making, problem solving, program supervision, and program evaluation for students from varied cultural and linguistic backgrounds will be examined. Students serve as mentors for undergraduates and graduate students in tutoring children with literacy challenges.

ED-LLC 556 APPLIED RESEARCH IN LARGE-SCALE LITERACY ASSESSMENT (3-0-3)(F). Explores the research base for large-scale assessment as it relates to literacy assessment; examines current approaches to large-scale assessment, assessment design, research methodologies and specific assessments such as PIRLS, PISA, NAEP, state level tests, etc. with emphasis given to how these data are being interpreted and used for social and political purposes.

ED-LLC 557 RESEARCH BASE FOR CONTEMPORARY LITERACY CURRICULA (3-0-3)(F/S). Investigates contemporary issues related to research on literacy in terms of theoretical frameworks, research methods, and implications for curriculum, instruction, and assessment. Applies relevant theories and models to the design and development of school curricula in the area of literacy.

ED-LLC 558 ADVANCED WRITING PROCESSES AND ASSESSMENT (3-0-3)(F/S). Examines theoretical and praxis knowledge about cognitive, physical, social, and affective processes of writing and their interactions with writing development. Provides opportunities to delve into issues of struggling writers and second language learners. PREREQ: ED-LLC 345 or ED-LLC 545 or PERM/INST.

ED-LLC 559 LANGUAGE, LITERACY AND CULTURE (3-0-3)(F). Introduces students to the ways in which social structuring, cultural assumptions, and language use bear on public policy formation and interactions in such areas as the classroom, professions, government, business and industry, and social service agencies.

ED-LLC 560 INTERPRETING RESEARCH IN LITERACY (3-0-3)(F/S). Examines literacy research involving the generation and refinement of models, theories, and methodologies. Strategies in interpreting and analyzing the professional literature are also emphasized.

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

Materials Science and Engineering Programs

College of Engineering

Engineering Technology Building, Room 338

Phone: (208) 426-5600

E-mail: msegrad@boisestate.edu

Graduate Degrees Offered

- Doctor of Philosophy in Materials Science and Engineering
- Master of Engineering in Materials Science and Engineering
- Master of Science in Materials Science and Engineering
- Graduate Certificate in Computational Materials Science and Engineering
- Graduate Certificate in Foundations in Materials Science and Engineering
- Graduate Certificate in Nanomaterials Science and Engineering

Participating Departments

- Biological Sciences
- Chemistry and Biochemistry
- Engineering
- Physics

General Information

Established in 2004, the Micron School of Materials Science and Engineering houses three distinct interdisciplinary graduate degrees: Doctor of Philosophy (Ph.D.), Master of Science (M.S.) and Master of Engineering (M.Engr.) and three graduate certificate programs. With an interdisciplinary base of faculty from backgrounds including, but not limited to: Materials Science and Engineering, Mechanical and Biomedical Engineering, Electrical and Computer Engineering, Civil Engineering, Physics, Chemistry, and Biology, students enrolled in the graduate programs benefit from their diversity of background and the interdisciplinary nature of the field. Governance of the graduate and certificate programs is based upon participating faculty from constituent departments and overseen by the School.

Materials Science and Engineering is a highly interdisciplinary field that rests between basic science and engineering. Because of this overlap, graduates develop collaborative skills that transcend disciplinary boundaries. They also develop technical skills and fundamental knowledge that make them highly attractive to the regional, national, and international workforce.

Admission and Application Requirements

Applicants to an interdisciplinary MSE graduate program are required to have a bachelor's or master's degree from an accredited college or university in a relevant field. Students whose native language is not English must also pass the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System test (IELTS) with a minimum score as dictated by the Boise State International Admissions office. Admission is highly competitive and is based on meeting the requirements set forth by the Graduate College, the applicant's transcripts, letters of recommendation, GRE scores, statement of purpose, and resume. A competitive applicant will have a clear and articulate statement of purpose that describes the applicant's educational and professional

background, research interests, motivation, aptitudes, professional interests, and career goals. Competitive applicants also will have strong letters of recommendation from faculty members and supervisors.

Doctor of Philosophy in Materials Science and Engineering

Graduate Program Coordinator: Scott Phillips
 Engineering Technology Building, Room 338
 Phone: (208) 426-5600
 E-mail: msegrad@boisestate.edu

Degree Requirements

A minimum of 66 credits are required for the Ph.D. program. MSE 601 will be taken during the first year a student is admitted to the MSE graduate program. All electives must be graduate courses in Materials Science and Engineering (MSE) or approved graduate or upper level undergraduate courses in other disciplines. All core coursework should be completed within the first 18-24 months of study, if not earlier. Once all Required Core courses are successfully completed (i.e., each course with a B or better, and a combined GPA of 3.40), the comprehensive exam, MSE 691, can be taken. The comprehensive exam represents a significant milestone and assessment tool for monitoring how well information from various sources has been assimilated and integrated into a comprehensive knowledge of materials science and engineering. Students are expected to attend the MSE Seminar every semester, which provides an opportunity to enhance their knowledge in materials science and engineering and related fields.

Doctor of Philosophy in Materials Science and Engineering	
Course Number and Title	Credits
Required Core Courses	
MSE 605 Crystallography and Crystal Chemistry	4
MSE 608 Solid State Thermodynamics	4
MSE 618 Phase Transformations and Kinetics	4
Required Core Emphasis Course	
Choose at least three credits from the following, or alternative Core Emphasis Course(s) approved by the graduate program coordinator:	3
MSE 510 Electrical, Optical, and Dielectric Materials	
MSE 512 Mechanical Behavior of Materials I	
*PHYS 515 Solid State Physics	
Required Characterization Course	
Choose at least three credits from the following, or alternative Characterization Course(s) approved by the graduate program coordinator:	3
CHEM 522 Spectroscopy	
CHEM 540 Spectrometric Identification	
CHEM 560 Introduction to NMR Spectroscopy	
MSE 521 Introduction to Electron Microscopy	
MSE 522 Advanced Transmission Electron Microscopy	
MSE 525 Surface Analysis	
*PHYS 523 Physical Methods of Materials Characterization	
<i>Continued</i>	

<i>Doctor of Philosophy in Materials Science and Engineering continued</i>	
Required Processing Course	3
Choose at least three credits from the following, or alternative Processing Course(s) approved by the graduate program coordinator:	
ECE 540 Intro to Integrated Circuit Processing	
ECE 540L Intro to Integrated Circuit Processing Lab	
ECE 541 Advanced Topics in Silicon Technology	
ECE 542 Photolithography	
ECE 543 Introduction to MEMS	
MSE 540 Advanced Processing	
MSE 542 Ceramic Processing	
MSE 545 Nanoscale Processing	
Required Experiential Learning Courses	4
At least two credits must be filled by MSE 651 or MSE 650. Remaining credits can be fulfilled by one or more of the following:	
GCOLL 514 Field Experience in College Teaching	
GCOLL 512 Internship in College Teaching	
GCOLL 513 Practicum in College Teaching	
MSE 590 Practicum/Internship	
MSE 650 Teaching Experience	
MSE 651 Graduate Teaching Assistant Experience	
Other Graduate Courses	9
Additional elective courses in Materials Science and Engineering or related fields as approved by the supervisory committee and by the coordinator of the Materials Science and Engineering Doctoral program.	
MSE 601 Graduate Student Orientation	1
MSE 691 Doctoral Comprehensive Examination	1
MSE 693 Dissertation	30
Total	66
*Recommended Course	

Master of Engineering in Materials Science and Engineering

Graduate Program Coordinator: Scott Phillips
 Engineering Technology Building, Room 338
 Phone: (208) 426-5600
 E-mail: msegrad@boisestate.edu

Degree Requirements

Students will complete at least 30 graduate credits distributed as shown in the degree requirements table. Up to 3 credits of MSE 696 Directed Research may be applied to meet the degree requirements. The culminating activity for the M.Engr. degree is the Comprehensive Examination (MSE 690). This examination is taken once all Required Core courses have been completed (each course with a B or better) and during the final semester of the program.

Master of Engineering in Materials Science and Engineering	
Course Number and Title	Credits
Required Courses	
MSE 605 Crystallography and Crystal Chemistry	4
MSE 608 Solid State Thermodynamics	4
MSE 618 Phase Transformations and Kinetics	4
<i>Continued</i>	

Materials Science and Engineering Programs

<i>Master of Engineering in Materials Science and Engineering continued</i>	
Required Core Emphasis Course Choose at least three credits from the following, or alternative Core Emphasis Course(s) approved by the graduate program coordinator: MSE 510 Electrical, Optical, and Dielectric Materials MSE 512 Mechanical Behavior of Materials *PHYS 515 Solid State Physics	3
Required Characterization Course Choose at least three credits from the following, or alternative Characterization Course(s) approved by the graduate program coordinator: CHEM 522 Spectroscopy CHEM 540 Spectroscopic Identification CHEM 560 Introduction to NMR Spectroscopy MSE 521 Introduction to Electron Microscopy MSE 525 Surface Analysis *PHYS 523 Physical Methods of Materials Characterization	3
Required Processing Course Choose at least three credits from the following, or alternative Processing Course(s) approved by the graduate program coordinator: MSE 540 Advanced Processing MSE 542 Ceramic Processing MSE 545 Nanoscale Processing	3
Other Graduate Courses	8
Culminating Activity MSE 690 Master's Comprehensive Examination	1
Total	30
*Recommended Course	

Master of Science in Materials Science and Engineering

Graduate Program Coordinator: Scott Phillips
Engineering Technology Building, Room 338
Phone: (208) 426-5600
E-mail: msegrad@boisestate.edu

Degree Requirements

Students will complete at least 30 graduate credits distributed as shown in the degree requirements table. All Required Core courses will be successfully completed with a B or better. A thesis is characterized by a clearly stated proposition or hypothesis that is investigated using analysis and synthesis of data or other scholarly evidence; the thesis includes a discussion of the relevant literature and demonstrate the ability of the student to independently and successfully address a significant intellectual problem with concepts and methods that are accepted in the major field of study. The thesis constitutes an original contribution to knowledge in materials science and engineering and will be successfully defended at a final oral examination. All work directly related to the thesis is represented by 9 credits or more of MSE 593.

Master of Science in Materials Science and Engineering	
<i>Course Number and Title</i>	<i>Credits</i>
Required Core Courses	
MSE 605 Crystallography and Crystal Chemistry	4
MSE 608 Solid State Thermodynamics	4
MSE 618 Phase Transformations and Kinetics	4
<i>Continued</i>	

<i>Master of Science in Materials Science and Engineering continued</i>	
Required Core Emphasis Course Choose at least three credits from the following, or alternative Core Emphasis Course(s) approved by the graduate program coordinator: MSE 510 Electrical, Optical, and Dielectric Materials MSE 512 Mechanical Behavior of Materials *PHYS 515 Solid State Physics	3
Required Characterization Course Choose at least three credits from the following, or alternative Characterization Course(s) approved by the graduate program coordinator: CHEM 522 Spectroscopy CHEM 540 Spectroscopic Identification CHEM 560 Introduction to NMR Spectroscopy MSE 521 Introduction to Electron Microscopy MSE 525 Surface Analysis *PHYS 523 Physical Methods of Materials Characterization	3
Required Processing Course Choose at least three credits from the following, or alternative Processing Course(s) approved by the graduate program coordinator: MSE 540 Advanced Processing MSE 542 Ceramic Processing MSE 545 Nanoscale Processing	3
Culminating Activity CHEM 593 Thesis or MSE 593 Thesis or PHYS 593 Thesis	9
Total	30
*Recommended Course	

Special Rule on Transfer Credit The normal transfer credit policies of the Graduate College hold except that up to 15 transfer credits earned in combination at the University of Idaho and Idaho State University may be applied to either degree program (M.S. MSE or M.Engr. MSE) with the approval of the supervisory committee.

Graduate Certificate in Computational Materials Science and Engineering

Graduate Program Coordinator: Scott Phillips
Engineering Technology Building, Room 338
Phone: (208) 426-5600
E-mail: msegrad@boisestate.edu

General Information

This certificate program provides an interdisciplinary opportunity to develop and apply computational tools the field of materials science and engineering. Opportunities to develop in first-principles techniques, molecular simulation, supercomputing, big data analysis, and scientific algorithm development will position certificate holders to contribute to modern materials design as computational scientists.

Admission and Application Requirements

Admission to the certificate program requires a baccalaureate degree in a STEM field from an accredited college or university and admission to the Graduate College (see *Graduate Admission Regulations*). In addition, an applicant must have completed an introduction to Materials Science and Engineering course prior to enrollment in the certificate program as evaluated by the

graduate program coordinator. However, meeting these minimum requirements does not guarantee admission to the certificate program.

The applicant must also submit a letter of interest to the Graduate Program Coordinator through the graduate college application system briefly summarizing his or her background and motivation for enrolling in the certificate program. Once the applicant's file is complete, it will be reviewed by the Graduate Admissions Committee who will provide an admission recommendation to the Dean of the Graduate College. The Dean will make the final admission decision and notify the applicant.

Special Relationships with Other Programs

Credits earned in this certificate program may be counted toward the M.Engr., M.S., or Ph.D. degree programs in Materials Science and Engineering.

Certificate Requirements

Graduate Certificate in Computational Materials Science and Engineering	
Course Number and Title	Credits
Select 9 credits from the following options. 6 credits must be in MSE courses: MSE 563 Materials Modeling MSE 564 Computational Materials Science ME 570 Finite Element Methods ME 571 Parallel Scientific Computing Or other Boise State graduate courses related to computational materials science or modeling as approved by the graduate program coordinator.	9
Total	9

Graduate Certificate in Foundations in Materials Science and Engineering

Graduate Program Coordinator: Scott Phillips
Engineering Technology Building, Room 338
Phone: (208) 426-5600
E-mail: msegrad@boisestate.edu

General Information

The curriculum in this certificate is designed for individuals with a baccalaureate degree in materials science and engineering, chemical engineering, mechanical engineering, nuclear engineering, chemistry, physics or other related field. It is designed to provide the foundational knowledge of Materials Science and Engineering and is required knowledge for any advanced degree (M.Eng., M.S. or Ph.D.) in Materials Science and Engineering. Each course is taught annually.

Admission and Application Requirements

Admission to the certificate program requires a baccalaureate degree in a STEM field from an accredited college or university and admission to the Graduate College (see *Graduate Admission Regulations*). In addition, an applicant must have completed an introduction to Materials Science and Engineering course prior to enrollment in the certificate program as evaluated by the graduate program coordinator. However, meeting these minimum

requirements does not guarantee admission to the certificate program.

The applicant must also submit a letter of interest to the Graduate Program Coordinator through the graduate college application system briefly summarizing his or her background and motivation for enrolling in the certificate program. Once the applicant's file is complete, it will be reviewed by the Graduate Admissions Committee who will provide an admission recommendation to the Dean of the Graduate College. The Dean will make the final admission decision and notify the applicant.

Special Relationships with Other Programs

Credits earned in this certificate program may be counted toward the M.Engr., M.S., or Ph.D. degree programs in Materials Science and Engineering.

Certificate Requirements

Graduate Certificate in Foundations in Materials Science and Engineering	
Course Number and Title	Credits
MSE 605 Crystallography and Crystal Chemistry	4
MSE 608 Solid State Thermodynamics	4
MSE 618 Phase Transformations and Kinetics	4
Total	12

Graduate Certificate in Nanomaterials Science and Engineering

Graduate Program Coordinator: Scott Phillips
Engineering Technology Building, Room 338
Phone: (208) 426-5600
E-mail: msegrad@boisestate.edu

General Information

This certificate provides current information of high relevance to those interested in the science and engineering of nano-dimensional materials. The certificate courses cover approaches to nanoscale fabrication, key material properties at the nanoscale, applications of nanoscale materials, as well as computational approaches to nanoscale materials science and engineering. The certificate program covers the breadth of nanoscale materials science and engineering, while each course provides depth within key topic areas.

Admission and Application Requirements

Admission to the certificate program requires a baccalaureate degree in a STEM field from an accredited college or university and admission to the Graduate College (see *Graduate Admission Regulations*). In addition, an applicant must have completed an introduction to Materials Science and Engineering course prior to enrollment in the certificate program as evaluated by the graduate program coordinator. However, meeting these minimum requirements does not guarantee admission to the certificate program.

The applicant must also submit a letter of interest to the Graduate Program Coordinator through the graduate college application

Materials Science and Engineering Programs

system briefly summarizing his or her background and motivation for enrolling in the certificate program. Once the applicant's file is complete, it will be reviewed by the Graduate Admissions Committee who will provide an admission recommendation to the Dean of the Graduate College. The Dean will make the final admission decision and notify the applicant.

Special Relationships with Other Programs

Credits earned in this certificate program may be counted toward the M.Engr., M.S., or Ph.D. degree programs in Materials Science and Engineering.

Certificate Requirements

Graduate Certificate in Nanomaterials Science and Engineering	
Course Number and Title	Credits
Select 9 credits from the following options:	9
MSE 545 Nanoscale Processing	
MSE 550 Nanoscale Transport	
MSE 563 Materials Modeling	
Or other Boise State graduate courses related to nanotechnology as approved by the graduate program coordinator.	
Total	9

Course Offerings

See *Course Numbering and Terminology* for definitions.

MSE — Materials Science And Engineering

MSE 510 ELECTRICAL, OPTICAL, AND DIELECTRIC MATERIALS (3-0-3) (F/S). Physical principles underlying the electrical, dielectric and optical properties of modern solids. Crystalline and energy band structure of materials, thermal properties and electrical conduction in semiconductors and metals, dielectric response and optical behavior of solids are covered.

MSE 511 SEMICONDUCTOR MATERIALS (3-0-3)(F/S). Examination of the physical properties of semiconductors including electronic structure, free carrier statistics, optical properties, crystallography, and defects. Study of thermodynamic properties as related to lattice vibrations and diffusion.

MSE 512 MECHANICAL BEHAVIOR OF MATERIALS I (3-0-3)(F/S). Study of deformation and fracture in engineering materials, including elastic and plastic deformations; dislocation theory; alloy hardening and creep deformation; fracture mechanisms; linear elastic fracture mechanics; toughening of metals, ceramics, and composites; environmentally assisted failure.

MSE 513 MECHANICAL BEHAVIOR OF MATERIALS II (3-0-3)(F/S). Topics include fracture in different materials classes, time-dependent deformation behavior, mechanical behavior of polymers and other soft materials, deformation of natural materials and cellular solids, or mechanical behavior at the nanoscale.

MSE 514 MAGNETISM AND MAGNETIC MATERIALS (3-0-3)(F/S). Introduction to the phenomenon of magnetism. Basic magnetic properties of solid matter. Unit systems in magnetism. Magnetic anisotropy, magnetic domains, magnetic hysteresis, permeability, coercivity, and magnetostriction. Examples of magnetic materials.

MSE 519 INTERFACIAL KINETICS AND TRANSPORT PROCESSES (3-0-3)(S) (Even years). Reaction kinetics and mass transport phenomena at materials interfaces important in materials processing and performance, including gas-solid, liquid-solid, and electrochemical processes. Emphasis on understanding fundamental mechanisms that control rates of reactions and mass transport. PREREQ: MSE 608.

MSE 521 INTRODUCTION TO ELECTRON MICROSCOPY (2-2-3)(F/S). Theory and practice of scanning electron microscopy and transmission electron microscopy, including electron optics, contrast mechanisms, diffraction theory, chemical analysis techniques, and sample preparation.

MSE 522 ADVANCED TRANSMISSION ELECTRON MICROSCOPY (1-3-2) (F/S). In-depth understanding of the transmission electron microscope,

electron diffraction, and imaging and analytical techniques. Students are required to have an approved project. PREREQ: PERM/INST.

MSE 523 INTRODUCTION TO X-RAY DIFFRACTION (1-2-1)(F/S). A practical introduction to the apparatus and technique of x-ray diffraction for crystalline materials in the form of bulk materials, powders, or films. Students are required to have an approved project. PREREQ: PERM/INST.

MSE 525 SURFACE ANALYSIS (3-0-3)(F/S). Fundamentals and techniques associated with a range of surface analysis methods including LEED/RHEED, SPM, SIMS, XPS, Auger, RBS or NAA.

MSE 527 POINT DEFECTS (3-0-3)(F/S). Point defects in materials, particularly focused on defect chemistry, notation, ionic/electronic disorder, mass/charge balance, and the influence of point defects on materials properties.

MSE 528 INTERFACES AND DISLOCATION BEHAVIOR (3-0-3)(F/S). Structure of interfaces as groups of line defects including dislocations, disconnections, and disclinations; application of general concepts to special situations including epitaxial interfaces, twin boundaries and phase transformations.

MSE 540 ADVANCED PROCESSING (3-0-3)(F/S). Science and engineering of processes used in the manufacture of advanced ceramics, metals, polymers and composites.

MSE 542 CERAMIC PROCESSING (3-0-3)(F/S). Science and engineering of fabricating ceramic materials primarily from powders. Fundamental principles of colloid chemistry, thermodynamics of curved surfaces, and sintering kinetics models, and processing techniques.

MSE 545 NANOSCALE PROCESSING (3-0-3)(F/S). Fundamental and applied aspects of current approaches to fabrication of nanoscale (<100nm) features, materials, and devices including chemical, physical, and biological methodologies.

MSE 550 NANOSCALE TRANSPORT (3-0-3)(F/S). Fundamental and applied treatment of photons, electrons, and phonons as energy carriers from the nanoscale (< 100 nm) to the macroscale. Topics include energy transport in the forms of waves and particles, carrier scattering processes, transport in low-dimensional systems, and experimental methods of transport measurements. Particular attention will be given to 2-dimensional materials and devices. PREREQ: PHYS 309 or PERM/INST.

MSE 561 MICROELECTRONIC PACKAGING MATERIALS (3-0-3)(F/S). Engineering analysis of electronic packaging materials and their effect on electrical design, assembly, reliability, and thermal management. Selection process for packaging materials, manufacturing and assembly, single and multi-chip packaging.

MSE 563 MATERIALS MODELING (3-0-3)(F/S). Theory and application of computational techniques for modeling materials across length scales (nanometers to centimeters) and time scales (femtoseconds to minutes). Emphasis on stochastic techniques including molecular dynamics, Monte Carlo, and kinetic Monte Carlo simulations.

MSE 564 COMPUTATIONAL MATERIALS SCIENCE (3-0-3)(F/S). Theory and application of computational modeling and simulation to fundamentally understand structure-property-performance relationships in materials. Different length- and time-scale modeling techniques (e.g., first-principles quantum simulation, atomistic, mesoscale and continuum modeling), scientific programming, and visualization tools.

MSE 565 APPLICATIONS OF MATHEMATICA (1-0-1)(F/S). The basics of using Mathematica software to solve problems in materials science and engineering.

MSE 570 PHYSICAL METALLURGY (3-0-3)(F/S). Structure-property relationships with a focus on the formation of microstructures of alloys and the resulting mechanical properties. Fundamentals of annealing, spinodal decomposition, nucleation, growth, and coarsening. Role of defects in the formation of microstructures.

MSE 571 PHYSICAL CERAMICS AND GLASSES (3-0-3)(F/S). Structure-property and processing-property relations in crystalline and amorphous ceramic materials at the atomistic and microscopic levels.

MSE 577 (BIOL 577)(ME 577) BIOMATERIALS (3-0-3)(F/S). Theory of biomaterials science. Medical and biological materials and their applications. Selection, properties, characterization, design and testing of materials used by or in living systems. May be taken for BIOL, ME or MSE credit, but only from one department. PREREQ: CHEM 112 or MSE 245.

MSE 578 SCIENTIFIC COMMUNICATION IN MATERIALS SCIENCE AND ENGINEERING (1-0-1)(F/S).

Communication of research findings. Organization and composition of scientific research papers. PREREQ: PERM/INST.

MSE 588 BIOCOMPATIBILITY AND ENVIRONMENTAL DEGRADATION (3-0-3)(F/S).

Theory of environmental degradation of metals, ceramics, polymers and biomaterials. The scientific principles of materials degradation with emphasis on material interactions within a living organism.

MSE 601 GRADUATE STUDENT ORIENTATION (1-0-1)(F/S). Orientation to the graduate student experience, requirements for the doctoral degree, and research practices including ethics, safety, research methods, and intellectual property. (Pass/Fail.)

MSE 602 SURVEY OF MATERIALS SCIENCE (3-0-3)(F/S). Application of the principles of chemistry and physics to the engineering properties of materials. Development of an in-depth understanding of the relationship between structure, properties, processing, and performance for all classes of materials.

MSE 605 CRYSTALLOGRAPHY AND CRYSTAL CHEMISTRY (4-0-4)(F/S).

Bonding, atomic arrangements and crystal structures of metals, ceramics, electronic materials and polymers; electronic structure of solids; physical properties of solids; defects in solids; relationship between processing, microstructure and properties of materials.

MSE 608 SOLID STATE THERMODYNAMICS (4-0-4)(F/S). The laws of thermodynamics are applied to multicomponent, multiphase reacting systems, and other thermodynamic systems. These concepts are used to discuss and mathematically compute equilibrium phase diagrams. The energy effects due to the geometry of solid surfaces are discussed in regards to capillarity effects. Classical thermodynamics is related to atom-level distributions using statistical thermodynamics and the partition function. Electrochemical thermodynamics is discussed in the context of two-phase interfacial reactions.

MSE 618 PHASE TRANSFORMATIONS AND KINETICS (4-0-4)(F/S). Kinetics of phase transformations, nucleation, crystallization, decomposition, chemical reactions, and atomic and molecular diffusion. Surface and interface phenomenon, nanoparticle-matrix interactions, sintering, grain growth, recovery and recrystallization.

MSE 650 TEACHING EXPERIENCE (3-0-3)(F/S). Under the guidance of a faculty member, Doctoral candidates develop and teach an undergraduate course in Materials Science and Engineering. PREREQ: PERM/INST.

MSE 651 GRADUATE TEACHING ASSISTANT EXPERIENCE (1-6-2)(F,S). Support faculty member through providing teaching assistance including but not limited to holding office hours, teaching sections, and overseeing projects. Content includes basic pedagogy and teaching skills. May be repeated for credit. (Pass/Fail.) PREREQ: PERM/INST.

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

Department of Mathematics

College of Arts and Sciences

Chair: Leming Qu

Mathematics Building, Room 235

Phone: (208) 426-1172

Fax: (208) 426-1356

<https://math.boisestate.edu>

E-mail: office@math.boisestate.edu

Graduate Faculty: Babinkostova, Brill, Bullock, Calhoun, Cavey, Champion, Clemens, Coskey, Harlander, Holmes, Kaiser, Kinzel, Ko, Lee, Mead, Mukherjee, Qu, Scheepers, Smith, Teitler, Wang, Wright, Zubik-Kowal

Graduate Degrees Offered

- Master of Science in Mathematics
- Master of Science in Mathematics Education

Interdisciplinary Participation

- Doctor of Philosophy in Computing

Master of Science in Mathematics

Program Coordinator: Jens Harlander

Mathematics Building, Room 236B

Phone: (208) 426-3312

E-mail: jensharlander@boisestate.edu

General Information

The Master of Science in Mathematics degree provides a solid foundation in the theoretical and applied aspects of mathematics and the opportunity for concentration in an area of special interest. Students complete a required core course in analysis and choose an area of emphasis that reflects faculty expertise. The choice of culminating activity depends on student goals and may be a comprehensive examination, a project, or a thesis. Students interested in applying for a graduate teaching or research assistantship should contact the graduate program coordinator for further information.

Application and Admission Procedures

An applicant must satisfy the minimum admission requirements of the Graduate College (see *Graduate Admission Regulations*) and must submit three letters of recommendation and GRE general test scores. Applicants whose native language is not English must submit TOEFL scores and may be interviewed if applying for a graduate teaching assistantship. Once the file for an applicant is complete, it will be evaluated by the Mathematics Graduate Committee and an admission recommendation (regular, provisional, or denial) will be forwarded to the Dean of the Graduate College who will make the final admission decision and notify the applicant.

Conditions for Admission The conditions for admission are the minimum admission requirements of the Graduate College (see *Graduate Admission Regulations*) where the required baccalaureate degree must be in mathematics or a closely related field involving substantial course work in mathematics. These conditions are necessary for admission to the program but do not guarantee admission.

Mathematics

Supervisory Committee

Each admitted student intending to do a thesis will be assigned a three-member supervisory committee consisting of a major advisor who serves as chair and two additional members. The role of the supervisory committee is to guide the student in all aspects of his or her graduate study. All other admitted students will be assigned an advisor who carries out the same role. The Mathematics Graduate Committee maintains oversight of the program by monitoring the academic progress of each student and the performance of the graduate teaching assistants.

Degree Requirements

The Master of Science in Mathematics degree requires completion of MATH 515 Real and Linear Analysis, two courses in one of three areas of emphasis, a prescribed number of additional graduate courses, and a culminating activity that may be a comprehensive examination, a project, or a thesis. All courses must be approved for application to the degree requirements by the supervisory committee working within constraints developed by the Mathematics Graduate Committee.

Master of Science in Mathematics	
Course Number and Title	Credits
Required Core Graduate Mathematics Course MATH 515 Real and Linear Analysis	3
One of the following areas of emphasis Applied Mathematics MATH 537 Principles of Applied Mathematics At least one of the following: MATH 566 Numerical Methods II MATH 567 Numerical Methods for Differential Equations Pure Mathematics At least two of the following: MATH 506 Advanced Algebra MATH 507 Advanced Number Theory MATH 509 Symmetric Key Cryptology MATH 512 Advanced Topology MATH 522 Advanced Set Theory Statistics MATH 562 Probability and Statistics At least one of the following: MATH 572 Computational Statistics MATH 573 Time Series Analysis MATH 574 Linear Models	6
Culminating Activity Additional graduate courses and a culminating activity chosen from one of the following possibilities: Comprehensive Examination Seven courses totaling at least 21 credits MATH 690 Master's Comprehensive Examination (1 cr) Project Five courses totaling at least 15 credits MATH 590 Practicum/Internship (3 cr) MATH 591 Project (3 cr) Thesis Five courses totaling at least 15 credits MATH 593 Thesis (6 cr)	21-22
Total	30-31

Comprehensive Examination The comprehensive examination consists of one written three-hour exam (covering the content of MATH 515 and two courses in the student's chosen area of emphasis) and a seminar presentation of a research report based on current literature in the student's emphasis area.

Project The written project must be related to an internship experience and presented at a public oral presentation.

Thesis The thesis must be an original contribution by the student to mathematical knowledge. The student must present and defend the thesis research at a final oral examination.

Master of Science in Mathematics Education

Program Coordinator: Joe Champion
Mathematics Building, Room 233D
Phone: (208) 426-3497
E-mail: joechampion@boisestate.edu

General Information

The Master of Science in Mathematics Education program is designed for educators seeking to broaden their knowledge of mathematics, teaching and learning, research, and curriculum. Courses include integrated strands such as technology, assessment, and student thinking so that learning is contextualized and relevant to classroom teachers.

Candidates have varied experience and interests, including high school teachers, middle levels mathematics teachers, community college or university mathematics instructors, and prospective mathematics teachers with substantial undergraduate mathematics preparation. Persons seeking secondary Idaho teaching certification should consult with the Graduate Program Coordinator to discuss options for a program leading to certification.

Application and Admission Requirements

An applicant should follow the general application procedures for graduate degree-seeking students (see *Graduate Admission Regulations*). A candidate's letter of intent should describe the applicant's goals in pursuing graduate study in mathematics education. In addition, an applicant must arrange for three letters of recommendation from people who know the applicant's academic or professional work. Once the application file is complete, the program faculty will evaluate it and forward an admission recommendation (regular, provisional, or denial) to the Dean of the Graduate College. In the case of a recommendation for provisional admission, the program faculty will also recommend the stipulations that must be satisfied by the student to advance to regular status. The Dean will make the final admission decision and notify the applicant and the Graduate Program Coordinator.

Conditions for Admission The conditions for admission are the minimum admission requirements of the Graduate College (see *Graduate Admission Regulations*) where the required baccalaureate degree must be in mathematics secondary education, mathematics, elementary education or a closely related field. These conditions are necessary for admission but do not guarantee admission.

Supervisory Committee Each admitted student will have a three-member supervisory committee consisting of an advisor who will serve as chair, and two additional members. The role of the supervisory committee is to support the student in the design and, execution, of the culminating experience (either a thesis or project). The advisor is responsible for guiding the student in all other aspects of graduate study, including the choice of course work to meet the degree requirements.

Degree Requirements

General M. S. requirements as stated in Boise State University's Graduate Catalog apply. Any transfer credits, whether from another university or from another graduate program at Boise State University, must be approved by the program faculty. A 400/500 cross-listed course cannot apply towards the degree if already taken for an undergraduate degree.

The Master of Science in Mathematics Education requires coursework (at least 27 credits) and a culminating experience consisting of either a thesis or a project (3-6 credits).

Thesis The thesis option is the best choice for students who plan to pursue doctoral work. Each student choosing the thesis option must pass a public oral defense.

Project The project option is a good choice for students who plan to continue working as a classroom teacher. Each student choosing the project option must give a public oral presentation.

Master of Science in Mathematics Education	
Course Number and Title	Credits
All candidates are required to submit a portfolio prior to their completion of Thesis or Project.	
Teaching and Curriculum MATHED 510 Mathematics Curriculum At least two of the following: MATHED 523 Teaching and Learning Algebra and Functions MATHED 524 Teaching and Learning Geometry MATHED 525 Teaching and Learning Calculus MATHED 526 Teaching and Learning Statistics MATHED 557 Teaching and Learning Number Concepts with Problem Solving	9
Educational Research MATHED 512 Mathematics Education Research Design At least one the following: ED-CIFS 503 Fundamentals of Educational Research MATHED 511 Survey of Research in Mathematics Education or other approved educational research course	6
Mathematics Electives MATH 501 Foundations of Mathematics MATH 547 History of Mathematics MATH 556 Linear Programming MATH 564 Mathematical Modeling or any other 500-level MATH course	6
Electives MATH, MATHED, Education, or as approved by advisor	6
Culminating Activity 591 Project or 593 Thesis in MATH or MATHED	3-6
Total	30-33

Course Offerings

See *Course Numbering and Terminology* for definitions.

MATH— Mathematics

Additional work will be required to receive graduate credit for undergraduate G courses.

Graduate offerings in mathematics are limited to those courses for which there is sufficient student demand as determined by the Department of Mathematics.

MATH 490G MATHEMATICS IN SECONDARY SCHOOLS (3-0-3)(F).

Objectives, content, and methods of secondary school mathematics programs. PREREQ: MATH 370 and six hours of mathematics completed at or above the 300-level or PERM/INST.

MATH 501 FOUNDATIONS OF MATHEMATICS (3-0-3)(SU). The language and methods of reasoning used throughout mathematics, and selected topics in discrete mathematics. PREREQ: MATH 143.

MATH 502 LOGIC AND SET THEORY (3-0-3)(S). Structured as three five-week components: formal logic, set theory, and topics to be determined by the instructor. The logic component includes formalization of language and proofs, the completeness theorem, and the Lowenheim-Skolem theorem. The set theory component includes orderings, ordinals, the transfinite recursion theorem, and the Axiom of Choice and some of its equivalents. PREREQ: MATH 314.

MATH 503 LINEAR ALGEBRA (3-0-3)(S). Concepts of linear algebra from a theoretical perspective. Topics include vector spaces and linear maps, dual vector spaces and quotient spaces, eigenvalues and eigenvectors, diagonalization, inner product spaces, adjoint transformations, orthogonal and unitary transformations, Jordan normal form. PREREQ: MATH 314, and MATH 301 or MATH 333.

MATH 505 ABSTRACT ALGEBRA (3-0-3)(F)(Odd years). Topics in group theory, ring theory and field theory with emphasis on finite and solvable groups, polynomials and factorization, extensions of fields. PREREQ: MATH 301 and MATH 305.

MATH 506 ADVANCED ALGEBRA (3-0-3)(S)(Even years). The study of algebraic topics taken from mappings, semi-groups, groups, Sylow Theorems, group actions, rings, ascending and descending chain conditions, polynomial rings, fields, field extensions, Galois theory, Modules, Tensor products. PREREQ: MATH 405 or MATH 505.

MATH 507 ADVANCED NUMBER THEORY (3-0-3)(F)(Even years). Arithmetic functions, Mobius Inversion, Fundamental algorithm, Prime numbers, Factoring, quantification of number theoretic results. PREREQ: MATH 306.

MATH 508 ADVANCED PUBLIC KEY CRYPTOLOGY (3-0-3)(F). Galois Fields, Vector Spaces and Lattices. Group based and lattice asymmetric cryptographic primitives based. Security models for public key cryptosystems. The study of security foundations of current public key cryptosystems. Dual-listed with MATH 408. PREREQ: MATH 305 or MATH 307 or MATH 308.

MATH 509 SYMMETRIC KEY CRYPTOLOGY (3-0-3)(S). Combinatorics, Galois Fields and Extensions, and Vector Spaces. One-way functions, Hash functions, and pseudo-random number generators. Data Encryption Standard, Rijndael and other symmetric key cryptosystems and their cryptanalysis. Dual-listed with MATH 409. PREREQ: MATH 305 or MATH 307 or MATH 308.

MATH 511 INTRODUCTION TO TOPOLOGY (3-0-3)(F)(Even years). Sets, metric and topological spaces, product and quotient topology, continuous mappings, connectedness and compactness, homeomorphisms, fundamental group, covering spaces. PREREQ: MATH 314.

MATH 512 ADVANCED TOPOLOGY (3-0-3)(S)(Odd years). Introduction into concepts of algebraic and geometric topology: homotopy and homology groups, cohomology, manifolds, duality theorems, special topics. PREREQ: MATH 411 or MATH 511 or PERM/INST.

MATH 514 ADVANCED CALCULUS (4-0-4)(F). Introduction to fundamental elements of Analysis on Euclidean spaces including the basic differential and integral calculus. Topics include: Infinite series, sequences and series of function, uniform convergences, theory of integration, implicit function theorem and applications. PREREQ: MATH 275, MATH 301, and MATH 314.

Mathematics

MATH 515 REAL AND LINEAR ANALYSIS (3-0-3)(F). Lebesgue measure on the reals, construction of the Lebesgue integral and its basic properties. Advanced linear algebra and matrix analysis. Fourier analysis, introduction to functional analysis. PREREQ: MATH 414 or MATH 514.

MATH 522 ADVANCED SET THEORY (3-0-3)(F). Topics in modern set theory may be drawn from forcing, choiceless set theory, infinitary combinatorics, set-theoretic topology, descriptive set theory, inner model theory, and alternative set theories. PREREQ: MATH 402 or MATH 502 or PERM/INST.

MATH 526 COMPLEX VARIABLES (3-0-3)(S)(Odd years). Complex numbers, functions of a complex variable, analytic functions, infinite series, infinite products, integration, proofs and applications of basic results of complex analysis. Topics include the Cauchy integral formulas, the residue theorem, the Riemann mapping theorem and conformal mapping. PREREQ: MATH 275.

MATH 527 INTRODUCTION TO APPLIED MATHEMATICS FOR SCIENTISTS AND ENGINEERS (3-0-3)(F). Introduction to applied mathematics in science and engineering: Vector calculus, Fourier series and transforms, series solutions to differential equations, Sturm-Liouville problems, wave equation, heat equation, Poisson equation, analytic functions, and contour integration. PREREQ: MATH 275 and MATH 333.

MATH 533 ORDINARY DIFFERENTIAL EQUATIONS (3-0-3)(S)(Odd years). Theory of linear and nonlinear ordinary differential equations and their systems, including Dynamical systems theory. Properties of solutions including existence, uniqueness, asymptotic behavior, stability, singularities and boundedness. PREREQ: MATH 333.

MATH 536 PARTIAL DIFFERENTIAL EQUATIONS (3-0-3)(S)(Even years). Theory of partial differential equations and boundary value problems with applications to the physical sciences and engineering. Detailed analysis of the wave equation, the heat equation, and Laplace's equation using Fourier series and other tools. PREREQ: MATH 275 and MATH 333, or PERM/INST.

MATH 537 PRINCIPLES OF APPLIED MATHEMATICS (3-0-3)(S). Finite and infinite dimensional vector spaces, spectral theory of differential operators, distributions and Green's functions applied to initial and boundary value problems. Potential theory, and conformal mappings. Asymptotic methods and perturbation theory. Exact content determined by the instructor. PREREQ: MATH 427 or MATH 527 or PERM/INST.

MATH 547 HISTORY OF MATHEMATICS (3-0-3)(F/S/SU). The course is designed for mathematics teachers in the secondary school. The course consists of two parts: the first part traces the development of algebra, geometry, analytic geometry and calculus to the 19th century; the second part gives a brief introduction to, and history of, some of the developments in mathematics during the last century. May not be used for the Master's degree in Mathematics. PREREQ: PERM/INST.

MATH 556 LINEAR PROGRAMMING (3-0-3)(SU)(On demand). Linear optimization problems and systems of linear inequalities. Algorithms include simplex method, two-phase method, duality theory, and interior point methods. Programming assignments. PREREQ: MATH 301.

MATH 562 PROBABILITY AND STATISTICS (3-0-3)(F). Provides a solid foundation in the mathematical theory of statistics. Topics include probability theory, distributions and expectations of random variables, transformations of random variables, moment-generating functions, basic limit concepts and brief introduction to theory of estimation and hypothesis testing: point estimation, interval estimation and decision theory. PREREQ: MATH 275, MATH 301, and MATH 361.

MATH 564 MATHEMATICAL MODELING (3-0-3)(F/SU). Introduction to mathematical modeling through case studies. Deterministic and probabilistic models; optimization. Examples will be drawn from the physical, biological, and social sciences. A modeling project will be required. May not be used for the master's degree in Mathematics. PREREQ: MATH 361 or PERM/INST.

MATH 565 (CS 565) NUMERICAL METHODS I (3-0-3)(F). Approximation of functions, solutions of equations in one variable and of linear systems. Polynomial, cubic spline, and trigonometric interpolation. Optimization. Programming assignments. May be taken for CS or MATH credit, but not both. PREREQ: MATH 365 or PERM/INST.

MATH 566 (CS 566) NUMERICAL METHODS II (3-0-3)(S). Matrix theory and computations including eigenvalue problems, least squares, QR, SVD, and iterative methods. The discrete Fourier transform and nonlinear systems of equations. Programming assignments. May be taken for CS or MATH credit, but not both. PREREQ: CS 565 or MATH 465 or MATH 565 or PERM/INST.

MATH 567 NUMERICAL METHODS FOR DIFFERENTIAL EQUATIONS (3-0-3)(F). Numerical techniques for initial and boundary value problems. Elliptic, parabolic, hyperbolic, and functional differential equations. Finite difference, finite volume, finite element, and spectral methods. Efficiency, accuracy, stability and convergence of algorithms. Programming assignments. PREREQ: MATH 333, and MATH 465 or MATH 565, or PERM/INST.

MATH 571 DATA ANALYSIS (3-0-3)(S). Applications of statistical data analysis in various disciplines, introduction to statistical software, demonstration of interplay between probability models and statistical inference. Topics include introduction to concepts of random sampling and statistical inference, goodness of fit tests for model adequacy, outlier detection, estimation and testing hypotheses of means and variances, analysis of variance, regression analysis and contingency tables. PREREQ: MATH 361.

MATH 572 COMPUTATIONAL STATISTICS (3-0-3)(F). Introduction to the trend in modern statistics of basic methodology supported by state-of-art computational and graphical facilities, with attention to statistical theories and complex real world problems. Includes: data visualization, data partitioning and resampling, data fitting, random number generation, stochastic simulation, Markov chain Monte Carlo, the EM algorithm, simulated annealing, model building and evaluation. A statistical computing environment will be used for students to gain hands-on experience of practical programming techniques. PREREQ: MATH 361 or PERM/INST.

MATH 573 TIME SERIES ANALYSIS (3-0-3)(S)(Even years). Introduction to time series analysis with an emphasis on application to interdisciplinary projects using SAS/ETS; autoregressive-moving average models, seasonal models, model identification, parameter estimation, model checking, forecasting, estimation of trends and seasonal effects, transfer function models, and spectral analysis. PREREQ: MATH 361 or PERM/INST.

MATH 574 LINEAR MODELS (3-0-3)(S)(Odd years). Introduction to the Gauss-Markov model with use of relevant statistical software. Includes linear regression, analysis of variance, parameter estimation, hypothesis testing, model building and variable selection, multicollinearity, regression diagnostics, prediction, general linear models, split plot designs, repeated measures analyses, random effects models. PREREQ: MATH 361.

MATH 579 TEACHING COLLEGE MATHEMATICS (1-0-1). Development of skills in the teaching of college mathematics. Effective use of class time, syllabus and test construction, learning styles, and disability issues. Lecturing, use of group work, and other teaching techniques. (Pass/Fail.) PREREQ: PERM/INST.

SELECTED TOPICS (1-3 Variable). To be offered as staff availability permits:

MATH 580 SET THEORY

MATH 581 LOGIC

MATH 582 TOPOLOGY

MATH 583 COMPUTATIONAL MATHEMATICS

MATH 584 COMPUTATIONAL ALGEBRA

MATH 585 CRYPTOLOGY

MATH 586 STATISTICS

MATH 587 DIFFERENTIAL EQUATIONS

MATH 588 INVERSE THEORY

MATH 598 SEMINAR IN MATHEMATICS (1-0-1)(F/S). Seminars by mathematicians on a wide range of subjects, including advanced mathematical topics selected from texts, mathematical journals, and current research. Format may include student presentation and discussion. Students will attend seminars, write summaries, and search for relevant literature. May be repeated once for credit. (Pass/Fail.) PREREQ: PERM/INST.

MATHED — Mathematics Education

MATHED courses are designed to provide extra experience in mathematics and the teaching of mathematics for practicing teachers.

They may be used to meet course requirements for master's degrees in education. They are not available for undergraduate credit.

MATHED 510 MATHEMATICS CURRICULUM (3-0-3)(F/S/SU). Study of the design, development and analysis of school mathematics curriculum materials. Includes careful examination of national standards, curriculum reports, and instructional materials from mathematical, pedagogical, and developmental perspectives.

MATHED 511 SURVEY OF RESEARCH IN MATHEMATICS EDUCATION I (3-0-3)(F/S/SU). Introduction to the scholarly discipline of mathematics education through review of the literature. Includes exploration of major themes, concepts, and strategies for conducting mathematics education research.

MATHED 512 MATHEMATICS EDUCATION RESEARCH DESIGN (3-0-3)(F/S/SU). Advanced perspectives on strategies for conducting research in mathematics education, including principles of quantitative, qualitative, and mixed methods research design.

MATHED 523 TEACHING AND LEARNING ALGEBRA AND FUNCTIONS (3-0-3)(F/S/SU). Contemporary approaches to teaching school algebra based on mathematics education research. Topics include selected concepts in school algebra, teaching methods and materials, and research on the conceptual development of algebraic ideas.

MATHED 524 TEACHING AND LEARNING GEOMETRY (3-0-3)(F/S/SU). Guided exploration of basic concepts in Euclidean, transformational, and other non-Euclidean geometries (e.g., taxi-cab geometry, spherical geometry). Includes current research related to the teaching and learning of geometry.

MATHED 525 TEACHING AND LEARNING CALCULUS (3-0-3)(F/S/SU). Investigations of contemporary approaches to teaching and learning calculus based on mathematics education literature. Topics include selected concepts of differential and integral calculus, teaching methods and materials, research on student thinking, and the historical development of calculus.

MATHED 526 TEACHING AND LEARNING STATISTICS (3-0-3)(F/S/SU). Investigations of contemporary approaches to teaching statistics based on educational literature. Topics include selected concepts in data collection, descriptive and inferential statistics, probability, strategies for teaching statistics, and research on student thinking.

MATHED 557 TEACHING AND LEARNING NUMBER CONCEPTS WITH PROBLEM SOLVING (3-0-3)(F/S/SU). Investigations of contemporary approaches to teaching number concepts based on mathematics education literature. Course topics include the real number system, number bases, operations and algorithms, divisibility, and proportional reasoning, as well as related literature on teaching and learning through problem solving.

MATHED 598 SEMINAR IN MATHEMATICS EDUCATION (2-0-2)(SU). The content will vary within a format of student presentation and discussion of relatively advanced mathematics education topics selected from texts or journals. This will not be a seminar in mathematics.

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

Department of Mechanical and Biomedical Engineering

College of Engineering

Chair: Don Plumlee

Engineering Building, Room 201

Phone: (208) 426-3575

Fax: (208) 426-4800

E-mail: dplumlee@boisestate.edu

Graduate Faculty: Ferguson, Fitzpatrick, Gardner, Guarino, Lujan, Plumlee, Satici, Senocak, Tennyson, Uzer, Zhang

Graduate Degrees Offered

- Master of Engineering in Mechanical Engineering
- Master of Science in Mechanical Engineering

General Information

The Department of Mechanical and Biomedical Engineering offers two distinct engineering graduate degree programs. The program leading to the Master of Science in Mechanical Engineering (M.S. ME) is a thesis-based program designed to prepare students for research and development and further study at the doctoral level. The program leading to the Master of Engineering in Mechanical Engineering (M.Engr. ME) is a non-thesis program with a focus on professional development.

Application and Admission Requirements

Admission Requirements An applicant must hold a baccalaureate degree in mechanical engineering from an ABET-accredited program or a baccalaureate degree from a closely related science or engineering field. An applicant must satisfy the minimum admission requirements of the Graduate College (see *Graduate Admission Regulations*). In addition, the applicant must satisfy the following specific requirements set by the department.

1. A minimum cumulative GPA of 3.00 computed for all undergraduate credits or a 3.00 GPA computed for the last 60 undergraduate credits.
2. A minimum GRE combined (verbal plus quantitative) score of 304 (i.e., 1100 in the old scoring system) with a minimum GRE quantitative score of 153 (i.e., 680 in the old scoring system) is required. Applicants holding a B.S. degree from the College of Engineering at Boise State University are not required to submit a GRE score.

Admission to the graduate program is competitive and the achievement of minimum requirements does not guarantee admission.

Application Procedures Applicants are strongly encouraged to apply ahead of the deadlines. A prospective student who is seeking a graduate assistantship must apply by February 1st for Fall admission and by July 1st for Spring admission. A prospective student who is not seeking financial aid must apply by the application deadlines of the Graduate College (see Application Deadlines for Degree-Seeking Students section).

Mechanical and Biomedical Engineering

Applicants should follow the general graduate application procedure for degree-seeking students (see *Graduate Admission Regulations*). In addition to the application materials required by the Graduate College, the applicant must also submit the following application materials through the Graduate College application process:

1. a statement of purpose that describes the applicant's educational and professional background, career goals, and his or her motivation for graduate study,
2. contact information for three references (preferably from academic resources). References will be contacted with instruction for submitting a letter of recommendation on the applicant's behalf. References should be able to address the applicant's qualification and suitability for graduate study,
3. GRE General Test scores from the Educational Testing Service (www.ets.org) submitted directly to Boise State University (code R4018) if the applicant does not hold a B.S. degree from the College of Engineering at Boise State University.

Questions on application procedure, status or the graduate program in general should be e-mailed to MBEgradapps@boisestate.edu.

Once the applicant's file is complete, it will be evaluated by the Mechanical Engineering Graduate Program Committee, and an admission recommendation (regular, provisional, or denial) will be forwarded to the Dean of the Graduate College. In order to ensure proper mentoring of all graduate students, a recommendation for regular or provisional admission will not be forwarded unless a faculty member of the Department of Mechanical and Biomedical Engineering is available to serve as the major advisor. The graduate dean will make the final admission decision and notify the applicant and the Mechanical Engineering Graduate Program Committee.

Graduate Assistantships Graduate assistantships within the department are highly competitive and may consist of a stipend and a tuition and fee waiver. Typical assignments include research assistants, teaching assistants or assignments related to specific areas. Graduate assistantships are awarded for one year and may be renewed for an additional year.

Advisor and Supervisory Committee

For a student admitted to the M.S. ME program, the Mechanical Engineering Graduate Studies Committee will initiate the assignment of a supervisory committee including a major advisor who serves as chair. The role of the supervisory committee is to guide the student in all aspects of his or her graduate study. For a student admitted to the M.Engr. ME program, the Mechanical Engineering Graduate Studies Committee will appoint a major advisor; student mentoring will be provided by the major advisor and the chair of the department.

Master of Engineering in Mechanical Engineering

Program Coordinator: John Gardner
Yanke, Room 905
Phone: (208) 426-5702
E-mail: jgardner@boisestate.edu

Degree Requirements

Students must complete at least 31 graduate credits distributed as shown in the degree requirements table. A maximum of 3 credits of ME 596 Independent Study may be applied to meet the degree requirements. The comprehensive examination cannot be attempted prior to the last semester of the program. If the comprehensive examination is failed on the first attempt, then the student may be permitted a second attempt. Failure on the second attempt will result in dismissal from the program.

Master of Engineering in Mechanical Engineering	
Course Number and Title	Credits
Mechanical Engineering and Mathematics Core MATH 527 Introduction to Applied Mathematics for Scientists and Engineers or MATH 536 Partial Differential Equations or MATH 537 Principles of Applied Mathematics ME 510 Continuum Mechanics Select one of the following courses: MATH 565 Numerical Methods I MATH 571 Data Analysis MATH 572 Computational Statistics ME 536 Computational Fluid Dynamics ME 570 Finite Element Methods ME 571 Parallel Scientific Computing Another course with a computational emphasis approved by the student's advisor	9
Mechanical Engineering Graduate Courses Courses with ME prefix to be selected with student input and approved by the supervisory committee.	12-21
Non-Mechanical Engineering Graduate Courses Graduate courses in a related field. Masters students may take up to 6 credits of upper division (300 level and above) undergraduate courses. Advisor approval required.	0-9
Culminating Activity ME 690 Master's Comprehensive Examination	1
Total	31

Master of Science in Mechanical Engineering

Program Coordinator: John Gardner
 Yanke, Room 905
 Phone: (208) 426-5702
 E-mail: jgardner@boisestate.edu

Degree Requirements

Students must complete at least 30 graduate credits distributed as shown in the degree requirements table. Prior to admission to candidacy, the student's thesis committee must be formed and the thesis proposal must be presented to the committee, the form of the proposal and presentation is left to the discretion of the thesis advisor. The thesis must constitute an original contribution to knowledge in mechanical engineering and must be successfully defended at a final oral examination. All work directly related to the thesis must be represented by at least 6 credits of ME 593.

Master of Science in Mechanical Engineering	
Course Number and Title	Credits
Mechanical Engineering and Mathematics Core	9
MATH 527 Introduction to Applied Mathematics for Scientists and Engineers or MATH 536 Partial Differential Equations or MATH 537 Principles of Applied Mathematics	
ME 510 Continuum Mechanics	
Select one of the following courses:	
MATH 565 Numerical Methods I	
MATH 571 Data Analysis	
MATH 572 Computational Statistics	
ME 536 Computational Fluid Dynamics	
ME 570 Finite Element Methods	
ME 571 Parallel Scientific Computing	
Another course with a computational emphasis approved by the student's advisor	
Mechanical Engineering Graduate Courses	6-15
Courses with ME prefix to be selected with student input and approved by the supervisory committee.	
Non-Mechanical Engineering Graduate Courses	0-9
Graduate courses in a related field. Masters students may take up to 6 credits of upper division (300 level and above) undergraduate courses. Advisor approval required.	
Culminating Activity	
ME 593 Thesis	6
Total	30

Special Rule on Transfer Credit The normal transfer credit policies of the Graduate College hold except that up to 15 transfer credits earned in combination at the University of Idaho and Idaho State University may be applied to either degree program (M.S. ME or M.Engr. ME) with the approval of the supervisory committee.

Course Offerings

See *Course Numbering and Terminology* for definitions.

ME—Mechanical Engineering

ME 510 CONTINUUM MECHANICS (3-0-3)(F/S). Development and analysis of fundamental relationships and constitutive equations for deformation, strain, and stress of materials occupying a continuous domain. Eulerian and Lagrangian methods are covered. Vector and tensor techniques developed. PREREQ: Graduate standing or PERM/INST.

ME 520 (KINES 520) ADVANCED BIOMECHANICS (3-0-3)(F). Mechanical principles and analytical methods used in traditional and contemporary biomechanics. Topics include functional anatomy, joint kinematics, inverse dynamics, mechanical properties of biological materials, and modeling of the musculoskeletal system. May be taken for KINES or ME credit, but not both. PREREQ: ENGR 220 or PERM/INST.

ME 522 ADVANCED THERMODYNAMICS (3-0-3)(F/S). Advanced topics selected from Statistical Thermodynamics, Thermodynamics of Chemically Reacting Gases, Thermodynamics Property Formulation for Computer Applications and others at the discretion of the professor. PREREQ: ME 420.

ME 525 (KINES 525) LABORATORY TECHNIQUES IN BIOMECHANICS (3-0-3)(S). An introduction to the analysis techniques used to study the mechanics of human motion. Topics include cinematography, videography, force transducers, electromyography and computer analysis techniques. May be taken for KINES credit or ME credit, but not both. PREREQ: KINES 520/ME 520 or PERM/INST.

ME 526 RENEWABLE ENERGY SYSTEMS (3-0-3)(F/S). A survey of renewable energy systems including solar, wind biomass, as compared to traditional electric power production and distribution. PREREQ: ENGR 240, ME 302, and CE 330 or ME 330.

ME 530 ADVANCED FLUID MECHANICS (3-0-3)(F/S). Theory and physics of viscous flows. Conservation laws. Vorticity dynamics and transport. Laminar flows and elementary lubrication theory. Flow instability. Introduction to boundary layer theory and turbulence. Some exact solutions to the Navier-Stokes equations. PREREQ: ME 320 and ME 330.

ME 532 ACOUSTICS (3-0-3)(F/S). Basic theories of acoustics, wave equations, acoustic response, sound generation, transmission, and attenuation. Measurement techniques and nomenclature. PREREQ: CE 330 or ME 330, and MATH 333.

ME 536 COMPUTATIONAL FLUID DYNAMICS (3-0-3)(F/S). Theory and numerical modeling in fluid dynamics. Finite difference, finite volume, and finite element techniques will be treated. The course will include projects and research applications in engineering and environmental flows. PREREQ: CE 330 or ME 330, and PERM/INST.

ME 537 CONDUCTION HEAT TRANSFER (3-0-3)(F/S). Steady and unsteady conduction of heat through solids, liquids, and gases. Analytical and numerical solution methods for ordinary and partial differential equations modeling heat transfer. PREREQ: Graduate standing or PERM/INST.

ME 538 CONVECTIVE HEAT TRANSFER (3-0-3)(F/S). Treatment of energy and linear momentum conservation equations; laminar and turbulent forced convective HT in internal and external flow fields; free convection. PREREQ: ME 320.

ME 539 RADIATION HEAT TRANSFER (3-0-3)(F/S). Radiation heat transfer due to emission and absorption between surfaces and within materials. Analytical and numerical solutions for steady and unsteady heat transfer due to radiation as a dominant process or in combination with convection and conduction. PREREQ: Graduate standing or PERM/INST.

ME 550 ADVANCED MECHANICS OF MATERIALS (3-0-3)(F/S). Extension of stress-strain concepts to three-dimensions, plate and shell analysis, failure theories, and fatigue. Analysis and visualization techniques include Finite Element Analysis and photoelasticity. PREREQ: CE 350 or ME 350.

ME 560 COMPUTER AIDED DESIGN (3-0-3)(F/S). Computer programs used to develop 3-D CAD database for design, analysis, simulation, and manufacturing. Machinery design to meet functional, performance, reliability and manufacturing requirements. Design projects reinforce concepts and methodologies. For students desiring higher level CAD skills prior to taking ME 480. PREREQ: ME 320.

ME 561 (ECE 561) CONTROL SYSTEMS (3-0-3)(S). Time and frequency domain analysis and design of feedback systems using classical and state space

methods. Observability, controllability, pole placement, and observers. May be taken for ECE or ME credit, but not both. PREREQ: ECE 360 or ME 360.

ME 566 DYNAMIC MODELING AND CONTROL OF ENGINEERING SYSTEMS (3-0-3)(F/S/SU). Multi-physics modeling of lumped parameter systems. Theoretical basis of system response including classical differential equations, state space methods, Laplace and frequency domain approaches. Closed loop stability and overview of SISO control system specification and design. Emphasis on computer simulation and model verification. PREREQ: Graduate standing or PERM/INST.

ME 570 FINITE ELEMENT METHODS (3-0-3)(F/S). Theoretical development of finite element methods, solution algorithm formulation, and problem solving in stress analysis, heat transfer, and fluid flow. PREREQ: ENGR 220, and CE 350 or ME 350, and PERM/INST.

ME 571 PARALLEL SCIENTIFIC COMPUTING (3-0-3)(F/S). Introduction to parallel scientific and technical computing on supercomputers and modern graphics processing units. Finite difference methods to solve partial differential equations governing heat conduction and wave propagation. Scientific visualization of simulation data. Performance optimization of scientific codes. Course projects involve parallel computer programming of prototype problems. PREREQ: CS 117, MATH 333, or PERM/INST.

ME 574 ADVANCED VIBRATIONS (3-0-3)(F/S). Theory and applications of vibrating continuous and discrete multi degree of freedom systems, modal analysis, acquisition and synthesis of data. Experimental and analytical characterization of the vibration response of linear and nonlinear systems, including Transfer and Frequency Response Functions, MIMO and SIMO, and mathematical modeling. PREREQ: ME 472 or PERM/INST.

ME 576 ADVANCED DYNAMICS (3-0-3)(F/S). Analytical modeling to predict the performance of linked, multi-body mechanical systems undergoing large displacements and rotations. Theoretical considerations in preparing models for computer simulations and interpreting results. Application of a state of the art computer package in creating realistic simulations. PREREQ: ME 380 or PERM/INST.

ME 577 (BIOL 577)(MSE 577) BIOMATERIALS (3-0-3)(F/S). Theory of biomaterials science. Medical and biological materials and their applications. Selection, properties, characterization, design and testing of materials used by or in living systems. May be taken for BIOL, ME, or MSE credit, but not from more than department. PREREQ: CHEM 112 or MSE 245.

ME 578 DESIGN AND ANALYSIS OF MECHATRONIC SYSTEMS (3-0-3)(F/S). Design and analysis of engineering systems containing mechanical, electro-mechanical and embedded computer elements. The course provides an overview of basic electronics, digital logic, signal processing and electromechanical devices. Fundamentals of event-driven programming will also be covered. PREREQ: ENGR 240.

ME 582 OPTIMAL DESIGN (3-0-3)(F/S). Analytical and computer methods used to provide optimal design of products or processes. Formulation, specification, figures of merit, controllable variables, constraints and relationships among design variables. Single and multi-variable optimization algorithms using linear and nonlinear programming methods to design problems in structures, machine components, and energy systems. PREREQ: MATH 275, PHYS 211, and PHYS 211L.

ME 585 VEHICLE DESIGN (3-0-3)(F/S). Subsystem design for wheeled vehicles including bicycles, motorcycles, cars, trucks and ATVs. Static and dynamic analyses of traction and reaction forces during acceleration, braking and cornering. Suspension response analysis. Subsystem design including suspension, chassis, steering, transmission, brakes, and tires. PREREQ: ENGR 220, MSE 245, and CE 350 or ME 350.

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

Micron School of Materials Science and Engineering

College of Engineering

Chair: Janet Callahan

Engineering Building, Room 338D

Phone: (208) 426-5600

E-mail: janetcallahan@boisestate.edu

Interdisciplinary Participation

- Doctor of Philosophy in Materials Science and Engineering
- Master of Engineering in Materials Science and Engineering
- Master of Science in Materials Science and Engineering
- Graduate Certificate in Computational Materials Science and Engineering
- Graduate Certificate in Foundations in Materials Science and Engineering
- Graduate Certificate in Nanomaterials Science and Engineering

General Information

Established in 2004, the Micron School of Materials Science and Engineering houses three distinct interdisciplinary graduate degrees: Doctor of Philosophy (Ph.D.), Master of Science (M.S.) and Master of Engineering (M.Engr.) and three graduate certificate programs. With an interdisciplinary base of faculty from backgrounds including, but not limited to: Materials Science and Engineering, Mechanical and Biomedical Engineering, Electrical and Computer Engineering, Civil Engineering, Physics, Chemistry, and Biology, students enrolled in the graduate programs benefit from their diversity of background and the interdisciplinary nature of the field. Governance of the graduate and certificate programs is based upon participating faculty from constituent departments and overseen by the School.

Materials Science and Engineering is a highly interdisciplinary field that rests between basic science and engineering. Because of this, graduates develop collaborative skills that transcend disciplinary boundaries as well as technical skills and fundamental knowledge that make them highly attractive to the regional, national, and international workforce.

(See the Materials Science and Engineering Programs section for program descriptions and course offerings.)

Department of Music

College of Arts and Sciences

Chair: Linda Kline
 Morrison Center, Room C-100
 Phone: (208) 426-1596
 Fax: (208) 426-1771
<https://music.boisestate.edu/>

Graduate Faculty: Baldwin, Belfy, Berg, Brown, Hansen, Hodges, Jirak, Kline Lamar, Molumby, Moreau, Paradis, Parkinson, Porter, Purdy, Rushing-Raynes, Saunders, Tornello

Graduate Degrees Offered

- Master of Music, Music Education
- Master of Music, Performance

Master of Music

Graduate Program Coordinator: Jeanne Belfy
 Morrison Center, Room C-309
 Phone: (208) 426-1216
 E-mail: jbelfy@boisestate.edu

General Information

The Master of Music is a professional degree in music with emphasis in either 1) music education or 2) performance. The emphasis in education is designed to meet the needs of music education specialists who work in the public school system, grades K-12, or who aspire to further graduate study and teaching in music education. Students engage in critical inquiry in music education through graduate courses related to research, pedagogy, history, and philosophy, as well as graduate courses in music theory and history. Declaring an area of emphasis of either elementary, choral, or secondary instrumental, students structure elective credits to reflect their area, and conclude their studies with a culminating activity related to their emphasis.

Performance majors seek to improve their performance and studio teaching skills, possibly in preparation for a performance career, further graduate study, private studio teaching, and/or collegiate applied teaching. Their course work centers around applied study, music theory and history, and pedagogy and literature courses, and culminates in a graduate recital or other appropriate culminating project.

The Department offers four full graduate assistantships, and the Blue Thunder Marching Band program offers three full graduate assistantships. A cooperative program for string students exists with the Boise Philharmonic Orchestra. Contact the Graduate Program Coordinator for further information.

Application and Admission Requirements

Admission will be granted to applicants who hold a Bachelor's degree in music (B.M., B.A., or B.S. with a music major) from an accredited college or university, and who give promise of meeting the standards set by the Department of Music and the University. Students seeking Music Education Emphasis must possess the B.M.Ed. or equivalent with certification, and submit a formal writing sample, a current resume including educational background and teaching experience, and three letters of recommendation from professionals who are familiar with the applicant's teaching. Students seeking admission to the Performance Emphasis must submit a formal writing sample (short undergraduate academic research paper) and three letters of recommendation from professors familiar with their work, and perform a satisfactory audition, in person, before the performance faculty of his/her major performance area (keyboard, winds, strings, etc.). Audition details are available from the Department of Music.

Before a graduate student can be admitted to Regular Status, predictive examinations in music history and music theory must be passed. Predictive examinations identify strengths and weaknesses so that an individual academic program can be formulated to best serve the student's needs. A student who has deficiencies will be granted Provisional Status in the graduate program. When deficiencies have been removed, the student may then seek Regular Status. A description of material covered on these examinations is available from the Department of Music.

Degree Requirements

Master of Music, Music Education	
Course Number and Title	Credits
Graduation Requirements 33-36 credits minimum, stipulated below, are required for graduation. The actual number of credit hours may vary depending on the needs of individual students as determined by the results of predictive examinations. Candidates are required to establish an area of emphasis in one of the following: elementary, choral, or instrumental music education.	
Core Courses	
MUS 503 Introduction to Music Research	3
MUS 510 Advanced Analytical Procedures I	3
MUS 570 New Developments in Music Education	3
MUS 576 History and Philosophy of Music Education	3
Music Education Emphasis Area and Electives (courses selected with the approval of the student's Committee)	
A. 6 credits in the student's area of emphasis: elementary general music, choral music, or instrumental music.	
No more than four (4) workshop elective credits, of which one may be a music conference credit, may be applied towards the degree.	
B. 3 credits additional approved electives in music	3
Other Music Courses (courses selected with the approval of the student's Committee)	
Music History	3
Additional credits selected from the following area(s)	6
A. Additional music theory or history course(s)	
B. Music Ensemble(s)	
C. Private Music Lessons	
D. Conducting course(s)	
<i>Continued</i>	

<i>Master of Music, Music Education continued</i>	
Comprehensive Examination A written comprehensive examination in music must be passed prior to completion of the student's culminating activity. This exam will be tailored to each student's graduate course work. The comprehensive exam may be taken after the completion of 27 hours of required course work to include 6 credits of the core courses and the 3 hours each in music history and music theory.	
Oral Examination If needed, an oral examination relating to the written comprehensive examination or to the culminating activity may be requested at the discretion of the candidate's Committee.	
Culminating Activity MUS 591 Project (3 cr) or MUS 593 Thesis (6 cr)	3-6
Total	33-36

Master of Music, Performance	
<i>Course Number and Title</i>	<i>Credits</i>
Graduation Requirements 32 credits minimum, stipulated below, are required for graduation. The actual number of credit hours may vary, depending on the needs of individual students as determined by the results of predictive examinations.	
Core Courses	
MUS 503 Introduction to Music Research	3
MUS 510 Advanced Analytical Procedures I	3
MUS 557 Major Instrument Literature	3
Music History Elective	3
Performance Courses	17-18
MUS 563, 564 Major Instrument Pedagogy I, II, or additional Music History and/or Music Theory (6 cr)	
*MUS 465G, 466G Diction for Singers I, II (4 cr) or Additional Graduate level music elective (3 cr)	
MUS-PRV 5_4 Private lessons on major instrument (8 cr) (2 semesters minimum: private lessons must be taken each semester of residency)	
Performance Culminating Project MUS-APL 546 Graduate Solo Performance Recital	3
Performance Comprehensive Review After successful completion of the culminating project, the student's committee will administer a written examination consisting of three questions, one from each committee member. The questions will cover areas of the student's recital or culminating project and course work taken toward the degree. After satisfactory completion of the written examination, the committee will meet with the student for an oral examination.	
Total	32-33
*Required of all vocal performance majors.	

Course Offerings

See *Course Numbering and Terminology* for definitions.

MUS-APL — Music Applied, Performance Classes, Recitals

MUS-APL 529 JAZZ IMPROVISATION (1-0-1)(F/S). Private lessons in jazz improvisation. Intended primarily for instrumental majors, this performance-oriented course deals with the principles of jazz harmony and scalar theory. These principles will be applied to selected exercises and standard jazz literature. Students should possess above-average technical facility on their instrument and should have a working knowledge of music theory. Extra fee, non-waivable, per private lesson fee schedule, required. PREREQ: Graduate Standing and MUS 103 or PERM/INST.

MUS-APL 546 GRADUATE SOLO PERFORMANCE RECITAL (0-V-3)(F/S). A full recital to be presented as the culminating project for the Master of Music degree, Performance. (Pass/Fail.) PREREQ: PERM/INST.

MUS-PRV — Music Private Lessons Performance Studies

Students will be assigned on the basis of an audition. Performance, Technical Study, Musical Interpretation, Literature, and Teaching Technique will be stressed.

All 500-level MUS-PRV courses are repeatable. See undergraduate Private Lesson Performance Studies course numbering system for explanation of course numbers.

MUS-PRV 501 (0-5-1), 502 (0-5-2), 504 (0-1-4). Woodwind instruments private lessons.

MUS-PRV 511 (0-5-1), 512 (0-5-2), 514 (0-1-4). Brass instruments private lessons.

MUS-PRV 521 (0-5-1), 522 (0-5-2), 524 (0-1-4). Percussion instruments private lessons.

MUS-PRV 531 (0-5-1), 532 (0-5-2), 534 (0-1-4). Voice private lessons.

MUS-PRV 541 (0-5-1), 542 (0-5-2), 544 (0-1-4). Keyboard instruments private lessons.

MUS-PRV 551 (0-5-1), 552 (0-5-2), 554 (0-1-4). Fretted string instruments private lessons.

MUS-PRV 561 (0-5-1), 562 (0-5-2), 564 (0-1-4). Bowed string instruments private lessons.

MUS-ENS—Music Ensemble

All MUS-ENS courses may be repeated for credit.

MUS-ENS 321G MARCHING BAND (0-V-1)(F). Designed to promote participation in and repertoire knowledge of literature for marching bands. The marching band performs at all home and at least one away football game and occasionally at other university or civic events. Open to all students with the approval of the director. Graduate music students will be expected to assume leadership roles or will be assigned extra duties within the band and/or its organization.

MUS-ENS 323G PEP BAND (0-V-1)(S). Designed to promote participation in and repertoire knowledge for athletic and promotional bands. Regular public performances are required at Boise State athletic events and university and community functions. PREREQ: MUS-ENS 121/321-321G with an audition and/or PERM/INST.

MUS-ENS 501 UNIVERSITY SINGERS (0-2-1)(F,S). Open to all, a campus and community choir that focuses on improving vocal technique and musicianship skills. No audition. Major choral works from all periods, public performances.

MUS-ENS 503 CHAMBER SINGERS (0-2-1)(F,S). Ten select singers specializing in vocal chamber music, emphasizing Medieval, Renaissance, and Baroque music. Active performance schedule both on campus and in the community. Membership by audition. PREREQ: Audition and/or PERM/INST.

MUS-ENS 505 MEISTERSINGERS (0-2-1)(F,S). Advanced 42-voice concert-touring chorus, highest standards, very active performing schedule. Membership by audition. PREREQ: Audition and/or PERM/INST.

MUS-ENS 511 VOCAL JAZZ CHOIR (0-2-1)(F,S). Designed to promote participation in and repertoire knowledge of literature for vocal jazz choirs. Public performances. PREREQ: Audition and/or PERM/INST.

MUS-ENS 512 WOMEN'S CHORALE (0-2-1)(F,S). Specializing in choral literature for treble voices from all time periods, teaching vocal technique,

musicianship, and sight-reading. Public performances. Membership by minimal audition. Public performances are given each semester. PREREQ: Audition and/or PERM/INST.

MUS-ENS 515 OPERA THEATER (0-5-1). Advanced study/experience in singing-acting technique and movement through performing in productions from the opera and/or musical theater repertoire. May be repeated for up to 4 credits maximum. PREREQ: PERM/INST.

MUS-ENS 518 EARLY MUSIC ENSEMBLE (0-3-1)(F,S). Course explores European vocal and instrumental music from the Middle Ages, Renaissance and Baroque periods through performance. Graduate music students will be expected to assume leadership roles or will be assigned extra duties within the ensemble. Concert performances by students enrolled in the course are expected each semester. May be repeated for credit.

MUS-ENS 520 SYMPHONIC WINDS (0-5-1)(F,S). Rehearsal attendance and performance with the select concert band of the University. PREREQ: Audition and/or PERM/INST.

MUS-ENS 522 TREASURE VALLEY CONCERT BAND (0-3-1)(F,S). Rehearsal attendance and multiple performances with this full symphonic band comprising professionals and advanced adult musicians. PREREQ: PERM/INST.

MUS-ENS 526 JAZZ ENSEMBLE (0-3-1)(F,S). Rehearsal attendance and performance with the university big band jazz ensemble. PREREQ: Audition and/or PERM/INST.

MUS-ENS 540 PERCUSSION ENSEMBLE (0-2-1)(F,S). Rehearsal attendance and performance with the University percussion ensemble. PREREQ: PERM/INST.

MUS-ENS 550 ORCHESTRA (0-5-1)(F,S). Rehearsal attendance and performance with the university orchestra. Graduate students are expected to assume leadership roles or will be assigned extra duties within the orchestra and/or its organization. Audition required for new students. PREREQ: PERM/INST.

MUS-ENS 560 CHAMBER ENSEMBLE (0-V-1)(F,S). Participation in a faculty coached, official departmental chamber ensemble, resulting in a minimum of one public performance per semester. PREREQ: PERM/INST.

MUS-ENS 570 TROMBONE CHOIR (0-2-1)(F,S). Study and performance of the literature, including original and transcribed works for multiple tenor and bass trombones. Public performances each semester. PREREQ: PERM/INST.

MUS-ENS 585 DUO PIANO ENSEMBLE (0-2-1)(F,S). Survey of duo-piano literature, rehearsal and performance problems, resulting in public performance each semester. PREREQ: PERM/INST.

MUS — Music, General

MUS 423G SIXTEENTH-CENTURY COUNTERPOINT (3-0-3)(S). Study of 16th century compositional techniques. Compositions will be written in 2 to 4 voices, 5 species, C clefs and Latin texts. Analysis of/listening to music of the period. Additional compositions and/or research for graduate credit. PREREQ: MUS 220 or equivalent.

MUS 424G COUNTERPOINT SINCE 1600 (3-0-3)(F). Study and writing in contrapuntal styles from Baroque period to present day. Invertible counterpoint, canon, fugue, invention, and analysis of procedures in representative works. Additional compositions and/or research for graduate credit. PREREQ: MUS 220.

MUS 465G DICTION FOR SINGERS I (2-0-2)(F)(Odd years). A course designed for singers, devoted to the understanding of the International Phonetic Alphabet (IPA) system and the learning of the rules of pronunciation in Italian, Latin, and Spanish languages. Graduate students will additionally transcribe an entire song cycle or the songs of a proposed graduation recital. Required for all vocal performance majors and Master of Music vocal performance majors and strongly recommended for all voice emphasis majors. PREREQ: One year of MUS-PRV voice performance studies.

MUS 466G DICTION FOR SINGERS II (2-0-2)(S)(Even years). A continuation of MUS 465G Diction for Singers I, with emphasis on German, French, and English languages. Graduate students will additionally transcribe an entire song cycle or the songs of a proposed graduation recital. Required for all vocal performance majors and Master of Music vocal performance majors and strongly recommended for all voice emphasis majors. PREREQ: MUS 465G or PERM/INST.

MUS 501 HISTORY OF MUSIC IN THE UNITED STATES (3-0-3)(F/S). Designed for either the non-specialist or specialist in music, this course will

survey the role which music has played in the development of American culture. Vernacular and art music, as well as social and historical interrelationships with music will be examined and discussed. History elective.

MUS 502 SURVEY OF JAZZ (3-0-3)(S). Explores interpretation of America's original musical art form through listening and through discussion of socio-cultural contexts of jazz. Survey covers stylistic influences of nineteenth-century Africa and western Europe through current living exponents of jazz. In-depth book reviews and research papers on the subject are required. History elective. PREREQ: MUS 100.

MUS 503 INTRODUCTION TO MUSIC RESEARCH (3-0-3)(F/S). This course will provide an introduction to the basic research literature pertinent to the student's major area of emphasis; an interpretation of research findings; and the means to develop skills and techniques needed for the writing of an extended research paper, thesis and/or dissertation, articles for publication and book/performance reviews.

MUS 504 SURVEY OF ETHNOMUSICOLOGY AND WORLD MUSIC (3-0-3)(S)(Even years). This course considers the role of music in society and culture, and examines several musical traditions beyond the scope of Western art music. History elective. PREREQ: Admission to Master of Music program or PERM/INST.

MUS 510 ADVANCED ANALYTICAL PROCEDURES I (3-0-3)(F/S). Overview of analytical approaches, methodologies, and theories of music of the common-practice period (18th through early 19th centuries) with emphasis on concepts/theories relating to harmony, tonality, and formal organization.

MUS 511 ADVANCED ANALYTICAL PROCEDURES II (3-0-3)(F/S). Develops and extends aspects of the theoretical systems and analytical paradigms covered in MUS 510 through the close examination of individual works, composers, genres/styles, and/or systems of the late nineteenth through 21st centuries. PREREQ: MUS 510 or PERM/INST.

MUS 512 ELECTRONIC MUSIC APPLICATIONS (3-0-3)(F/S). A historical overview of electronic music and music technology. Hands-on experience with digital and analog synthesizers, effects processors, sampling, tape decks, computers and related software, and MIDI. Emphasis will be placed on the application of fundamental techniques of electronic music to creative composition. Theory elective.

MUS 557 MAJOR INSTRUMENT LITERATURE (3-0-3)(F/S). Advanced survey of the major instrument literature. The student will prepare a research paper on several typical or important works in the repertoire. Repeatable for credit for different instruments.

MUS 561 ADVANCED INSTRUMENTAL CONDUCTING (2-0-2)(F/S). Designed for secondary instrumental music teachers and advanced performers, this course provides opportunity to discover, analyze, and solve technical conducting problems in both wind band and orchestral music. May be repeated for credit.

MUS 563 MAJOR INSTRUMENT PEDAGOGY I (3-0-3)(F). An advanced and in-depth investigation of pedagogical techniques, materials and principles used in the private teaching studio. Readings in the philosophy of teaching will be included. Repeatable for credit for different instruments.

MUS 564 MAJOR INSTRUMENT PEDAGOGY II (3-0-3)(S). Development of lesson plans and supervised studio teaching in both private and group settings. Recommended preparation: MUS 563. Repeatable for credit for different instruments.

MUS 567 CHORAL LITERATURE (2-0-2)(F). Survey course exploring choral works from all time periods. Though secular works will be discussed, special emphasis will be placed on tracing the development of the Mass, Motet, and Requiem throughout history. Strategies for teaching and performing these works will be discussed. Special projects include programming for elementary, secondary, and collegiate choirs.

MUS 570 NEW DEVELOPMENTS IN MUSIC EDUCATION (3-0-3)(F/S). Designed to acquaint the music specialist with recent ideas in music education, including major trends in curriculum, new methodology, music in integrated courses, and reports of major conferences and symposia.

MUS 571 ADVANCED PRACTICES AND PRINCIPLES IN TEACHING MUSIC IN THE ELEMENTARY SCHOOL (3-0-3)(F/S). Designed for the general classroom teacher or music specialist, the course deals with old and new approaches to teaching music in the classroom, teaching materials, current research on problem singers, creative musical activities, and the development of music reading skills. PREREQ: MUS 374 or PERM/INST.

MUS 572 ADVANCED METHODS AND TECHNIQUES FOR THE ELEMENTARY MUSIC INSTRUCTOR (3-0-3)(F). A study of causes and solutions for problems occurring in the elementary music classroom, including methods, materials and teaching techniques. PREREQ: PERM/INST.

MUS 573 ADVANCED METHODS AND TECHNIQUES FOR THE INSTRUMENTAL INSTRUCTOR (3-0-3)(F/S). A study of causes and solutions for problems occurring in the instrumental rehearsal. Areas to be covered include instrumental methods and techniques, organization and repertoire planning.

MUS 574 ADVANCED METHODS AND TECHNIQUES FOR THE CHORAL INSTRUCTOR (3-0-3)(F/S). A study of causes and solutions for problems occurring in the choral rehearsal. Areas to be covered include vocal methods and techniques, organization and repertoire planning.

MUS 576 HISTORY AND PHILOSOPHY OF MUSIC EDUCATION (3-0-3)(F/S). Includes both an introduction to the history of music education in the United States, from colonial New England to the present; and alternate views about the philosophy of music, including aesthetic experience, aesthetic education, and the nature and meaning of music.

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

School of Nursing

College of Health Sciences

Director: Ann Hubbert

Norco Building, Room 433

Phone (208) 426-4143

<https://hs.boisestate.edu/nursing>

Graduate Faculty: Ahten, Breitzkreuz, Gallegos, Gehrke, Grassley, Hubbert, Macy, Martz, O'Mallon, Prengaman, Serratt, Strohfus, Veltman, Willhaus

Graduate Degrees Offered

- Doctor of Nursing Practice
- Master of Nursing, Adult–Gerontology Nurse Practitioner Acute Care
- Master of Nursing, Adult–Gerontology Nurse Practitioner Primary Care
- Graduate Certificate in Adult–Gerontology Nurse Practitioner — Acute Care
- Graduate Certificate in Adult–Gerontology Nurse Practitioner — Primary Care

General Information

The School offers a graduate nursing program with three degree options; two at the master's level and one at the doctoral level. In addition there are two options for graduate certificates. All programs are offered via distance education.

Doctor of Nursing Practice

Graduate Program Coordinator: Pam Strohfus

Program Information: Nancy Loftus

Norco Building, Room 414A

Phone: (208) 426-3819

Fax: (208) 426-2344

E-mail: nursingdnp@boisestate.edu

<https://hs.boisestate.edu/dnp/>

General Information

The School of Nursing offers a post master's Doctor of Nursing Practice (DNP) to prepare nurses with a practice focused doctorate. This post-masters DNP focuses on leadership with an emphasis on evidenced-based practice enhancing development of interventions that impact health outcomes and complex healthcare systems. This curriculum provides nurses with existing graduate degrees the opportunity to develop doctoral level expertise in order to address pressing issues and challenges in today's complex health care arena by directing the care needs of multiple populations. This program is offered entirely via distance education.

Application Requirements

An applicant must satisfy the minimum admission requirements of the Graduate College (see *Graduate Admission Regulations*) and the School of Nursing either through the School of Nursing or NursingCas.org.

Admission Requirements

Applicants admitted to the Graduate College are eligible to apply to the Post-Masters DNP program in the School of Nursing. The following must be met:

1. Possess a valid, unencumbered RN license or advanced nursing practice license from within the United States
2. Applicants must possess either:
 - a master's degree in Nursing from an Accreditation Commission for Education in Nursing (ACEN) or Commission on Collegiate Nursing Education (CCNE) accredited Nursing program. Applicants are not required to be certified in a clinical specialty.
 - a bachelor's degree in Nursing from an ACEN or CCNE accredited Nursing program and a Master's Degree in a related field. Students who possess a Master's Degree in a related field may be required to take additional graduate courses.
3. Have a cumulative GPA of 3.00 (on a 4.00 scale) for the undergraduate nursing coursework and a cumulative GPA of 3.00 in Master's program.
4. Three professional references to the School of Nursing DNP Program. References must be from faculty members, professional colleagues, or work supervisors who can evaluate your potential for success in a doctoral program. These references are completed through the School of Nursing or NursingCas.org.
5. Submit a 500-word comprehensive statement that includes:
 - a. Discuss how your career and the nursing profession could be enhanced through two (2) of the eight (8) Essentials of Doctor of Nursing Practice Education established by the American Association of Colleges of Nursing (AACN). Explain why you chose those two Essentials to discuss.
 - b. Identify a significant population, organizational or system problem that requires a change. Explain why this change would achieve a more successful health outcome using evidence. This problem should be one that you could potentially use as the basis for your DNP Scholarly Project.

Comprehensive statement may not exceed 500 words. If the comprehensive statement exceeds 500 words, the application will not be considered.
6. An interview with select graduate faculty is required as part of the admission process. Applicants will be contacted by the School of Nursing to schedule the interview.

Applicants should obtain current admission requirements from the School of Nursing or through the nursing website at <https://hs.boisestate.edu/nursing>

International students must comply with the following from the Commission of Graduates of Foreign Nursing Schools (CGFNS):

1. Credentials review
2. Qualifying examination of nursing knowledge

3. English proficiency exam

For more information, international students should contact the Idaho State Board of Nursing.

Degree Requirements

A minimum of 40 credits post-master's degree is required for graduation. The part-time program is designed to be completed in a minimum of 2.5 years to a maximum of 7 years. Students must have completed 1000 hours of clinical post-baccalaureate degree. Must have a B or better in all DNP Courses

Doctor of Nursing Practice	
Course Number and Title	Credits
NURS 601 Scholarly Project I	2
NURS 602 Advanced Principles of Population Health Nursing	3
NURS 603 Scholarly Project II	2
NURS 604 Designing Models of Health Care Delivery	3
NURS 605 Scholarly Project III	2
NURS 608 Health Care Policy and Advocacy	3
NURS 609 Health Care Policy and Advocacy Application	2
NURS 610 Leadership for Organizations, Systems, and Populations	3
NURS 612 Translation, Integration, and Dissemination of Evidence	3
NURS 614 Outcomes Management Analysis	3
NURS 616 Health Care Technology, Information Systems, and Quality	3
NURS 618 Quality Improvement and Evaluation Methodology	3
NURS 620 Scholarly Inquiry and Advanced Evidence-Based Practice	3
NURS 621 Scholarly Project IV	2
NURS 622 Financial Strategies for Nurse Leaders	3
NURS 623 Scholarly Experience	0-3
<i>Total</i>	40-43

Master's Degree Programs in Nursing

General Information

The School offers a Master of Nursing (MN) program that prepares students as Adult-Gerontology Nursing Practitioners in either Acute or Primary Care

Adult-Gerontology Nurse Practitioner—Acute Care or Primary Care

The Adult-Gerontology Nurse Practitioner (AGNP) program prepares students for certification as an Adult Gerontology Nurse Practitioner through certification agencies such as the American Nurses Credentialing Center - ANCC (www.nursecredentialing.org) or the American Association of Nurse Practitioners - AANP (www.aanp.org) and licensure as a nurse practitioner by the State Board of Nursing. The adult gerontology program has two separate tracks - acute care or primary care. The acute care track prepares graduates to test for the AGNP-acute care certification and the primary care track prepares graduates to test for the AGNP-primary care certification. **Note:** Certification is available for graduates with a Masters or Doctorate in Nursing as an advanced practice nurse.

Nursing

Students in both the acute and primary care tracks will specialize in care of adults with a focus on older adults. Students in the acute care track will focus on diagnosis and treatment of patients in the acute care setting and clinical experiences will occur in acute care settings. Students in the primary care track will focus on prevention, diagnosis, and treatment of patients in the ambulatory setting and clinical experience occur in primary care settings. This program is offered primarily via distance education with 3 on site experiences on the Boise State University campus. Clinical experiences are arranged in collaboration with the student, and ideally, students are placed in the communities where they reside. **Note:** This may not be available in all states.

Application and Admission Requirements

Applicants admitted to the Graduate College are eligible to apply to the AGNP master's program in the School of Nursing. The following must be met:

1. Possess a baccalaureate degree in nursing from a nationally accredited nursing program;
2. Possess a valid, unencumbered RN license from within the United States;
3. GPA of 3.00 (on a 4.00 scale) computed for upper-division undergraduate nursing credits;
4. Submission of a School of Nursing Graduate Program application with a non-refundable application fee to the School of Nursing. Application instructions may be found on the AGNP website <https://hs.boisestate.edu/nursing/agnp/>;
5. Submission of 3 reference forms from a current employer or prior nursing faculty;
6. Submission of written statement following current guidelines. (Guidelines can be found on the Nursing Website <https://hs.boisestate.edu/agnp/>).

Applicants should obtain current admission requirements from the School of Nursing or through the nursing website at <https://hs.boisestate.edu/agnp/>

International students must comply with the following from the Commission of Graduates of Foreign Nursing Schools (CGFNS):

1. Credentials review
2. Qualifying examination of nursing knowledge
3. English proficiency

For more information, international students should contact the Idaho State Board of Nursing.

Master of Nursing, Adult–Gerontology Nurse Practitioner

Graduate Program Coordinator: Renee Walters
 Program Information: Nancy Loftus
 Norco Building, Room 414A
 Phone: (208) 426-3819
 Fax: (208) 426-2344
 E-mail: gerontologygrad@boisestate.edu
<https://hs.boisestate.edu/nursing/agnp/>

Degree Requirements

Master of Nursing, Adult–Gerontology Nurse Practitioner	
<i>Course Number and Title</i>	<i>Credits</i>
Nursing Core	
NURS 502 Foundation of Knowledge and Theory for Advanced Nursing	3
NURS 508 Advanced Research and Scholarly Inquiry for Nursing	3
NURS 522 Concepts of Population Nursing in Health Systems	3
Nurse Practitioner Core	
NURS 510 Advanced Physiology and Pathophysiology	3
NURS 516 Advanced Pharmacotherapeutics	3
NURS 518 Health Assessment for the Advanced Practice Nurse	2
NURS 519 Health Assessment for the Advanced Practice Nurse Clinical	1
NURS 520 Professional Role for the Advanced Practice Nurse	3
NURS 532 Leadership for Advanced Nursing Practice	3
NURS 534 Diagnosis and Management of Adult/Geriatric Health and Illness	3
NURS 535 Diagnosis and Management of Adult/Geriatric Health and Illness Clinical	2
NURS 560 Scholarly Synthesis	2
<i>Total</i>	31

Acute Care Option	
<i>Course Number and Title</i>	<i>Credits</i>
Nursing Core and Adult-Gerontology Nurse Practitioner Core	
Acute Care Option	
NURS 536 Acute Care Management of Adult/Geriatric Health and Illness I	4
NURS 537 Acute Care Management of Adult/Geriatric Health and Illness I Clinical	2
NURS 538 Acute Care Management of Adult/Geriatric Health and Illness II	4
NURS 539 Acute Care Management of Adult/Geriatric Health and Illness II Clinical	2
NURS 541 Acute Care Clinical Residency	3
NURS 549 Acute Care Procedures and Diagnostics for the Advanced Practice Nurse	2
NURS 557 Acute Care Clinical Skills Synthesis	2
<i>Total</i>	50

Primary Care Option	
Course Number and Title	Credits
Nursing Core and Adult-Gerontology Nurse Practitioner Core	31
Primary Care Option	
NURS 542 Primary Care Management of Adult/Geriatric Health and Illness I	4
NURS 543 Primary Care Management of Adult/Geriatric Health and Illness I Clinical	2
NURS 544 Primary Care Management of Adult/Geriatric Health and Illness II	4
NURS 545 Primary Care Management of Adult/Geriatric Health and Illness II Clinical	2
NURS 547 Primary Care Clinical Residency	3
NURS 551 Primary Care Procedures and Diagnostics for the Advanced Practice Nurse	2
NURS 555 Primary Care Clinical Skills Synthesis	2
<i>Total</i>	50

Graduate Certificate in Adult–Gerontology Nurse Practitioner — Acute Care or Primary Care

Graduate Program Coordinator: Renee Walters
 Program Information: Nancy Loftus
 Norco Building, Room 414A
 Phone: (208) 426-3819
 Fax: (208) 426-2344
 E-mail: gerontologygrad@boisestate.edu
<https://hs.boisestate.edu/agnp/>

General Information

Nurse practitioners prepared with a master's degree or higher who want to change or expand their knowledge in specialty areas may apply for a Graduate certificate in Adult-Gerontology Acute or Primary care. Completion of the graduate certificate program will prepare students for certification as an adult gerontology nurse practitioner through certification agencies such as the American Nurses Credentialing Center - ANCC (www.nursecredentialing.org), the American Association of Critical-Care Nurses - AACN (www.aacn.org), or the American Association of Nurse Practitioners - AANP (www.aanp.org). The acute care graduate certificate program prepares graduates to test for the AGNP-acute care certification and the primary care graduate certificate program prepares graduates to test for the AGNP-primary care certification. **Note:** Certification is available for graduates with a master's or doctorate degree in advanced practice nursing.

Students in both the acute and primary care tracks will specialize in care of adults with a focus on older adults. Students in the acute care track will focus on diagnosis and treatment of patients in the acute care setting and all clinical experiences will occur in acute care settings. Students in the primary care track will focus on prevention, diagnosis, and treatment of patients in the ambulatory setting and all clinical experience occur in primary care settings. This program is offered primarily via distance education with 2 short on site experiences on the Boise State University campus. The remainder of clinical experiences will occur in the area where the student resides.

Application and Admission Requirements

Applicants admitted to the Graduate College are eligible to apply to the AGNP Graduate Certificate Program in the School of Nursing. The following must be met:

1. Possess a Masters or doctoral degree in nursing from a nationally accredited nursing program;
2. Possess a valid, unencumbered RN license and national certification as a nurse practitioner;
3. GPA of 3.00 (on a 4.00 scale) computed for previous graduate course work;
4. Submission of a School of Nursing Graduate Program application with a non-refundable application fee to the School of Nursing;
5. Submission of 2 reference forms from a current employer or prior nursing faculty;
6. Submission of a written statement following current guidelines. (Guidelines can be found on the nursing website <https://hs.boisestate.edu/agnp/>).

Applicants should obtain current admission requirements from the School of Nursing or through the nursing website at <https://hs.boisestate.edu/agnp/>.

International students must comply with the following from the Commission of Graduates of Foreign Nursing Schools (CGFNS):

1. Credentials review
2. Qualifying examination of nursing knowledge
3. English proficiency

For more information, international students should contact the Idaho State Board of Nursing.

Certificate Requirements

Graduate Certificate in Adult–Gerontology Nurse Practitioner—Acute Care	
Course Number and Title	Credits
NURS 536 Acute Care Management of Adult/Geriatric Health and Illness I	4
NURS 537 Acute Care Management of Adult/Geriatric Health and Illness I Clinical	2
NURS 538 Acute Care Management Adult/Geriatric Health and Illness II	4
NURS 539 Acute Care Management of Adult/Geriatric Health and Illness II Clinical	2
NURS 541 Acute Care Clinical Residency	3
NURS 549 Acute Care Procedures and Diagnostics for the Advanced Practice Nurse	2
NURS 557 Acute Care Clinical Skills Synthesis	2
<i>Total</i>	19

Certificate Requirements

Graduate Certificate in Adult–Gerontology Nurse Practitioner—Primary Care	
Course Number and Title	Credits
NURS 542 Primary Care Management of Adult/Geriatric Health and Illness I	4
NURS 543 Primary Care Management of Adult/Geriatric Health and Illness I Clinical	2
NURS 544 Primary Care Management of Adult/Geriatric Health and Illness II	4
NURS 545 Primary Care Management of Adult/Geriatric Health and Illness II Clinical	2
NURS 547 Primary Care Clinical Residency	3
NURS 551 Primary Care Procedures and Diagnostics for the Advanced Practice Nurse	2
NURS 555 Primary Care Clinical Skills Synthesis	2
Total	19

Graduate Certificate in Healthcare Simulation

Graduate Program Coordinator: Janet Willhaus

Norco Building, Room 334

Phone: (208) 426-3712

Fax: (208) 426-2344

E-mail: simulationcertificate@boisestate.edu

<https://hs.boisestate.edu/nursing/sgcp/>

General Information

The Healthcare Simulation Certificate is a one year, 9 credit graduate program designed to provide formal preparation for healthcare educators using or desiring to use simulation pedagogy to teach learners in health professions programs and practice settings. The program is delivered primarily via distance education with a three day on site experience during the summer. To be successful in an online delivered program like this, students should possess excellent time management and computer/Internet literacy skills. In addition, students must have regular access to a computer with reliable/high-speed Internet. Two courses will last 15 weeks. The summer course is a 7-week course. Students should plan to spend a minimum of 2.5-3 hours per credit weekly on classwork and interaction with other students and the instructor.

Application Process

The applicant must satisfy the minimum admission requirements of the Graduate College (see *Graduate Admission Regulations*). Once the applicant's file is complete, it will be reviewed by the Certificate Program Coordinator who will provide an admission recommendation to the Dean of the Graduate College. The Dean will make the final admission decision and notify the applicant.

Admission Requirements

Applicants who have earned:

- A baccalaureate degree or higher from a regionally accredited U.S. college or university (or a degree from a non-U.S. institution of higher education that is judged equivalent to a U.S. baccalaureate degree by the International Admissions Office)
- A 3.00 cumulative GPA, or a 3.00 GPA in the last 60 credits of undergraduate degree program will be admissible to this certificate program.

Those who do not meet these requirements may be admitted by petition. Admission decision priority will be given to enrollees wishing to complete the certificate program, although individual course enrollment may be extended to individuals if there are unfilled seats available.

Certificate Requirements

Graduate Certificate in Healthcare Simulation	
Course Number and Title	Credits
N-SIM 501 Educational Simulation Methods	3
N-SIM 502 Operations in Healthcare Simulation	3
N-SIM 503 Simulation Practicum	3
Total	9

Course Offerings

See *Course Numbering and Terminology* for definitions.

NURS — Nursing

NURS 502 FOUNDATION OF KNOWLEDGE AND THEORY FOR ADVANCED NURSING (3-0-3)(F/S). Critique, evaluate, and utilize conceptual and theoretical models in advanced nursing practice. Emphasis on linking theories with nursing. PREREQ: Admission to Graduate Program in Nursing or PERM/INST.

NURS 504 (MHLTHSCI 504) HEALTH CARE ECONOMICS, FINANCING AND DELIVERY (3-0-3)(F/S). Differentiates health care economics, financing and payment systems as context for fiscal management and budgeting; examines health care delivery from organizational and operational perspectives, all of which are applied in writing proposals. May be taken for NURS or MHLTHSCI credit, but not both. PREREQ: Admission to Graduate Program in Nursing or Master of Health Science Program or PERM/INST.

NURS 508 ADVANCED RESEARCH AND SCHOLARLY INQUIRY FOR NURSING (3-0-3)(F/S). Apply research methods for utilization in advanced nursing roles. PREREQ: NURS 502 or PERM/INST.

NURS 510 ADVANCED PHYSIOLOGY AND PATHOPHYSIOLOGY (3-0-3)(F/S/SU). Examines advanced physiologic and pathophysiologic principles, commonly encountered in advanced nursing practice, that affect health states in individuals across the lifespan. PREREQ: Admission to the Graduate Program in Nursing or PERM/INST.

NURS 512 ADVANCED NURSING LEADERSHIP IN HEALTH CARE (3-0-3)(F/S). Focuses on individual character and leadership development and emphasizes the knowledge and skills necessary to be an effective nurse leader in a variety of academic or health care settings. Builds on the AACN Essentials and the AONE competencies for Nurse Executives. PREREQ: Admission to Graduate Program in Nursing or Master of Health Science Program or PERM/INST.

NURS 514 ORGANIZATIONAL LEADERSHIP FOR ADVANCED NURSING PRACTICE (3-0-3)(F/S). Focuses on the role of the nurse leader in advancing organizational change with an emphasis on theoretical application and data driven analysis to improve institutional effectiveness and efficiency. Builds on the AACN Essentials and the AONE competencies for Nurse Executives. PREREQ: NURS 512 or PERM/INST.

NURS 516 ADVANCED PHARMACOTHERAPEUTICS (3-0-3)(F/S/SU). Examines advanced pharmacodynamics, pharmacokinetics, pharmacologic principles and clinical application of pharmaceutical agents used to treat acute

and chronic conditions including therapeutic evaluation and considerations for diverse adult and geriatric patient populations. PREREQ: NURS 510

NURS 518 HEALTH ASSESSMENT FOR THE ADVANCED PRACTICE NURSE (2-0-2)(F/S/SU). Holistic assessment of all human systems using advanced assessment techniques, concepts, and approaches. Advanced assessment skills integrated with principles of differential diagnosis and clinical decision-making skill building. PREREQ: NURS 502 and NURS 510.

NURS 519 HEALTH ASSESSMENT FOR THE ADVANCED PRACTICE NURSE CLINICAL (0-3-1)(F/S/SU). Development and application of skills in advanced, Holistic-assessment of all human systems in clinical/laboratory settings. PREREQ: NURS 502 and NURS 510.

NURS 520 PROFESSIONAL ROLE FOR THE ADVANCED PRACTICE NURSE (3-0-3)(F/S/SU). Appraises advanced practice nursing roles, scope of practice, legal and ethical principles of advanced practice and health care policy. PREREQ: NURS 502

NURS 522 CONCEPTS OF POPULATION NURSING IN HEALTH SYSTEMS (3-0-3)(SU). Examines the philosophy and framework for health promotion and disease prevention, health care delivery, affecting policy, and advanced nursing roles with diverse populations. PREREQ: Admission to Graduate Program in Nursing or PERM/INST.

NURS 524 THEORY-GUIDED ASSESSMENT AND PLANNING (2-0-2)(F/S). Integrates assessment and planning with theoretical frameworks for health promotion and disease prevention with a specific population. PREREQ: NURS 502, NURS 522. COREQ: NURS 525 or PERM/INST.

NURS 525 THEORY-GUIDED ASSESSMENT AND PLANNING PRACTICUM (0-6-2)(F/S). Application of theory guided assessment and planning process with selected populations. PREREQ: NURS 502, NURS 522, PRE/COREQ: NURS 524 or PERM/INST.

NURS 526 THEORY-GUIDED IMPLEMENTATION AND EVALUATION (2-0-2)(F/S). Integrates concepts of program development, implementation and evaluation based on theoretical and methodological applications for advanced nursing practice. PREREQ: NURS 524. COREQ: NURS 527 or PERM/INST.

NURS 527 THEORY-GUIDED IMPLEMENTATION AND EVALUATION PRACTICUM (0-6-2)(F/S). Application of theory-guided and evidence-based program planning and outcome evaluation with selected populations. PREREQ: NURS 525. PRE/COREQ: NURS 526 or PERM/INST.

NURS 528 PROFESSIONAL ROLES FOR ADVANCED NURSING PRACTICE (1-0-1)(F/S). Culminating seminar that integrates the functions and activities of advanced nursing practice into professional roles. PREREQ: Admission to Graduate Program in Nursing or PERM/INST.

NURS 530 PROMOTING LEARNING IN NURSING EDUCATION WITH POPULATIONS (2-0-2)(F/S). Explores and applies learning theories and instructional design principles to promote learning with a selected population. Evaluates strategies for assessing learning and effective teaching. PREREQ: Admission to Graduate Program in Nursing or PERM/INST.

NURS 532 LEADERSHIP FOR ADVANCED NURSING PRACTICE (3-0-3)(F/S/SU). Formulates leadership, management, and negotiation skills for advanced practice nurses to achieve improved health outcomes for individuals, communities, and systems. PREREQ: NURS 502.

NURS 534 DIAGNOSIS AND MANAGEMENT OF ADULT/GERIATRIC HEALTH AND ILLNESS (3-0-3)(F/S/SU). Integrates broad principles of scientific and nursing principles of therapeutic decision-making to assess, diagnose, and manage common health issues across the adult lifespan with emphasis on needs and care of geriatric and diverse populations. PREREQ: NURS 518, NURS 519, and NURS 520.

NURS 535 DIAGNOSIS AND MANAGEMENT OF ADULT/GERIATRIC HEALTH AND ILLNESS CLINICAL (0-8-2)(F/S/SU). Integrates theory with therapeutic decision-making for adult populations across the lifespan with common health conditions within acute or primary health care settings. PRE/COREQ: NURS 534.

NURS 536 ACUTE CARE MANAGEMENT OF ADULT/GERIATRIC HEALTH AND ILLNESS I (4-0-4)(F/S/SU). Advances student's knowledge and therapeutic decision-making skills to assess, diagnose, and manage care for adult and geriatric populations with complex acute, critical, and chronic health conditions in the acute care setting using evidence-based, patient-centered care management. PREREQ: NURS 534 and NURS 535, or admission to an AGNP Graduate Certificate Program, or PERM/INST.

NURS 537 ACUTE CARE MANAGEMENT OF ADULT/GERIATRIC HEALTH AND ILLNESS I CLINICAL (0-8-2)(F/S/SU). Fosters development and application of expanded therapeutic and interventional skills to assess,

diagnose, and manage care for adult and geriatric populations with complex acute, critical, and chronic health conditions in the acute care setting. PRE/COREQ: NURS 536.

NURS 538 ACUTE CARE MANAGEMENT OF ADULT/GERIATRIC HEALTH AND ILLNESS II (4-0-4)(F/S/SU). Synthesis of therapeutic skills to assess, diagnose, and manage care for adult and geriatric populations with complex acute, critical, and chronic health conditions in the acute care setting using evidence-based, patient-centered care management. PREREQ: NURS 536 and NURS 537.

NURS 539 ACUTE CARE MANAGEMENT OF ADULT/GERIATRIC HEALTH AND ILLNESS II CLINICAL (0-8-2)(F/S/SU). Synthesis and application of advanced therapeutic and interventional skills to assess, diagnose, and manage care for adult and geriatric populations with complex, acute, critical, and chronic health conditions in the acute care setting. PRE/COREQ: NURS 538.

NURS 541 ACUTE CARE CLINICAL RESIDENCY (0-12-3)(F/S/SU). Theoretical, clinical, and scientific principles are synthesized and implemented in acute care setting. Provides comprehensive adult-geriatric health and illness care, therapeutic interventions, and evaluation of patients with complex, acute, critical, and chronic illness problems. PREREQ: NURS 538 and NURS 539.

NURS 542 PRIMARY CARE MANAGEMENT OF ADULT/GERIATRIC HEALTH AND ILLNESS I (4-0-4)(F/S/SU). Advances student's knowledge and therapeutic decision-making skills to assess, diagnose, and manage care for adult and geriatric populations in the primary care setting using evidence-based, patient-centered care management of stable, chronic, and acute episodic illness. PREREQ: NURS 534 and NURS 535, or admission to an AGNP Graduate Certificate Program, or PERM/INST.

NURS 543 PRIMARY CARE MANAGEMENT OF ADULT/GERIATRIC HEALTH AND ILLNESS I CLINICAL (0-8-2)(F/S/SU). Fosters development and application of expanded therapeutic and interventional skills to assess, diagnose, and manage care for adult and geriatric populations with stable, chronic, and acute episodic illness, in the primary care setting. PRE/COREQ: NURS 542.

NURS 544 PRIMARY CARE MANAGEMENT OF ADULT/GERIATRIC HEALTH AND ILLNESS II (4-0-4)(F/S/SU). Synthesis of therapeutic skills to assess, diagnose, and manage care for adult and geriatric populations in the primary care setting using evidence-based, patient-centered care management of stable, chronic, and acute episodic illness. PREREQ: NURS 542 and NURS 543.

NURS 545 PRIMARY CARE MANAGEMENT OF ADULT/GERIATRIC HEALTH AND ILLNESS II CLINICAL (0-8-2)(F/S/SU). Synthesis and application of advanced therapeutic and interventional skills to assess, diagnose, and manage care for adult and geriatric populations with stable, chronic, and acute episodic illness in the primary care setting. PREREQ: NURS 542 and NURS 543. PRE/COREQ: NURS 544.

NURS 547 PRIMARY CARE CLINICAL RESIDENCY (0-12-3)(F/S/SU). Theoretical, clinical, and scientific principles of adult-gerontology nurse practitioner practice are synthesized and implemented. Provides comprehensive adult-geriatric health and illness care, therapeutic interventions, and evaluation of patients in primary care settings. PREREQ: NURS 544 and NURS 545.

NURS 549 ACUTE CARE PROCEDURES AND DIAGNOSTICS FOR THE ADVANCED PRACTICE NURSE (0-8-2)(F/S/SU). Development and application of advanced acute care procedure and diagnostic skills in clinical/laboratory settings. PREREQ: NURS 534 and NURS 535, or admission to an AGNP Graduate Certificate Program, or PERM/INST.

NURS 551 PRIMARY CARE PROCEDURES AND DIAGNOSTICS FOR THE ADVANCED PRACTICE NURSE (0-8-2)(F/S/SU). Development and application of advanced primary care procedure and diagnostic skills in clinical/laboratory settings. PREREQ: NURS 534 and NURS 535, or admission to an AGNP Graduate Certificate Program, or PERM/INST.

NURS 555 PRIMARY CARE CLINICAL SKILLS SYNTHESIS (0-8-2)(SU). On-campus clinical experience to assess the capacity of the primary care nurse practitioner student to provide holistic advanced nursing care to the adult-geriatric patient and submission of a final residency plan. PREREQ: NURS 544 and NURS 545.

NURS 557 ACUTE CARE CLINICAL SKILLS SYNTHESIS (0-8-2)(SU). On-campus clinical experience to assess the capacity of the acute care nurse practitioner student to provide holistic advanced nursing care to the

adult-geriatric patient and submission of a final residency plan. PREREQ: NURS 538 and NURS 539.

NURS 560 SCHOLARLY SYNTHESIS (2-0-2)(F/S/SU). Synthesis of current knowledge focused in clinical area of study. PRE/COREQ: NURS 541 or NURS 547.

NURS 562 GRADUATE NURSING EDUCATION (2-0-2)(F/S/SU). Explores graduate nursing education options for MS, DNP, and Ph.D. degrees. Aids in understanding roles available to graduates with advanced nursing degrees, e.g., AGNP, FNP, CNS, CRNA, Midwife, Educator-academic, Educator-practice, Leader, Researcher. PREREQ: PERM/INST.

NURS 601 SCHOLARLY PROJECT I (0-8-2)(F/S/SU). Assessment and identification of nursing practice issue focused on a population of interest that lays the groundwork for development of the culminating scholarly project while investigating the DNP role. This course includes at least 16 hours of formalized discussion with faculty advisor per semester. (Pass/Fail). PREREQ: NURS 604.

NURS 602 ADVANCED PRINCIPLES OF POPULATION HEALTH NURSING (3-0-3)(F/S/SU). Analyzes impact of social, cultural, ecological, and systems of care delivery factors on health care disparities across population groups. Evaluates the DNP role in disease prevention and health promotion for populations, utilizing a social, justice framework; explores the impact of globalization on health care and health care planning, and the need to design health care systems that are responsive to diverse cultural needs. PREREQ: Admission to DNP Program or PERM/INST.

NURS 603 SCHOLARLY PROJECT II (0-8-2)(F/S/SU). Immersive practice experience with a population of interest that includes planning of the culminating scholarly project and examination of DNP role within a health care system. Includes at least 16 hours of formalized discussion with faculty advisor per semester. An oral proposal of the project must be approved by the supervisory committee to satisfactorily complete the course. (Pass/Fail.) PREREQ: NURS 601.

NURS 604 DESIGNING MODELS OF HEALTH CARE DELIVERY (3-0-3)(F/S/SU). Synthesizes evidence, theories, and scientific principles to create new individual, aggregate, and population health care delivery models and approaches. Comprehensive program planning knowledge and analytical skills will be used to evaluate and ameliorate the interactions between complex practice, organization/system, population, policy, economic, and political issues affecting diverse populations and practice settings. PREREQ: Admission to DNP Program or PERM/INST.

NURS 605 SCHOLARLY PROJECT III (0-8-2)(F/S/SU). Immersive practice experience with a population of interest that includes implementation of scholarly project and role of the DNP. Includes at least 16 hours of formalized discussion with faculty advisor per semester. (Pass/Fail.) PREREQ: NURS 603.

NURS 608 HEALTH CARE POLICY AND ADVOCACY (3-0-3)(F/S/SU). Prepares students to analyze, influence, develop, and implement health related policies at all levels. Focused on principles and strategies to influence policymakers, lead stakeholder teams, and engage in advocacy efforts for health care consumer populations, providers, systems of care, and other stakeholders in policy and public forums.

NURS 609 HEALTH CARE POLICY AND ADVOCACY APPLICATION (0-8-2)(F/S/SU). Provides the student the opportunity to experience leadership and professional development alongside an experienced local, regional or national health care policy leader. (Pass/Fail). PRE/COREQ: NURS 608.

NURS 610 LEADERSHIP FOR ORGANIZATIONS, SYSTEMS, AND POPULATIONS (3-0-3)(F/S/SU). Prepares the DNP student to assume an advanced leadership role in complex health care systems, to assess and transform practice environments, and enhance the quality of inter-professional health care delivery systems. Examines the impact of cultural, ethical, and economic factors on leading change in health care organizations. PREREQ: NURS 614.

NURS 612 TRANSLATION, INTEGRATION, AND DISSEMINATION OF EVIDENCE (3-0-3)(F/S/SU). Analyzes and evaluates concepts associated with evidence-based nursing practice models. Translating evidence-based practice includes: evidence-based practice recommendations, practice change, evaluating outcomes, and diffusing innovation. Uses translational science to apply evidence to practice. PREREQ: NURS 614.

NURS 614 OUTCOMES MANAGEMENT ANALYSIS (3-0-3)(F/S/SU). Analysis and application of epidemiological, bio-statistical, environmental, and other data related to individual, aggregate, and population health. Emphasis on

business and economic processes for analysis of cost effective health care outcomes. PREREQ: Graduate level statistics or equivalent and NURS 602.

NURS 616 HEALTH CARE TECHNOLOGY, INFORMATION SYSTEMS, AND QUALITY (3-0-3)(F/S/SU). Prepares students to use evidence and advanced knowledge of technology to lead improvements in communication and the monitoring, collection, management, analysis, and dissemination of information that enhances health and health care safety and quality. Focused on design, selection, use, and evaluation of legal, ethical, just, and cost-effective information-management processes to evaluate health and practice outcomes in diverse, aggregate-focused, advanced practice settings. PREREQ: Admission to the DNP program.

NURS 618 QUALITY IMPROVEMENT AND EVALUATION METHODOLOGY (3-0-3)(F/S/SU). Appraises the study, understanding, and challenges of quality care measurement and improvement to assure high quality health care outcomes in practice, systems of care, organizations and communities, and populations. Uses evidence, research, and outcome information to improve nursing practice, care-delivery models, and health care systems. PREREQ: NURS 602.

NURS 620 SCHOLARLY INQUIRY AND ADVANCED EVIDENCE-BASED PRACTICE (3-0-3)(F/S/SU). Examines foundational and philosophical aspects of nursing science related to the role of the DNP. Uses applied research methods and design of health care research and evidence-based practice related to advanced clinical scholarship to examine relevance to nursing and health care practice. PREREQ: Admission to DNP Program or PERM/INST.

NURS 621 SCHOLARLY PROJECT IV (0-8-2)(F/S/SU). Culminating immersive practice experience with a population of interest that includes evaluation of the scholarly project, written report of completed work and appraisal of the role of the DNP. An approval of supervisory committee at end of course. (Pass/Fail). PREREQ: NURS 605.

NURS 622 FINANCIAL STRATEGIES FOR NURSE LEADERS (3-0-3)(F/S/SU). Examines advanced application of health care financial strategies for nurse leaders including key financial principles and analysis, cost benefit analysis, and budgeting. PREREQ: NURS 614.

NURS 623 SCHOLARLY EXPERIENCE (1-3 Variable)(F/S/SU). Elective course with variable credits for those students who need additional hours to satisfy American Association of Colleges of Nursing (AACN) 1000 hour requirement for DNP education. (Pass/Fail). PREREQ: Admission to DNP Program.

N-SIM—Nursing-Simulation

N-SIM 501 EDUCATIONAL SIMULATION METHODS (3-0-3)(F). Introduces key theories and principles of simulation teaching to healthcare learners. Includes methods for integrating simulation teaching into curricula, scenario development, debriefing techniques, teaching methodology, and interprofessional collaboration. Emphasizes skills and knowledge applicable to both clinical and academic educational settings. PREREQ: ADM/PROG.

N-SIM 502 OPERATIONS IN HEALTHCARE SIMULATION (3-0-3)(S). Examines initiation and management of simulation programs/centers. Includes policy development, scheduling, equipment selection, technology considerations, financial management, and the simulation center accreditation process. Emphasizes the responsibility of the operations specialist in preparing the scenario environment, moulage, and facilitating scenarios with faculty. PREREQ: ADM/PROG or PERM/INST.

N-SIM 503 SIMULATION PRACTICUM(3-0-3)(SU). Application and development of educational and operational teaching techniques in a simulation center setting. Includes pilot testing of scenario development from N-SIM 501, debriefing techniques, peer review, and outcome assessments. Opportunity for practical experience with standardized patients, emerging simulation technologies, and simulation center standards. PREREQ: N-SIM 501.

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

Department of Organizational Performance and Workplace Learning

Chair: Anthony Marker
 Engineering Building, Room 327
 Phone: (208) 426-1312 or (208) 426-2489
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 E-mail: opwlgrad@boisestate.edu

Graduate Faculty: Chyung, Giacumo, Marker, Villachica, Winiacki

Graduate Degrees Offered

- Master of Science in Organizational Performance and Workplace Learning
- Graduate Certificate in Workplace E-Learning and Performance Support
- Graduate Certificate in Workplace Instructional Design
- Graduate Certificate in Workplace Performance Improvement

General Information

The Master of Science in Organizational Performance and Workplace Learning is designed to prepare individuals for careers in instructional design, performance improvement, training and development, training management, workplace e-learning, human resources, organizational development, and performance consulting. The program helps individuals acquire a broad range of knowledge and skills required to identify, analyze, and solve a variety of human and organizational performance problems in settings such as business and industry, the military, government agencies, and nonprofit organizations. In this program, students learn to how to think strategically and design interventions that will address all of the factors required to achieve desired results.

The Graduate Certificate in Workplace E-Learning and Performance Support is designed for individuals who wish to advance their skills in developing and managing e-learning and performance support in the workplace. This program emphasizes the competencies required to design, develop, and manage workplace e-learning and performance support systems.

The Graduate Certificate in Workplace Instructional Design is for individuals who wish to expand their skills in designing and developing training programs that improve workplace performance. This program emphasizes the development of advanced instructional design skills required to create effective training programs for workplace settings.

The Graduate Certificate in Workplace Performance Improvement is designed for individuals who seek to develop skills in diagnosing and solving performance problems in the workplace. This program emphasizes the practical application of process models, tools, and techniques to workplace performance improvement situations.

Online Courses

All courses are conducted online via Blackboard. Courses taught in this medium enable students to engage in 'threaded' discussions that promote a high level of interaction between instructor and students and among class members.

Simultaneous Enrollment in Graduate Programs

A student may be simultaneously enrolled in the Master of Science in OPWL program and one of the graduate certificate programs with approval from the OPWL Graduate Coordinator and the Dean of the Graduate College. A student who is not enrolled in the Master of Science in OPWL program may be simultaneously enrolled in two of the graduate certificate programs with approval from the OPWL Graduate Coordinator and the Dean of the Graduate College. Simultaneous enrollment in more than two graduate programs is prohibited.

Please note that admission to a certificate program does not guarantee admission to the degree program and vice versa. Credits earned in an OPWL certificate program may be applied to the Master of Science degree in OPWL.

Graduate Assistantships

A limited number of part-time "virtual" graduate assistantships are available each academic year and include an hourly wage and a waiver of fees. Graduate assistants must be fully admitted into the OPWL master's degree program. Part-time assistants work 10 hours per week, enroll in a minimum of and receive a fee waiver for 5 credits each semester, and an hourly wage (totalling approximately \$5000) paid out over fall and spring semesters. Applications are available from the OPWL office and Graduate College offices and websites.

Admission and Application Requirements

Admission Requirements

Requirements for admission to the M.S. degree program and/or the OPWL certificate programs are:

1. Documented evidence of an earned baccalaureate degree from an accredited institution.
2. A GPA of 3.00 computed for all undergraduate credits. Applicants who do not meet this requirement may submit a petition to the OPWL Graduate Program Coordinator.
3. A fit between the applicant's career goals and the OPWL program to which they are applying.

Those who do not meet the above requirements may be admitted by submitting a letter of petition to the Program Coordinator. The letter of petition should address why you were unable to maintain a 3.00 GPA during your undergraduate studies and why you will be successful in your graduate study.

Applicants who are admitted with a provisional status will need to satisfy the following conditions before they are recommended to be promoted to regular status. Provisional students must complete OPWL 536 and OPWL 531 or OPWL 532 with a grade of A- or better. In addition, the student will be evaluated by the course instructor on their ability to: express themselves in writing, participation in online discussions, contribute to team projects, work collaboratively within timelines, and synthesize assigned material and incorporate that material into classroom activities.

Application Procedures

An applicant to the M.S. degree program and/or the OPWL certificate programs must follow the general Graduate College application procedures (see *Graduate Admission Regulations*). In addition, for each program, applicants must submit the following:

Organizational Performance and Workplace Learning

1. Resume.
2. Statement of Purpose, which should meet the following requirements: Heading that includes name, e-mail address, telephone and the program(s) to which applicant is applying; 500-1,000 words, single-spaced; addresses career goals and how the course work for the program or programs will help attain those goals; explains the strategies applicant will use to be successful in online graduate study; and that meets the evaluation criteria as outlined on the OPWL website (opwl.boisestate.edu).

Once the application is complete, it will be reviewed by the OPWL Graduate Program Coordinator, who will provide an admission recommendation to the Dean of the Graduate College. The Dean will make the final admission decision and notify the applicant.

Master of Science in Organizational Performance and Workplace Learning

Graduate Program Coordinator: Anthony Marker
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E-mail: opwlgrad@boisestate.edu

Degree Requirements

Master of Science in Organizational Performance and Workplace Learning	
<i>Course Number and Title</i>	<i>Credits</i>
Core Requirements	
OPWL 529 Needs Assessment	4
OPWL 530 Evaluation	4
OPWL 535 Principles of Adult Learning	4
OPWL 536 Foundations of Organizational Performance and Workplace Learning	4
OPWL 537 Instructional Design	4
OPWL 560 Workplace Performance Improvement	4
Culminating Activity	
Thesis	12
OPWL 531 Quantitative Research In Organizations	
OPWL 532 Ethnographic Research in Organizations	
OPWL 593 Thesis (6 cr)	
Portfolio	
OPWL 531 Quantitative Research In Organizations or OPWL 532 Ethnographic Research in Organizations	
Electives (8 cr)	
OPWL 592 Portfolio (Oral defense required) (1 cr)	
Total	36

Graduate Certificate in Workplace E-Learning and Performance Support

Graduate Program Coordinator: Anthony Marker
Engineering Building, Room 327
Phone: (208) 426-1312 or (208) 426-2489
<https://opwl.boisestate.edu>
E-mail: opwlgrad@boisestate.edu

Certificate Requirements

Graduate Certificate in Workplace E-Learning and Performance Support	
<i>Course Number and Title</i>	<i>Credits</i>
OPWL 523 Rapid E-Learning Development	3
OPWL 525 E-Learning Principles and Practices	3
OPWL 536 Foundations of Organizational Performance and Workplace Learning	4
OPWL 550 Blended Learning for Performance Improvement	3
OPWL 551 E-Learning Content Design	3
Total	16

Graduate Certificate in Workplace Instructional Design

Graduate Program Coordinator: Anthony Marker
Engineering Building, Room 327
Phone: (208) 426-1312 or (208) 426-2489
<https://opwl.boisestate.edu>
E-mail: opwlgrad@boisestate.edu

Certificate Requirements

Graduate Certificate in Workplace Instructional Design	
<i>Course Number and Title</i>	<i>Credits</i>
Core Course	
OPWL 535 Principles of Adult Learning	4
OPWL 536 Foundations of Organizational Performance and Workplace Learning	4
OPWL 537 Instructional Design	4
OPWL 538 Instructional Strategies	3
OPWL 547 Advanced Instructional Design for the Workplace	3
Total	18

Graduate Certificate in Workplace Performance Improvement

Graduate Program Coordinator: Anthony Marker
 Engineering Building, Room 327
 Phone: (208) 426-1312 or (208) 426-2489
<https://opwl.boisestate.edu>
 E-mail: opwlgrad@boisestate.edu

Certificate Requirements

Graduate Certificate in Workplace Performance Improvement	
Course Number and Title	Credits
OPWL 529 Needs Assessment or OPWL 530 Evaluation	4
OPWL 536 Foundations of Organizational Performance and Workplace Learning	4
OPWL 560 Workplace Performance Improvement	4
OPWL 577 Change Management	3
OPWL 578 Designing Sustainable Organizations	3
<i>Total</i>	18

Course Offerings

See *Course Numbering and Terminology* for definitions.

OPWL — Organizational Performance and Workplace Learning

OPWL 517 (ENGL 538) WRITING IN PROFESSIONS (3-0-3)(F). Overview of communication practices and standards in workplace settings. Topics include editing and revision, research and citation practices, social and cultural aspects of technical communication, workplace-writing style, and common documents produced in business and industry, such as proposals, informal reports, formal reports, and prospectuses. Not for credit toward degrees from the English department. May be taken for ENGL or OPWL credit, but not both. PREREQ: PERM/INST.

OPWL 523 RAPID E-LEARNING DEVELOPMENT (3-0-3)(S,SU). Through hands-on practice, students develop skills in using rapid e-learning development software to create interactive multimedia e-learning content for improving workplace learning and performance. Students develop various types of e-learning content such as demonstration, technical simulation, and scenario-based learning. PRE/COREQ: OPWL 536.

OPWL 525 E-LEARNING PRINCIPLES AND PRACTICES (3-0-3)(S,SU). Students will learn foundational principles for implementing e-learning solutions. Students will evaluate e-learning demo programs and study the use of reusable learning objects, sharable content objects, metadata and e-learning standards in the current e-learning practice. Students will develop sample multimedia learning objects and implement them on a learning management system. PRE/COREQ: OPWL 536.

OPWL 529 NEEDS ASSESSMENT (4-0-4)(F/S). Through analysis of case studies, guided practice, field work, and other methods, students learn to use tools, data, and systematic methods to identify and assess current or future performance problems and their causes, and help decision makers target critical problems with feasible solutions. Students will conduct an authentic project. PREREQ: OPWL 536.

OPWL 530 EVALUATION (4-0-4)(F,S). Students learn how to conduct formative and summative evaluations of instructional or performance improvement programs implemented in organizations. Students explore principles, models, and frameworks for evaluation, and conduct a full-scale evaluation, working with real clients and stakeholders. PREREQ: OPWL 536.

OPWL 531 QUANTITATIVE RESEARCH IN ORGANIZATIONS (3-0-3)(F). Students learn how to design research and apply statistical analysis methods to conduct quantitative studies in organizational contexts. Students also review various empirical research reports in order to become educated consumers of research and contribute to improving organizational performance. PREREQ: OPWL 536 or PERM/INST.

OPWL 532 ETHNOGRAPHIC RESEARCH IN ORGANIZATIONS (3-0-3)(S). Ethnography is an approach to learning about the social and cultural life of communities, organizations, institutions and other settings that discovers how the activities of people in those settings contribute to the creation of society and culture. Students receive a foundation in philosophical perspectives and methods supporting ethnographic research, learn when to conduct ethnographic research, and explore strategies for presenting and critiquing ethnographic research. They will also be provided with an opportunity to implement ethnographic research in organizational settings. PREREQ: OPWL 536 or PERM/INST.

OPWL 535 PRINCIPLES OF ADULT LEARNING (4-0-4)(F,S). Students explore how contemporary adult learning theories and practices are applied to the field of instructional and performance technology, particularly with respect to the instructional design process. They will investigate methods, strategies and technologies specific to adult learners that are known to affect learning outcomes. Students will apply adult learning principles to real workplace problems.

OPWL 536 FOUNDATIONS OF ORGANIZATIONAL PERFORMANCE AND WORKPLACE LEARNING (4-0-4)(F/S). Students study historical foundations, prominent people, and events that contributed to the development of the fields of workplace learning and performance improvement. Students apply relevant theories and models to real or realistic organizational situations in industry, government, military, and non-profit settings.

OPWL 537 INSTRUCTIONAL DESIGN (4-0-4)(F,S). This course gives an overview of several models for instructional systems design and examines the processes involved in designing effective instructional interventions. Working with a real client, students conduct a full-scale instructional design project in phases over the duration of the course. PREREQ: OPWL 535 and OPWL 536.

OPWL 538 INSTRUCTIONAL STRATEGIES (3-0-3)(F,SU-Odd years). Instructional strategies are prescriptive patterns that guide the task of designing learning activities. Students will identify and experiment with several types of instructional strategies. Given a variety of instructional needs, students will practice selecting and implementing appropriate strategies. PRE/COREQ: OPWL 536.

OPWL 547 ADVANCED INSTRUCTIONAL DESIGN FOR THE WORKPLACE (3-0-3)(S,SU). Students engage in authentic instructional design activities as part of a community of practice. Activities include analyzing instructional design problems, creating instructional design products in ways that decrease development time and improve quality, working within diverse teams, and giving and receiving constructive feedback. PREREQ: OPWL 537 or PERM/INST.

OPWL 550 BLENDED LEARNING FOR PERFORMANCE IMPROVEMENT (3-0-3)(SU). Students investigate various learning technologies that can contribute to the building and sharing of individual and organizational knowledge. Based on analysis of learners' performance needs, students design blended approaches to improving workplace learning and performance by combining face-to-face learning and e-learning. PRE/COREQ: OPWL 536.

OPWL 551 E-LEARNING CONTENT DESIGN (3-0-3)(SU). Students learn to apply the principles of instructional design to the design of interactive, multimedia, self-paced content within the context of workplace e-learning and performance support. PRE/COREQ: OPWL 536.

OPWL 560 WORKPLACE PERFORMANCE IMPROVEMENT (4-0-4)(F,S). Students examine the process models, non-instructional solutions, professional practice issues, and future trends of performance improvement which aim to improve performance in the workplace. In a hands-on project, students practice applying the performance improvement process to design effective performance solutions. PREREQ: OPWL 536, and OPWL 529 or OPWL 530.

OPWL 577 CHANGE MANAGEMENT (3-0-3)(SU). Students will learn basic principles related to the top-down and bottom-up change processes, and analytical and planning tools that can be used to facilitate change within an organization. Students will practice applying those principles and tools in real organizational situations. PRE/COREQ: OPWL 536.

OPWL 578 DESIGNING SUSTAINABLE ORGANIZATIONS (3-0-3)(F). Students will learn basic principles related to helping organizations plan, implement, and evaluate business practices that are environmentally, socially, and financially balanced. The course combines principles of design, systems thinking, change management, and evaluation. PRE/COREQ: OPWL 536.

SELECTED TOPICS (1-0-1)(F/S/SU):

OPWL 585 THINKING IN SYSTEMS

OPWL 586 PROFESSIONAL ETHICS

OPWL 587 EVIDENCE BASED PRACTICE

OPWL 588 LIBRARY SKILLS FOR RESEARCH

OPWL 589 VIRTUAL TEAMS

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

Department of Physics

Chair: Charles Hanna

Multipurpose Classroom Facility, Room 420

Phone: (208) 426-3775

Fax: (208) 426-4330

E-mail: physics@boisestate.edu

Graduate Faculty: Ferguson, Fologea, Hanna, Kim, Maccomb, Raghani, Tenne

Interdisciplinary Programs

- Doctor of Philosophy in Biomolecular Sciences
- Doctor of Philosophy in Materials Science and Engineering
- Master of Engineering in Materials Science and Engineering
- Master of Science in Materials Science and Engineering

General Information

The Department of Physics is a primary participant in the offering of the master's and doctoral programs in materials science and engineering, and the doctoral program in biomolecular sciences. Please see the interdisciplinary program section of this catalog for further details.

Course Offerings

See *Course Numbering and Terminology* for definitions.

PHYS — Physics

PHYS 504 MOLECULAR AND CELLULAR BIOPHYSICS (4-0-4)(F/S). An advanced introduction to biophysical methods and concepts, focused on developing an in-depth understanding of the functionality of biological systems at the molecular and cellular level. Topics include the biophysical properties of water and solutions, the characterization of biomolecular interactions, the biological relevance of the physical properties of biomolecules, the role of physical interactions in driving the self-assembly and conformational changes of biomolecules, membrane transport, molecular and cellular motility, and biophysical aspects of cell function. PREREQ: MATH 170; PHYS 112 or PHYS 212; PHYS 307, or BIOL 320 and either CHEM 350 or CHEM 431.

PHYS 512 INTERMEDIATE QUANTUM MECHANICS (4-0-4)(F).

Fundamentals, including properties and solutions of the Schrodinger equation, operators, angular momentum, electron spin, identical particles, perturbations, and variational principle. Applications, such as tunneling, orbitals, magnetic resonance, and nanoscale effects. PREREQ: Graduate standing, PHYS 309.

PHYS 515 SOLID STATE PHYSICS (3-0-3)(S).

Quantum physics applied to understanding the properties of materials, including semiconductors, metals, superconductors, and magnetic systems. PREREQ: Graduate standing, PHYS 309.

PHYS 520 NANOTECHNOLOGY (3-0-3)(F/S).

An introduction to the biological and biomedical uses of nanotechnology, including the nature and applications of nanostructures to cell biology, imaging, biosensors, medical therapy (including anti-cancer therapies and drug delivery), and biotechnology. PREREQ: BIOL 191, CHEM 112, MATH 170, PHYS 307; PHYS 112 or PHYS 212; PHYS 309, or BIOL 320 and either CHEM 350 or CHEM 431.

PHYS 523 PHYSICAL METHODS OF MATERIALS CHARACTERIZATION (3-0-3)(F). Physical principles and practical methods used in determining the structural, electronic, optical, and magnetic properties of materials. Optical, electron, and scanning microscopies, diffraction, surface analysis, optical spectroscopy, electrical transport, and magnetometry. PREREQ: Graduate Standing, PHYS 309.

PHYS 524 MEMBRANE BIOPHYSICS (3-0-3)(F/S). Membranes are of fundamental importance for biological systems due to their roles in cellular compartmentalization, signal transduction, metabolism, and energy synthesis. Topics include structures and functions of membrane bilayers and membrane proteins, physics of membrane fusion, and mechanisms of cell signaling and energy transduction. PREREQ: PHYS 504.

PHYS 530 OPTICS (3-0-3)(S). Geometrical and physical optics, including lenses, fiber optics, Fourier optics, polarization, interference, diffraction, lasers, and holography. PREREQ: Graduate standing, PHYS 309. COREQ: PHYS 530L.

PHYS 530L OPTICS LABORATORY (0-3-1)(S). Laboratory to be taken concurrently with PHYS 330. Experiments in optics, including optical systems, thick lenses, interference, diffraction, Fourier optics, image processing, and holography. COREQ: PHYS 530.

PHYS 532 THERMAL PHYSICS (4-0-4)(F). Foundations and applications of thermodynamics and statistical mechanics, including temperature, entropy, heat capacity, chemical potential, and free energies. Applications to gases, paramagnets, chemical systems, electrons, photons, phonons, and superfluids. PREREQ: Graduate standing, PHYS 309.

PHYS 536 SOFT MATTER (3-0-3)(F)(Odd years). Introduction to the physical principles underlying the properties and behaviors of soft matter, including polymers, gels, colloids, and liquid crystals. Examples of soft matter include glues, paints, soaps, rubber, foams, gelatin, milk, and most materials of biological origin. (Recommended preparation: PHYS 309.) PREREQ: Graduate standing, MATH 275, PHYS 212, and either CHEM 322 or MSE 308 or PHYS 432.

PHYS 537 RADIATION BIOPHYSICS (3-0-3)(F/S). Physical properties and biological effects of different kinds of radiation: action of radiation on various cellular constituents: target theory, genetic effects, repair of radiation damage, physics of radiology and radiotherapy, isotopic tracers. PREREQ: PHYS 307, PHYS 309, or PERM/INST.

PHYS 545 MAGNETISM AND MAGNETIC MATERIALS (3-0-3)(F/S). Physical principles of magnetism, properties of different types of magnetic materials, and their technological applications. Topics include magnetic moments, interactions and ordering; magnetism in metals and semiconductors; magnetic resonance, magnetoresistance, nanoscale magnetism; spintronics; magnetic recording technologies. PREREQ: PHYS 415 or PHYS 515.

PHYS 572 ELECTROMAGNETISM (3-0-3)(S). Electromagnetic theory derived from Maxwell's equations. Applications to electromagnetic fields in materials, including dielectrics, magnetization, wave propagation through materials, stress tensors, and radiation. PREREQ: PHYS 381 or ECE 300.

PHYS 598 PHYSICS SEMINAR (1-0-1)(S). Individual reports on selected topics. The level of the reports must reflect the additional work expected beyond that required for the undergraduate seminar. PREREQ: PERM/INST.

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

Department of Political Science

School of Public Service

Environmental Research Building, Room 5121

Phone: (208) 426-2518

E-mail: michaelaallen@boisestate.edu

<https://sps.boisestate.edu/politicalscience>

Graduate Faculty: Allen, Burkhart, Hausegger, Kettler, Lyons, Moncrief, Utych, Vaughn, Wampler, Yenor

Graduate Degree Offered

- Master of Arts in Political Science

Master of Arts in Political Science

Graduate Program Coordinator: Michael Allen

Environmental Research Building, Room 5121

Phone: (208) 426-2518

E-mail: michaelaallen@boisestate.edu

<https://sps.boisestate.edu/politicalscience>

General Information

The Master of Arts in Political Science requires completion of a minimum of 32 credits, including three core seminars, five to seven elective seminars, one advanced quantitative methodology course, as well as eight hours of thesis work or two credit hours of comprehensive exams. When a student has completed nine credits of course work, they will work with a faculty supervisor to either develop a topic for the student's proposed thesis or determine if comprehensive exams are the appropriate culminating activity for their degree. This meeting will typically take place in a student's second semester.

Application Requirements

An applicant must follow the general application procedures for admission to a graduate program (see *Graduate Admission Regulations*). The applicant must also provide:

1. A letter of application describing his/her background, academic interests, career goals and how our program will help them achieve these goals.
2. A 5-10 page writing sample demonstrating the student's academic and writing talents. This can include previous academic papers, policy briefs or memos, a news article or blog post, a document prepared for an employer, or a new sample written in an aforementioned sample
3. Three letters of recommendation, paying particular attention to the student's ability to succeed in a graduate environment, from academic faculty or recent employers submitted directly to the graduate program coordinator.
4. TOEFL scores, for a prospective student whose native language is not English. These individuals may be interviewed if applying for a graduate assistantship.

Once the file for an applicant is complete, it will be evaluated by the Political Science Graduate Committee and an admission recommendation (regular, provisional, or denial) will be forwarded to the Dean of the Graduate College who will make the final admission decision and notify the applicant.

Admission Requirements

The conditions for admission are the minimum admission requirements of the Graduate College (see *Graduate Admission Regulations*). These conditions are necessary for admission to the program but do not guarantee admission.

Degree Requirements

The Master of Arts in Political Science requires completion of a minimum of 32 credits, including three core seminars, five elective seminars, one advanced quantitative methodology course, as well as eight hours of thesis work. When a student has completed 9 credits of course work, he/she will work with a thesis supervisor to develop a topic for the student's proposed thesis. This meeting will typically take place in a student's second semester.

Master of Arts in Political Science	
Course Number and Title	Credits
Core Requirements	
POLS 508 Quantitative Research Methodology	3
Select two courses from the following:	6
POLS 500 American Government and Politics	
POLS 505 Comparative Politics	
POLS 506 World Politics	
*Electives	15-21
American Politics	
POLS 512 Political Parties, Campaigns, and Elections	
POLS 513 American Presidency	
POLS 514 Legislative Politics	
POLS 516 Institutions, Citizenship, and Contemporary Thought	
POLS 518 Judicial Decision Making	
Comparative Politics/International Relations	
POLS 525 Civil War and Terrorism	
POLS 526 Democratization	
POLS 528 Advanced International Political Economy	
POLS 530 State Institutions and Civil Society	
POLS 531 Contemporary Issues in World Politics	
Methodology	
SPS 508 Maximum Likelihood Estimation	
SPS 509 Advanced Quantitative Methodology	
Other Electives (maximum of six credits):	
Electives approved by supervisory committee.	
*Students must complete at least two of the following courses before they can begin electives: POLS 500, POLS 505, POLS 506. Students may not take more than 3 credits from workshops.	
Culminating Activity	2-8
POLS 593 Thesis (8 cr) or	
POLS 690 Master's Comprehensive Examination (2 cr)	
Total	32

Course Offerings

See *Course Numbering and Terminology* for definitions.

POLS— Political Science

POLS 500 AMERICAN GOVERNMENT AND POLITICS (3-0-3)(F/S).

Examination of theoretical and methodological approaches used to explain institutional, political culture and political processes throughout the American regime. PREREQ: Graduate Standing or PERM/INST.

POLS 505 COMPARATIVE POLITICS (3-0-3)(F/S). This seminar focuses on the principal theoretical, methodological and analytical approaches developed in the subfield of comparative politics to explain variation in economic development, regime type, and state capacity. PREREQ: Graduate Standing or PERM/INST.

POLS 506 WORLD POLITICS (3-0-3)(F/S). Examination of theoretical and methodological approaches in understanding relations between state, sub-national, non-state, and international actors. PREREQ: Graduate Standing or PERM/INST.

POLS 508 QUANTITATIVE RESEARCH METHODOLOGY (3-0-3)(F/S). This seminar provides instruction on bivariate and multivariate modeling of political behavior.

POLS 512 POLITICAL PARTIES, CAMPAIGNS, AND ELECTIONS (3-0-3)(F/S).

This seminar studies theoretical and methodological approaches useful in understanding the roles political parties play in politics and policy making and the structure and function of campaigns and elections. PREREQ: Graduate Standing or PERM/INST.

POLS 513 AMERICAN PRESIDENCY (3-0-3)(F/S). This seminar provides a multi-faceted examination of the contending approaches to the study of the American presidency. PREREQ: Graduate Standing or PERM/INST.

POLS 514 LEGISLATIVE POLITICS (3-0-3)(F/S). Semester analyzes the structure and function of legislatures at the state and national level. PREREQ: Graduate Standing or PERM/INST.

POLS 516 INSTITUTIONS, CITIZENSHIP, AND CONTEMPORARY THOUGHT (3-0-3)(F/S). Examines liberal thought through writings of classical, Progressive and contemporary liberals with emphasis on political institutions, relation of individual to community, the basis of human rights and the basis for political justification and obligation. PREREQ: Graduate Standing or PERM/INST.

POLS 518 JUDICIAL DECISION MAKING (3-0-3)(F/S). Analysis of the theoretical arguments and empirical evidence surrounding the determinants of judicial decisions, with particular emphasis on the decisions made by appellate court judges. PREREQ: Graduate Standing or PERM/INST.

POLS 520 CONTEMPORARY ISSUES IN AMERICAN POLITICS (3-0-3)(F/S).

Examination of theoretical and methodological approaches to understanding recent developments in American politics. Students to explore areas of contemporary relevance that fall beyond or across the scope of other courses in the degree program. PREREQ: Graduate Standing or PERM/INST.

POLS 525 CIVIL WAR AND TERRORISM (3-0-3)(F/S). Analysis of the theoretical and empirical causes of non-state actors using force against states and civilians in both domestic and international spheres. PREREQ: Graduate Standing or PERM/INST.

POLS 526 DEMOCRATIZATION (3-0-3)(F/S). This seminar explores current theory and empirical observations in the areas of democratic regime change and consolidation. PREREQ: Graduate Standing or PERM/INST.

POLS 528 ADVANCED INTERNATIONAL POLITICAL ECONOMY (3-0-3)

(F/S). Examination of theoretical and methodological approaches to understanding the relationships between politics and economics in the international sphere. PREREQ: Graduate Standing or PERM/INST.

POLS 530 STATE INSTITUTIONS AND CIVIL SOCIETY (3-0-3)(F/S).

Examination of state formation and historical development of civil society. An emphasis on the interrelated nature of state and civil society development. PREREQ: Graduate Standing or PERM/INST.

POLS 531 CONTEMPORARY ISSUES IN WORLD POLITICS (3-0-3)(F/S).

Examination of theoretical and methodological approaches to understanding recent developments in international relations or comparative politics. PREREQ: Graduate Standing or PERM/INST.

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

Department of Public Policy and Administration Programs

School of Public Service

Environmental Research Building, Room 1144C
 Phone: (208) 426-1476
 Fax: (208) 426-4370
<https://sps.boisestate.edu/publicpolicy/>

Graduate Faculty: Alm, Birdsall, Fowler, Fredericksen, Freemuth, Gregory, Hill, Hubbard, Pappas, Park, Schneider, Witt

Graduate Degrees Offered

- Doctor of Philosophy in Public Policy and Administration
- Master of Public Administration
- Graduate Certificate in Conflict Management
- Graduate Certificate Nonprofit Administration

Doctor of Philosophy in Public Policy and Administration

Doctoral Program Coordinator: Jen Schneider
 Environmental Research Building, Room 5135
 Phone: (208) 426-2514
 E-mail: jenschneider@boisestate.edu
<https://sps.boisestate.edu/publicpolicy/phd/>

General Information

Boise State University offers a Doctor of Philosophy in Public Policy and Administration through the Public Policy and Administration (PPA) program. The degree requires the completion of a prescribed course of study in PPA, satisfactory performance on the comprehensive examination and the dissertation proposal, and independent completion of original research that results in a publicly defended dissertation that contributes significantly to knowledge in Public Policy and Administration.

Graduate Teaching and Research Fellowships

Graduate fellowships including tuition and fee waivers are funded from three sources: appropriated state funds, endowments, and research grants and contracts. Applicants to the Ph.D. in Public Policy and Administration who submit all documents required by the admission procedure by February 1 of any given year will be considered for a state appropriated or endowed graduate fellowship to start the following fall semester; notification of successful applicants will be during February and March. Information on graduate fellowships funded by research grants and contracts is available from the coordinator of the doctoral program in PPA.

Graduate Program Committee

The PPA Graduate Program Committee consists of the coordinators for each of the graduate programs in PPA. University and PPA guidelines establish the parameters of this committee whose duties include development of recommendations for admission of prospective graduate students, decisions on transfer credits and required background courses, decisions on the award of graduate fellowships and assistantships, and the appointment or restructuring of the Supervisory Committee for the doctoral student. The Graduate Program Committee serves as an appeal mechanism for decisions made by each student's Supervisory Committee. The program direct offers an appeal mechanism for any decisions and recommendations of the Graduate Program Committee.

Supervisory Committee

Doctoral students will be assigned a procedural advisor upon admission to the program. The procedural advisor will work with the doctoral student to identify a Supervisory Committee Chair with expertise in the student's emphasis area during the first year of the program. The Chair of the Supervisory Committee serves as the student's principal advisor. By the third semester of the student's doctoral program and in consultation with the Supervisory Committee Chair, the doctoral student will identify at least two, but not more than three additional graduate faculty members. These faculty members along with the Supervisory Committee Chair form the Supervisory Committee. Within University and PPA guidelines, this Supervisory Committee provides general guidance in the design and approval of the program of study, administration of the comprehensive examination, participation in the assessment of the dissertation proposal, supervision of the dissertation research and participation in the dissertation defense. This committee has a minimum of three, but not more than five members, the majority of whom must hold a faculty appointment within PPA and be members of the Graduate Faculty.

Application and Admission Requirements

Admission Requirements Applicants must satisfy the minimum admission requirements for the Boise State Graduate College. Admission is competitive and the achievement of minimum Graduate College and PPA requirements does not guarantee admission into the program. Applicants are required to have a Bachelor's or Master's degree from an accredited institution and must comply with the following application procedures after receipt of the PPA Doctoral Application packet available from the PPA doctoral program coordinator.

Application Procedures Applicants must submit all application materials to the university by February 1 to be considered for acceptance in the cohort for the following fall term. The Admission decisions are made each year in February, but applications are accepted at any time per Graduate College guidelines. Consideration of admission applications to the PPA program requires acceptance to the Boise State Graduate College (please see graduate admission regulations in this catalog) AND submission of official transcripts from all previous academic institutions to the Graduate Admissions Office. Admission to the doctoral program is competitive and is based upon a review of completed applications.

During the application process for the online Graduate College system, applicants will be prompted to provide:

Public Policy and Administration

1. official transcripts submitted from all previous academic institutions,
2. names and contact information submitted for three references (references will then be asked to upload reference letters evaluating the applicant's academic potential),
3. scores on the general test of the Graduate Record Examination (GRE),
4. a letter of intent detailing the applicant's educational and professional background and anticipated career objectives including how a doctoral degree might support those aspirations, and
5. a sample of analytical writing.

At a minimum, students must demonstrate satisfactory academic competency by attaining an overall GPA of at least 3.00 in previous college-level course work and a minimum combined score of 1,000 on the GRE verbal and quantitative sections for GRE tests scored before August 2010 and 300 for GRE tests scored since the conversion. The GRE requirement can be waived for students who have earned a master's degree from an accredited program. Students whose native language is not English must submit a TOEFL score of 587 or higher for the written exam and 240 or higher for the computer-based examination. All test scores must be submitted directly to Boise State University. Once the applicant's file is complete and during the admission decision period for the doctoral program, the PPA Graduate Program Committee or an admission subcommittee designated by the Graduate Program Committee will evaluate the file. An admission recommendation will be forwarded by PPA to the Dean of the Graduate College. The graduate dean will make the final admission decision and notify the applicant and the PPA Graduate Program Committee.

Degree Requirements

The program of study for the Doctor of Philosophy in Public Policy and Administration will require at least 67 credits beyond a bachelor's degree or 46 credits beyond a master's degree, and adhere to all policies and procedures of the Graduate College. Full-time students must be enrolled with a minimum of 9 credits each semester. Part-time students are expected to make continuous progress with a designated credit goal each year. Courses applied to meet the 67 credit minimum requirement must be taken for a letter grade (A-F), except for PUBADM 691 Doctoral Comprehensive Examination (graded P - Pass or F - Fail), and PUBADM 693 Dissertation (initially graded IP - In Progress and later graded P or F depending upon the outcome of the dissertation defense). Undergraduate courses are not applied to this doctoral degree. Students must complete coursework as outlined in the degree requirements table. For those entering the program with post baccalaureate graduate coursework, no more than 21 credits of previous graduate coursework can be applied as course credit. This previous coursework is subject to the restrictions and guidelines established by the Graduate College and University Registrar. All programs of study, including previously completed graduate coursework that a student wishes to apply to this program, must be approved by the student's Supervisory Committee. All doctoral students must complete 18 credits of core requirements and a 12 credit methods sequence. In addition, doctoral students will complete 9 credits within an emphasis, 6 additional elective credits, along with the culminating activity credit PUBADM 691 (2), PUBADM 689 (2), and PUBADM 693 (18).

Doctor of Philosophy in Public Policy and Administration	
Course Number and Title	Credits
Public Policy and Administration Core	
PUBADM 500 Administration in the Public Sector	3
PUBADM 501 Public Policy Process	3
PUBADM 601 Philosophy of Social Inquiry	3
PUBADM 602 Philosophical and Practical Foundations of Democratic Governance	3
PUBADM 603 Administration and the Study of Public Policy	3
PUBADM 604 Advanced Techniques in Policy Research	3
Methods Sequence	12
Students must take:	
PUBADM 503 Research Methods in Public Administration	
And students must select an additional nine credits from:	
GEOG 560 Introduction to Geographic Information Systems	
PUBADM 506 Qualitative Analysis and Methodology	
PUBADM 507 Intermediate Quantitative Analysis and Methodology	
PUBADM 508 Advanced Survey Research	
PUBADM 509 Public Policy Analysis	
PUBADM 510 Program Evaluation	
Areas of Emphasis (Select one area 9 credit hours)	9
1. Environmental Policy and Administration	
PUBADM 605 Seminar in Environmental Policy and Administration	
And six credits from:	
PUBADM 540 Contemporary Issues in Natural Resource and Environmental Policy and Administration	
PUBADM 541 Environmental Regulatory Policy and Administration	
PUBADM 542 Science, Democracy and the Environment	
PUBADM 543 Public Land Resource Policy and Administration	
PUBADM 544 Energy in the Western U.S.	
PUBADM 545 Energy Policy	
PUBADM 546 Climate Change Policy and Administration	
PUBADM 547 Water Resources Policy and Management	
2. State and Local Government Policy and Administration	
PUBADM 606 Seminar in State and Local Government Policy and Administration	
And six credits from:	
PUBADM 511 Decision-Making in Public and Nonprofit Management	
PUBADM 512 Information Technology and Public Policy	
PUBADM 513 Economics and Public Policy	
PUBADM 514 Introduction to Nonprofit Management and Collaboration	
PUBADM 515 Policy Implementation and Practice	
PUBADM 516 City-County Governance and Administration	
PUBADM 517 Resource Management in Nonprofit Organizations	
PUBADM 518 Introduction to Contract Management	
PUBADM 530 Administrative Law and Regulation	
PUBADM 550 The Executive and the Administrative Process	
PUBADM 560 State and Local Government Policy and Administration	
PUBADM 571 Ethics in the Public Sector	
Electives (with supervisory committee approval)	6
PUBADM 691 Doctoral Comprehensive Examination	2
PUBADM 689 Dissertation Proposal	2
PUBADM 693 Dissertation	18
Total	67

Emphases and Credit Requirements

Two emphasis areas are available to Doctor of Philosophy students in Public Policy and Administration: 1) Environmental Policy and Administration and 2) State and Local Government Policy and Administration. Doctoral students must select one of two available emphasis areas at the beginning of their program. The Supervisory Committee chair will be a faculty member with primary research or teaching responsibility related to the student's emphasis. Students will take 9 credits within their emphasis area that will be comprised of the designated emphasis seminar plus 6 additional credits selected in consultation with the Supervisory Committee. Through consultation with the Supervisory Committee, students are encouraged to consider graduate elective courses from other disciplines in the many graduate programs in the university. A list of recommended graduate courses by discipline is available from the doctoral program coordinator. The following coursework is prohibited for use in meeting the Ph.D. credit requirements: 590, 594, 598, pass/fail coursework and undergraduate credit.

Doctoral Examinations and Dissertation Requirements

Beyond superior effort in coursework, students seeking the distinction of Doctor of Philosophy in Public Policy and Administration must successfully complete three tiers of assessment, a Ph.D. comprehensive examination, an oral presentation of the student's dissertation proposal, and the public presentation and defense of the dissertation.

Alternative Residency Ph.D. students are required to fulfill a one-year, full-time residency. Students wishing to fulfill their residency requirement via an *Alternative Residency Plan* (ARP) must complete the program ARP form and submit with the *Application for Advancement to Candidacy* (AAC) form following the successful defense of their dissertation proposal.

It is recommended that the alternative residency plans should meet the following four goals: Disciplinary depth and breadth, Scholarly immersion, Professional socialization, and Professional practice. Students should plan to attend or participate in a minimum of three (3) of these events or opportunities per semester of enrollment.

Comprehensive Examination Doctoral students are eligible to sit for their comprehensive examination after the public policy and administration core (18 credits), the methods sequence (12 credits) and the designated doctoral seminar for the selected emphasis (3 credits). This means that students may take their comprehensive examination after completing 33 credits toward the doctorate, but must complete the exam prior to completing 48 credits exclusive of PUBADM 693. The examination includes a written portion and an oral defense. The two-part examination is graded pass (P) or fail (F).

Dissertation Proposal The dissertation entails original research conducted by the student at the doctoral level in a manner that meets rigorous peer-reviewed standards. The dissertation proposal should be prepared and presented within a year of the student's successful comprehensive examination, but before substantive advanced coursework or research in the student's dissertation area commences. After the student submits a formal dissertation proposal to the Supervisory Committee, then upon review and approval of that proposal, the Supervisory Committee authorizes the student to schedule a formal oral presentation.

Dissertation Requirements The dissertation should demonstrate the student's mastery of best practices in research for public policy and administration and should reflect original research that advances policy and/or public administration scholarship. Students should work with the program director and their supervisory committee to ensure adequate progress.

Defense and Final Oral Examination After the Supervisory Committee has approved the dissertation as a final version, the student will work with his or her Supervisory Committee to schedule the final oral examination in which the student will defend the dissertation.

Final Approval of the Dissertation The Defense Committee must report either pass (P) or fail (F). Graduate College protocol for failed examinations applies. If the dissertation is approved in final form including a successful public defense, all PUBADM 693 grades are changed from IP (In-Progress) to P (Pass) (see *Regulations for Doctoral Programs*).

Graduate College Requirements The general requirements of the Boise State Graduate College also govern the Doctor of Philosophy in Public Policy and Administration (see *Regulations for Doctor of Philosophy Programs*).

Master of Public Administration

Graduate Program Director: Stephanie Witt
Environmental Research Building, Room 5143
Phone: (208) 426-3667
E-mail: mpa@boisestate.edu

General Information

The Public Policy and Administration (PPA) program offers the master's degree in public administration (MPA), an important academic nucleus of the university's designated area of emphasis in public affairs. As the urban university in Idaho located in the capital city, Boise State has the mandate to provide educational opportunities related to public affairs. The program offers this degree to help fulfill that mandate. It is the only MPA accredited by the National Association of Schools of Public Affairs and Administration (NASPAA) in Idaho and one of only seven in the six states surrounding Idaho.

The MPA is designed to prepare pre-service students and in-service professionals for positions of leadership in public service. Administrators and other staff members in all levels of government, non-profit organizations and private sector governmental affairs departments take advantage of the general administrative and policy analysis curriculum offered in the MPA. The curriculum provides the theoretical and practical dimensions of public management necessary to assist students seeking public service careers. The MPA has three concentrations: 1) General Public Administration 2) Environmental, Natural Resource, and Energy Policy and Administration, and 3) State and Local Government Policy and Administration.

Based upon its lead role in public policy, the Master of Public Administration plays an important role in the administration and delivery of courses in the Master of Health Science, Health Policy emphasis.

Public Administration Applied Research and Service In keeping with the university's role and mission in public affairs, our faculty

are involved in a number of important training and applied research activities that have major statewide impact including the annual Mountain West Municipal Clerks and Treasurers Institute.

Application and Admission Requirements

Students interested in the MPA program must first submit a graduate application to the Graduate College. If approved, the applicant receives a certificate of admission to enroll in courses at Boise State. This certificate of admission is a **prerequisite** to admission into the MPA program, but does not by itself guarantee admission into the MPA program. (The student is advised to consult the Graduate Admission Policies section of this catalog for more detail on admission to the Graduate College.) To receive financial aid, students must be officially accepted into the MPA program with regular or provisional status. Admittance to the Graduate College only is not sufficient to receive financial aid.

Admission to the MPA program begins with application to the Graduate College. A student interested in the MPA is encouraged to meet with the MPA program director to discuss the admission process, his/her career interests, and reasons for seeking admission to the MPA program. Applicants should possess a baccalaureate degree from an accredited institution and demonstrate satisfactory academic competency by attaining an overall undergraduate GPA of at least 3.00 and a minimum combined score of 300 on the Graduate Record Examination (GRE) verbal and quantitative sections (the minimum combined score is 1000 under earlier GRE scoring systems). The GRE requirement may be waived for students who have earned a master's degree from an accredited program or who have an aggregate undergraduate GPA of 3.20 or better (either at graduation or within a single term of graduation).

During the application process for the online Graduate College system, applicants will be prompted to:

1. Submit official transcripts from all previous academic institutions.
2. Submit names and contact information for three references. These references will then be asked to upload reference letters evaluating the applicant's academic potential.
3. Upload a formal statement of at least 500 words explaining the applicant's educational and career objectives.
4. Upload a recent resume.

Applicants who, by admission deadline, meet the preceding requirements will have their complete applications submitted for committee review. Meeting these requirements does not guarantee admission to the MPA program.

Applicants who do not meet all of the above requirements, but have a completed application, **may** be recommended by the MPA Admissions Committee for admission with provisional graduate status. However, these students must satisfy all of the conditions of their provisional status before they will be recommended for regular graduate status. Application files are due February 1 for Fall and Summer admission and October 1 for Spring admission.

Students may not take more than 9 credits of PUBADM coursework prior to official acceptance into the MPA program. The only core classes open to students who have not yet been admitted to graduate coursework in the program are PUBADM 500, PUBADM 501 and PUBADM 503.

During the semester following acceptance into the MPA program, students should 1) meet with their advisor; 2) complete their *Program Development* form; and 3) enroll in PUBADM 500 if they have not already completed this course.

Students accepted into the MPA program who have earned a Certified Public Managers Certificate (CPM) from the State of Idaho may petition to the Director of Graduate Studies, PPA to have the number of credits needed to receive an MPA Degree reduced from 39 to 36, with the reduction coming from the 18 required elective credits.

Students are allowed only 3 credits of pass/fail and 3 credits of workshop to count toward their MPA degree.

All students not officially accepted to the MPA program must get permission numbers from instructors to enroll in PUBADM classes.

MPA Internship All students are required to complete a three credit internship for a total of 39 credits unless all or part of these credits are waived. Students who have at least one year of substantive administrative, management or professional experience in or with the public or nonprofit sector may petition the graduate director to waive the internship requirement. This petition must be submitted AFTER a student has been admitted to the MPA program and should include a letter detailing the basis for the petition along with a recent copy of the student's resume. Instructions to petition for internship waiver or to obtain an internship are available on the program website.

Degree Requirements

Master of Public Administration	
Course Number and Title	Credits
Core Requirements	
PUBADM 500 Administration in the Public Sector	3
PUBADM 501 Public Policy Process	3
PUBADM 502 Organizational Theory and Management	3
PUBADM 503 Research Methods in Public Administration	3
PUBADM 504 Public Budgeting and Financial Administration	3
PUBADM 505 Personnel Administration for Public Service	3
Area of Emphasis Requirements	
1. General Public Administration	12
This area of emphasis is provided to accommodate those students desiring preparation in public administration as a "generalist" rather than a "specialist" in a particular area. Students should select the 12 credit hours of course work from the noncore M.P.A. courses listed in this catalog. Students may also work with an advisor to identify relevant graduate coursework in other programs at Boise State University.	
2. Environmental, Natural Resource, and Energy Policy and Administration:	
All students in this area of emphasis must take:	
PUBADM 540 Contemporary Issues in Natural Resource and Environmental Policy and Administration	
And students must also select nine additional credits from approved Selected or Special Topics or from the following courses:	
PUBADM 541 Environmental and Regulatory Policy and Administration	
PUBADM 542 Science, Democracy and the Environment	
PUBADM 543 Public Land and Resource Policy and Administration	
PUBADM 544 Energy Policy in the Western U.S.	
PUBADM 545 U.S. Energy Policy	
PUBADM 546 Climate Change Policy and Administration	
PUBADM 547 Water Resources Policy and Management	
<i>Continued</i>	

<i>Master of Public Administration continued</i>	
3. State and Local Government Policy and Administration: All students in this area of emphasis must take PUBADM 560 State and Local Government Policy and Administration And students must select nine credits from approved Selected or Special Topics or from the following courses: PUBADM 511 Decision-Making in Public and Nonprofit Management PUBADM 512 Information Technology and Public Policy PUBADM 513 Economics and Public Policy PUBADM 514 Introduction to Nonprofit Management and Collaboration PUBADM 515 Policy Implementation and Practice PUBADM 516 City-County Governance and Administration PUBADM 517 Resources Management in Nonprofit Organizations PUBADM 518 Introduction to Contract Management PUBADM 530 Administrative Law and Regulation PUBADM 571 Ethics in the Public Sector	
Electives	3
Public Service Internship	0-3
Culminating Activity PUBADM 692 Capstone Course	3
<i>Total</i>	36-39

Graduate Certificate in Conflict Management

Graduate Program Director: Brian Pappas
Environmental Research Building, Room 1143
Phone: (208) 426-2536
Fax: (208) 426-4370
E-mail: brianpappas@boisestate.edu

General Information

The Graduate Certificate in Conflict Management assists working professionals and students to understand and respond to interpersonal and group conflict. The certificate program focuses on understanding the causes and productive responses to interpersonal conflict, including third-party facilitation and mediation, as well as upon the understanding of conflict in larger groups and the skills of facilitating high conflict meetings.

Application and Admission Requirements

1. Apply for admission to the Graduate College (see *Graduate Admission Requirements*)
2. Request official transcripts from each institution previously attended be sent directly to the Graduate College.
3. Contact the Director of the Boise State University Dispute Resolution Program for an advising and admissions interview.
Brian Pappas, Ph.D.
Director, Conflict Management
Boise State University
Boise, Idaho 83725-1935
(208) 426-2536
brianpappas@boisestate.edu
4. Admission to and successful completion of the Conflict Management certificate program does not guarantee admission to any other graduate program.

Certificate Requirements

Graduate Certificate in Conflict Management Competency Option**	
<i>Course Number and Title</i>	<i>Credits</i>
*DISPUT 500 Basic Mediation Skills	3
DISPUT 501 Human Factors in Conflict Management	1
DISPUT 502 Negotiation Theory and Practice	1
DISPUT 504 Facilitating Groups in Conflict	1
DISPUT 505 Culture and Conflict	1
DISPUT 590 Internship	2
DISPUT 546 Resolution Competency Assessment	1
Electives DISPUT 594, 597, or other approved electives	2
<i>Total</i>	12
*Candidates who have already completed DISPUT 400 or other equivalent undergraduate basic mediation courses may waive DISPUT 500 and then take three additional graduate credits of approved elective coursework.	
**Current Idaho Mediation Association Certified Practicing Mediators may waive the internship and competency exam and substitute three additional graduate credits of approved elective coursework.	

Graduate Certificate in Conflict Management Generalist Option	
<i>Course Number and Title</i>	<i>Credits</i>
*DISPUT 500 Basic Mediation Skills	3
DISPUT 501 Human Factors in Conflict Management	1
DISPUT 502 Negotiation Theory and Practice	1
DISPUT 504 Facilitating Groups in Conflict	1
DISPUT 505 Culture and Conflict	1
Electives DISPUT 594, 597, or other approved electives	5
<i>Total</i>	12
*Candidates who have already completed DISPUT 400 or other equivalent undergraduate basic mediation courses may waive DISPUT 500 and then take three additional graduate credits of approved elective coursework.	

Disclosure

The Graduate Certificate in Conflict Management program is subject to gainful employment disclosure requirements as prescribed by federal regulation 34 CFR 668.6(b) (2) (iv). The required disclosure is given at the following website: <https://graduatecollege.boisestate.edu/programs2017/Gedt%20Conflict%20Management%202016%202017/09.9999-Gedt.html>.

Graduate Certificate in Nonprofit Administration

Program Director: Stephanie Witt
 Environmental Research Building, Room 5143
 Phone: (208) 426-3667
 E-mail: switt@boisestate.edu

General Information

The Boise State University Graduate Certificate in Nonprofit Administration assists working professionals and students with an interdisciplinary basis to hone their management and leadership skills and policy development expertise in the particular legal environment facing not-for-profit organizations as they collaborate with private enterprise and local, state and federal governments to serve the public interest.

Application Requirements

Applicants must satisfy the minimum admission requirements for the Boise State Graduate College (see *Graduate Admission Regulations*). Admission is competitive and the achievement of minimum Graduate College and DPPA requirements does not guarantee admission into the certificate.

Admission Requirements

Applicants must submit all application materials by February 1 to be considered for admission to the subsequent summer or fall term and by October 1 for admission to the following spring term.

Students interested in the nonprofit certificate must first submit a graduate application to the Graduate College. If approved, the applicant is able to enroll in courses at Boise State. Admission to the Graduate College is a prerequisite to admission into the graduate certificate in nonprofit administration.

During the application process for the online Graduate College system, applicants will be prompted to:

1. Submit official transcripts from all previous academic institutions.
2. Submit names and contact information for three references. These references will then be asked to upload reference letters evaluating the applicants academic potential. Students who are applying to the Master of Public Administration program at Boise State or have already been admitted to the MPA are not required to upload additional references, but may use those being applied to the MPA.
3. Upload a formal statement of at least 300 words explaining the applicant's educational and career objectives.
4. Upload a recent resume.

Applicants who, by admission deadline, meet the preceding requirements will have their complete applications submitted for committee review. Meeting these requirements does not guarantee admission to the nonprofit administration certificate.

Applicants who do not meet the minimum academic competency requirements may be recommended by the Certificate Admissions Committee for admission with provisional graduate status. However, these students must satisfy all of the conditions of their provisional status before they will be recommended for regular graduate status

on the Certificate.

Students may not take more than 9 credits of PUBADM coursework prior to official acceptance into either the MPA or the Nonprofit Administration Certificate. Certain classes are reserved for those students who are formally admitted to the MPA or the Ph.D.

Students accepted into the Certificate for Nonprofit Administration who have earned a Certified Public Managers Certificate (CPM) from the State of Idaho may petition the coordinator of this certificate to have the number of elective credits needed to receive the certificate reduced from nine to six.

Students who have substantive management experience in the nonprofit sector may petition to have the internship/service learning 3-credit requirement waived. Contact the coordinator of this certificate for guidelines. Students are allowed only 3 credits of pass/fail and 3 credits of workshop to count toward their certificate. Students may use electives beyond those listed as requirements for the Certificate upon proper consultation and approval by the certificate coordinator. Under certain conditions, students may apply up to six credits of previously completed graduate coursework toward their degree requirement with the approval of the Director of the Certificate.

Certificate Requirements

Graduate Certificate in Nonprofit Administration	
Course Number and Title	Credits
Required Core:	
PUBADM 514 Introduction to Nonprofit Management and Collaboration	3
PUBADM 517 Resource Management in Nonprofit Organizations	3
Elective Courses:	
Students must select nine credits from the electives listed below. Electives not included in this list must be pre-approved by the Certificate Coordinator before a student can apply them toward their degree progress.	
DISPUT 500 Basic Mediation Skills	
MHLTHSCI 522 Management for Health Professionals	
MHLTHSCI 525 Leadership for Health Professionals	
PUBADM 500 Administration in the Public Sector	
PUBADM 511 Decision-Making in Public and Nonprofit Management	
PUBADM 513 Economics of Public Policy	
PUBADM 515 Policy Implementation and Practice	
PUBADM 516 City-County Governance and Administration	
PUBADM 518 Introduction to Contract Management	
PUBADM 532 Grant Writing	
PUBADM 550 The Executive and the Administrative Process	
PUBADM 560 State and Local Government Policy and Administration	
PUBADM 570 Public Management Skills and Techniques	
PUBADM 571 Ethics in the Public Sector	
Internship/Service Learning	
A 3-credit internship or 3 credits of coursework with associated service-learning designation are required of students without substantive management experience in the nonprofit sector. Students who have such experience may petition to have the internship/service learning requirement waived. Contact the coordinator of this certificate for guidelines.	
PUBADM 590 Internship	3
Total	18

Course Offerings

See *Course Numbering and Terminology* for definitions.

DISPUT — Dispute Resolution

DISPUT 500 BASIC MEDIATION SKILLS (3-0-3)(F/S). Students learn the theoretical foundations of negotiation and mediation, types of mediation, mediation models, mediation case work skills, building the mediation plan, interpersonal communication skills for mediation, and various resolution techniques. Students will mediate several actual and/or simulated practice cases.

DISPUT 501 HUMAN FACTORS IN CONFLICT MANAGEMENT (1-0-1)(F). This course presents communication theories to assist managers understanding, analyzing, and managing conflict. The course focuses on the causes of conflict and includes the influence of style on conflict. The course is pragmatic as well as theoretical.

DISPUT 502 NEGOTIATION THEORY AND PRACTICE (1-0-1)(F). The successful manager in professional settings is involved in a variety of negotiation activities. The tactics, strategies, and operations of effective and ineffective bargaining/negotiation behaviors will be presented. The course develops negotiator skills and knowledge leading to collaborative based action and solutions.

DISPUT 504 FACILITATING GROUPS IN CONFLICT (1-0-1)(F/S). Public input processes on controversial issues may generate conflict. The causes and skills for facilitating public input processes will be discussed, as well as techniques for facilitating conflict within small and large group meetings.

DISPUT 505 CULTURE AND CONFLICT (1-0-1)(S). Managing conflicts with persons from other cultural backgrounds than oneself is particularly challenging. Common errors in interpersonal conflict management and mediation will be discussed, along with perspectives to ameliorate the difficulties in conflict management across cultural lines.

DISPUT 546 RESOLUTION COMPETENCY ASSESSMENT (0-0-1)(F/S). Students who have completed or are in their second semester of a Dispute Resolution internship in one area of conflict management practice may take a field and written exam to assess their competence. (Pass/Fail.) PREREQ: PERM/PROG DIR.

DISPUT 565 CONFLICT MANAGEMENT IN ENVIRONMENT, NATURAL RESOURCE AND ENERGY POLICY (3-0-3)(F/S). Public and private interests in environmental, natural resource, and/or energy policy often clash. Examines processes to manage larger scale issues, the roles of government and private entities in these conflicts, and case studies of regional interest.

DISPUT 575 CONFLICT ANALYSIS (3-0-3)(F/S). Procedures are examined and analysis methods will be applied to regional policy or environmental conflict issues.

PUBADM — Public Administration

PUBADM 500 ADMINISTRATION IN THE PUBLIC SECTOR (3-0-3)(F/S). Designed to introduce students to the broad field of public administration at the graduate level. The course surveys a number of important issues in contemporary public administration, including an emphasis on political, legal, economic and social institutions and processes.

PUBADM 501 PUBLIC POLICY PROCESS (3-0-3)(F/S). Process of policymaking both within an agency and within the total governmental process, emphasizing policy and program planning, policy implementation and the value system of administrators.

PUBADM 502 ORGANIZATIONAL THEORY AND MANAGEMENT (3-0-3)(F/S). Theories of organization behavior and management, with special attention given to public and nonprofit sector organizations. PRE/COREQ: PUBADM 500 or PERM/PROG DIR.

PUBADM 503 RESEARCH METHODS IN PUBLIC ADMINISTRATION (3-0-3)(F/S). An introduction to quantitative and qualitative data analysis with an emphasis on using descriptive and inferential statistics as tools in both public policy analysis and public program analysis. The use of quantitative analysis to support management decision making is examined. Computers will be used in the analysis of quantitative data.

PUBADM 504 PUBLIC BUDGETING AND FINANCIAL ADMINISTRATION (3-0-3)(F/S). Determination of fiscal policy, budgeting processes, and governmental forms of budgeting. Consideration of fiscal policy and processes in various program areas. Emphasis on the interface between technical and political processes. PRE/COREQ: PUBADM 500 or PERM/PROG DIR.

PUBADM 505 PERSONNEL ADMINISTRATION FOR PUBLIC SERVICE (3-0-3)(F/S). Examines the personnel/human resource management role as it has evolved in the public service sectors. Multiple responsibilities of personnel managers in the public and nonprofit sectors will be examined, and the link between public policy and personnel management is explored. PRE/COREQ: PUBADM 500 or PERM/PROG DIR.

PUBADM 506 QUALITATIVE ANALYSIS AND METHODOLOGY (3-0-3)(F/S). Interviews, observation, focus group methods examined in relation to planning and public administration. Other topics include communication skills in terms of writing, presentation, interpersonal dialogue, and group process. PREREQ: PUBADM 533 or PERM/INST.

PUBADM 507 INTERMEDIATE QUANTITATIVE ANALYSIS AND METHODOLOGY (3-0-3)(F/S). Elementary distribution theory, statistical inference, and an introduction to multiple regression. Emphasis on practical applications. PREREQ: PUBADM 533 or PERM/INST.

PUBADM 508 ADVANCED SURVEY RESEARCH (3-0-3)(F/S). Addresses the theoretical and practical nexus between public policy and public opinion and the role that surveys play in that relationship. Students engage directly in advanced survey research through design, implementation, sampling, data collection, follow-up, analysis, and ethical considerations. PREREQ: PUBADM 533 or PERM/INST.

PUBADM 509 PUBLIC POLICY ANALYSIS (3-0-3)(F/S). Introduces policy analysis, policy tools, and factors shaping the utilization of policy analysis. A significant portion of the course is spent in learning and applying analytical techniques. PREREQ: PUBADM 501 or PERM/INST.

PUBADM 510 PROGRAM EVALUATION (3-0-3)(F/S). Explores issues related to evaluation research and design with particular attention to design and critique of process, outcome, and impact evaluations and the utility of evaluation in performance monitoring. PREREQ: PUBADM 533 or PERM/INST.

PUBADM 511 DECISION-MAKING IN PUBLIC AND NONPROFIT MANAGEMENT (3-0-3)(F/S). Designed to introduce decision theory and optimization techniques and tools in public and nonprofit organizations to provide basic techniques related to planning, monitoring, managing, and measuring program performance.

PUBADM 512 INFORMATION TECHNOLOGY AND PUBLIC POLICY (3-0-3)(F/S)(Alternate years). Examines implications of information technology for policymaking and policy analysis as well as the management of knowledge and information in and between organizations.

PUBADM 513 ECONOMICS OF PUBLIC POLICY (3-0-3)(F/S)(Alternate years). Contributions of economic analysis to the justification, design, and implementation of economic policy, especially as it relates to the market economy and the benefits and costs associated with government intervention.

PUBADM 514 INTRODUCTION TO NONPROFIT MANAGEMENT AND COLLABORATION (3-0-3)(F/S)(Alternate years). The course examines the implementation of public policy through nongovernmental organizations. Students will gain a general understanding of the history of philanthropy in selected nations and will explore the various social, economic, and political assumptions that found contemporary cross-sector delivery systems.

Public Policy and Administration

PUBADM 515 POLICY IMPLEMENTATION AND PRACTICE (3-0-3)(F/S) (Alternate years). Examines mechanisms, assumptions, and measurement issues surrounding various forms of public policy implementation including the use of direct service delivery by public organizations, collaborative systems and the use of for-profit and nonprofit organizations.

PUBADM 516 CITY-COUNTY GOVERNANCE AND ADMINISTRATION (3-0-3)(F/S). Introduction to different urban and rural political systems, governance and administration including variations in electoral structures, governing bodies, and an analysis of political parties, interest groups and emerging policy issues.

PUBADM 517 RESOURCE MANAGEMENT IN NONPROFIT ORGANIZATIONS (3-0-3)(F/S/SU). Explores the unique political and legal environment facing nonprofits and best practices in effectively and efficiently managing human and financial resources.

PUBADM 518 INTRODUCTION TO CONTRACT MANAGEMENT (3-0-3)(F/S/SU). Explores issues, trends, ethics, and best practices in contract management from the pre-award phase through post-award.

PUBADM 530 ADMINISTRATIVE LAW AND REGULATION (3-0-3)(F/S). Sources of power and duties of administrative agencies, rules and regulations made by agencies through investigation and hearings, judicial decisions and precedents relating to administrative activities.

PUBADM 532 GRANT WRITING (3-0-3)(F/S). Students will explore the skills and techniques associated with successful grant writing and will prepare a grant proposal.

PUBADM 533 RESEARCH DESIGN AND MEASUREMENT (3-0-1)(F/S). Introduction to the role of data in public management including ethical concerns of conducting research, the research design process and measurement. Course meets for 5 weeks.

PUBADM 534 DESCRIPTIVE STATISTICS (3-0-1)(F/S). Introduction to descriptive statistics including central tendency, measures of dispersion, normal distribution, contingency tables, data collection and sampling using SPSS. Course meets for 5 weeks. PRE/COREQ: PUBADM 533 or PERM/INST.

PUBADM 535 INFERENCE STATISTICS (3-0-1)(F/S). Explores inferential statistics with attention to hypothesis testing, cross-tabs with Chi-Square, independent samples t-test, ANOVA, association/correlation and simple regression using SPSS. Course meets for 5 weeks. PRE/COREQ: PUBADM 533 or PERM/INST.

PUBADM 536 INTRODUCTION TO SURVEY RESEARCH METHODS (3-0-1)(F/S). Introduction to several methods of conducting surveys to explore the strengths and limitations of this mode of data collection including developing instruments and assessing results. Course meets for 5 weeks. PRE/COREQ: PUBADM 533 or PERM/INST.

PUBADM 537 ADVANCED STATISTICAL TECHNIQUES (3-0-1)(F/S). Explores more advanced techniques including multiple regression, logistic regression, dummy variables, multicollinearity, regression assumptions and time series modeling. Course meets for 5 weeks. PRE/COREQ: PUBADM 533 or PERM/INST.

PUBADM 540 CONTEMPORARY ISSUES IN NATURAL RESOURCE AND ENVIRONMENTAL POLICY AND ADMINISTRATION (3-0-3)(F/S). Examines current and topical issues and controversies in natural resource and environmental policy from the perspective of public policy and public administration.

PUBADM 541 ENVIRONMENTAL AND REGULATORY POLICY AND ADMINISTRATION (3-0-3)(F/S). Examines aspects of environmental regulatory politics and policy. Topics examined include the politics of regulation, pollution and energy policy, and intergovernmental environmental management.

PUBADM 542 SCIENCE, DEMOCRACY AND THE ENVIRONMENT (3-0-3)(F/S). Examines the role of science and scientists in the formation of U.S. environmental policy making. Special attention is given to the tension between elite and democratic forms of decision making.

PUBADM 543 PUBLIC LAND AND RESOURCE POLICY AND ADMINISTRATION (3-0-3)(F/S). Examines the major issues, actors, and policies affecting the public lands and resources of the United States. Special attention is paid to the processes, institutions, and organizations that influence how public land policy and resource policy is made.

PUBADM 544 ENERGY POLICY IN THE WESTERN U.S. (3-0-3)(F/S). Examines energy resources, uses, reserves, and the perspectives of citizens impacted by resource extraction and use in the U.S. West. Emphasis is placed on current resource extraction developments in the oil, gas, coal, oil shale, tar sands, nuclear, and renewable industries.

PUBADM 545 U.S. ENERGY POLICY (3-0-3)(F/S). Explores the key issues in the development of major energy policy choices in the U.S. with attention paid to issues with international ramifications.

PUBADM 546 CLIMATE CHANGE POLICY AND ADMINISTRATION (3-0-3)(F/S). Considers multiple aspects of climate change, global warming, and related issues such as mitigation, adaptation, resilience, and vulnerability in relation to public policy and administration. Considering climate change is defined through science, politics, competing perspectives, alternate and available solutions will frame the course.

PUBADM 547 WATER RESOURCES POLICY AND MANAGEMENT (3-0-3)(F/S). Considers water resource policy, management, and politics in the U.S. with attention to the clean Water Act, the Endangered Species Act, water allocation, public trust doctrines, and current water resource issues.

PUBADM 550 THE EXECUTIVE AND THE ADMINISTRATIVE PROCESS (3-0-3)(F/S). This course covers the powers and responsibilities of elected and appointed executives in the public sector. Concepts examined in the class include leadership and management, executive roles, management theories and styles, relationships with the separate branches of government and other actors in the political environment. The unique position of the executive between politics and administration and the relevant activities in policy formation through implementation form the basis of discussion.

PUBADM 560 STATE AND LOCAL GOVERNMENT POLICY AND ADMINISTRATION (3-0-3)(F/S). This course examines state and local government administration in a political and organizational context and the attendant interunit, intersector, and interjurisdictional cooperation and conflict in policy administration. Attention is paid to management in a federal system with a focus on nation-state-local relations.

PUBADM 570 PUBLIC MANAGEMENT SKILLS AND TECHNIQUES (3-0-3)(F/S). This course addresses such knowledge and skills for managers and leaders in public organizations as: personal assessment; leading and managing others; aspects of self and others which underlie behavior; managing stress and time; decision making; public participation; working with elected and appointed public officials; working with the media; solving problems; communicating supportively and assertively; appropriately using power and influence; understanding motivational processes; managing conflicts; empowering and delegating; and building teams.

PUBADM 571 ETHICS IN THE PUBLIC SECTOR (3-0-3)(F/S). Examination of ethical dilemmas facing civil servants and elected officials utilizing case studies, current ethics statutes, and approaches in the public administration literature to the subject.

SELECTED TOPICS (1-3 Variable). To be offered as staff availability permits:

- PUBADM 580 ADMINISTRATIVE THEORY AND PRACTICE**
- PUBADM 581 NATURAL RESOURCE AND ENVIRONMENTAL POLICY**
- PUBADM 582 PUBLIC POLICY AND POLICY ANALYSIS**
- PUBADM 583 PUBLIC MANAGEMENT SKILLS AND TECHNIQUES**
- PUBADM 584 STATE AND LOCAL GOVERNMENT POLICY AND ADMINISTRATION**
- PUBADM 585 INTERGOVERNMENTAL RELATIONS**
- PUBADM 587 COMPARATIVE PUBLIC ADMINISTRATION AND PLANNING SYSTEMS**

PUBADM 597 SPECIAL TOPICS (1-3 credits). Offered occasionally and reflect emerging topics in public administration.

PUBADM 601 PHILOSOPHY OF SOCIAL INQUIRY (3-0-3)(F/S). Explores epistemological and normative issues involved in social science and public policy research. **PREREQ:** Admission to the Doctor of Philosophy in Public Policy and Administration program or PERM/INST.

PUBADM 602 PHILOSOPHICAL AND PRACTICAL FOUNDATIONS OF DEMOCRATIC GOVERNANCE (3-0-3)(F/S). Examines political, social, economic, and administrative theories that have shaped democratic government and its institutions and processes. Topics include prominent writings in both political and public administration theory. **PREREQ:** Admission to the Doctor of Philosophy in Public Policy and Administration program and PUBADM 500, or PERM/INST.

PUBADM 603 ADMINISTRATION AND THE STUDY OF PUBLIC POLICY (3-0-3)(F/S). Combines an overview of the field of public administration with an introduction to the range of research foci pertinent to the study of public policy and its administration. A practical orientation for the beginning researcher includes development and refinement of technical oral and written communication skills through the preparation of research critiques, research proposals including dissertation prospectus, and proposals for research funding. **PREREQ:** Admission to the Doctor of Philosophy in Public Policy and Administration program and PUBADM 501, or PERM/INST.

PUBADM 604 ADVANCED TECHNIQUES IN POLICY RESEARCH (3-0-3)(F/S). Direct application of quantitative and qualitative analysis to contemporary and emerging local, regional, state, national, comparative policy questions. Students are expected to work on selected policy research projects with identified public, private or nonprofit organizations. **PREREQ:** Admission to the Doctor of Philosophy in Public Policy and Administration program and PUBADM 503 and 9 credits from PUBADM 506, PUBADM 507, PUBADM 508, PUBADM 509, PUBADM 510, GEOG 560; or PERM/INST.

PUBADM 605 SEMINAR IN ENVIRONMENTAL POLICY AND ADMINISTRATION (3-0-3)(F/S). Examines the major issues, policy choices, and actors in current environmental and natural resource policy. Attention is centered upon, but not limited to, U.S. policies and issues. **PREREQ:** Admission to the Doctor of Philosophy in Public Policy and Administration program or PERM/INST.

PUBADM 606 SEMINAR IN STATE AND LOCAL GOVERNMENT POLICY AND ADMINISTRATION (3-0-3)(F/S). Examines current issues in state and local governance, with some particular attention paid to Western U.S. and state of Idaho issues and policies. **PREREQ:** Admission to the Doctor of Philosophy in Public Policy and Administration program or PERM/INST.

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

School of Social Work

College of Health Sciences

Director: Randy Magen
Education Building, Room 716
Phone: (208) 426-1568
Fax: (208) 426-4291
<https://hs.boisestate.edu/socialwork/>

Graduate Faculty: Allen, Harkness, Hutson, Kenaley, Liley, Magen, Powers, Sanders

Graduate Degree Offered

- Master of Social Work
- Master of Social Work — Advanced Standing
- Graduate Certificate in Refugee Services (Admission has been suspended)

Master of Social Work

Graduate Program Coordinator: Cynthia Sanders
Education Building, Room 716E
Phone: (208) 426-1780
E-mail: cynthiasanders@boisestate.edu

General Information

The Master of Social Work (MSW) is accredited by the Council on Social Work Education (reaffirmed in 2010). The program is designed to prepare students for advanced social work practice with individuals and families. Students learn clinical, organizational, policy, and administrative skills necessary for promoting social justice and equality, and enhancing the quality of life for all people. The program provides a broad and in-depth knowledge base in order to prepare students for advanced social work practice in a wide array of settings.

The School does not approve academic credit for prior work or life experience. Students accepted into the Social Work MSW Program will be required to submit to criminal background clearances at their own expense during the program. Information obtained from the background clearances deemed to be detrimental to social work practice will result in dismissal from the program. More information on the background clearances can be found in the School of Social Work's policies. The Master of Social Work can also be earned at Boise State's regional sites in Coeur d'Alene and Twin Falls at the College of Southern Idaho, as well as online.

Application and Admission Requirements

Applications for programs (regular, advanced standing, and online) are available online at <https://hs.boisestate.edu/socialwork/>. Applications for face-to-face programs (Boise, Coeur d'Alene, and Twin Falls) are processed and reviewed starting December 1. Applications for the Online program are processed and reviewed three times per year; January 15 to enroll in summer semester, March 15 to enroll in fall semester, and August 15 to enroll in spring semester. The admission process is competitive as enrollment in face-to-face and online programs is limited. Early application is strongly advised. When enrollment capacities are filled, a waiting list of qualified applicants is started. As seats become available, qualified applicants on the waiting list are notified of program availability

Social Work

and offered admission into the program. Accepted applicants must reserve their seat in the class. Factors such as education (GPA), social work experience (paid and/or voluntary), personal information, and diversity are considered in the admission decision. Criteria for admission into the MSW program include:

Completion of the Boise State University *Graduate Admission Application* and The School of Social Work Application for admission as a graduate student.

1. A bachelor's degree from an accredited college or university with a distribution of liberal arts courses (70 quarter credits or 46 semester credits) and a minimum of 10 quarter credits or 6 semester credits in each of the general distribution areas: humanities, social sciences, and natural sciences/mathematics. Applicants must complete coursework with a minimum of a C letter grade in a math or research course which contains content on descriptive and inferential statistics.
2. An overall undergraduate grade point average (GPA) of 3.00 or higher and a GPA of 3.00 or higher for the junior and senior years of undergraduate study.
3. **Note:** Applicants may not receive academic credit for work experience in the field or for life experience.

The Master of Social Work Program has one concentration: Advanced direct practice with individuals and families. Students in the two year program must complete a total of 63 credits including 18 credits in Field Work. Students in the Advanced Standing program complete 31 credits with 12 credits in Field Work.

Note: Students may receive certification to practice school social work in the State of Idaho by completing SOCWRK 562 School Social Work, SOCWRK 575 and SOCWRK 576 in an approved K-12 educational setting under the supervision of a professional social worker, and all other requirements for the Master of Social Work degree.

Degree Requirement

Master of Social Work	
Course Number and Title	Credits
Foundation	
SOCWRK 503 Foundation Social Work Practice I: Individuals	3
SOCWRK 504 Foundation Social Work Practice II: Families and Groups	3
SOCWRK 505 Foundation of Social Welfare Policy	3
SOCWRK 512 HBSE I Human Development Through the Life Cycle	3
SOCWRK 514 Ethnicity, Gender, and Class	2
SOCWRK 515 Foundation Social Work Practice III: Organizations and Communities	3
SOCWRK 521 HBSE II Social Dimensions of Human Behavior	3
SOCWRK 530 Foundations of Research I	2
SOCWRK 531 Foundations of Research II	2
SOCWRK 570 Foundation Field Work I	2
SOCWRK 572 Foundation Field Work II	2
SOCWRK 573 Foundation Practicum Seminar I	1
SOCWRK 574 Foundation Practicum Seminar II	1
Advanced	
SOCWRK 506 Program Leadership and Management	3
SOCWRK 525 Advanced Social Work Interventions II: Individuals and Families	3
SOCWRK 526 The Evaluation and Treatment of Mental Disorders	3
SOCWRK 532 Advanced Research: Program and Practice Evaluation	3
SOCWRK 550 Advanced Interventions I: Comparative Theories	3
SOCWRK 575 Advanced Social Work Practicum I	5
SOCWRK 576 Advanced Social Work Practicum II	5
SOCWRK 577 Advanced Practicum Seminar I	1
SOCWRK 578 Advanced Practicum Seminar II	1
*Two electives	4
Total	61
*Specialization Electives (2 credits each)	
Selected Topics (Elective options will vary from year to year, and may include these or other pertinent topics.)	
Child Welfare	Social Work with the Elderly
Health Issues	Substance Abuse
School Social Work	Trauma Informed Practice
Curriculum Guidelines established by the Council on Social Work Education are available in the School of Social Work office.	

Applicants who are graduates of a CSWE accredited baccalaureate program in Social Work may request admission to the advanced program. The advanced standing option is a nine-month program.

Criteria for admission for Advanced Standing study in the MSW program are:

1. Graduation from a CSWE Accredited Baccalaureate Social Work Program.
2. Minimum GPA of 3.00 in social work courses from an accredited undergraduate program. Students with an individual social work course with a grade less than C will be required to complete additional equivalent content.
3. This degree must have been completed within five years of the applicant's planned entry into Boise State University's MSW program OR within seven years if the applicant has substantial paid social work experience.
4. All other requirements equivalent to regular admissions.

Applicants may not receive academic credit for work experience in the field.

Degree Requirements

Master of Social Work — Advanced Standing	
Course Number and Title	Credits
Summer Session	
SOCWRK 513 Advanced Issues in Human Diversity	3
SOCWRK 529 Research and Statistics for Social Work	3
Advanced Year	
SOCWRK 506 Program Leadership and Management	3
SOCWRK 525 Advanced Social Work Interventions II: Individuals and Families	3
SOCWRK 526 The Evaluation and Treatment of Mental Disorders	3
SOCWRK 532 Advanced Research: Program and Practice Evaluation	3
SOCWRK 550 Advanced Interventions I: Comparative Theories	3
SOCWRK 575 Advanced Social Work Practicum I	3
SOCWRK 576 Advanced Social Work Practicum II	5
SOCWRK 577 Advanced Practicum Seminar I	5
SOCWRK 578 Advanced Practicum Seminar II	1
*Two electives	1
	4
Total	37
*Specialization Electives (2 credits each)	
Selected Topics (Elective options will vary from year to year, and may include these or other pertinent issues.)	
Child Welfare	Social Work with the Elderly
Health Issues	Substance Abuse
School Social Work	Trauma Informed Practice
Curriculum Guidelines established by the Council on Social Work Education are available in the School of Social Work office..	

Course Offerings

See *Course Numbering and Terminology* for definitions.

REFUGEE

REFUGEE 507 (SOCWRK 507) INTRODUCTION TO REFUGEE PROGRAM SUPERVISION AND MANAGEMENT (3-0-3)(S). Supervision and management knowledge and skills for agencies serving refugee clients. Financing, grant writing, budget management as well as supervision, staff retention strategies, managing vicarious trauma, workload management and outcomes monitoring. May be taken for credit in REFUGEE or SOCWRK but not both. PRE/COREQ: REFUGEE 517 or SOCWRK 517; and REFUGEE 518 or SOCWRK 518.

REFUGEE 508 (SOCWRK 508) ADVANCED REFUGEE MACRO PRACTICE (3-0-3)(F). Covers the current policy and issues related to refugee resettlement, follows any legislation related to refugees that is in process at the federal and state levels, and teaches strategies for effective community change and advocacy. May be taken for credit in REFUGEE or SOCWRK but not both. PRE/COREQ: REFUGEE 517 or SOCWRK 517; and REFUGEE 518 or SOCWRK 518.

REFUGEE 509 (SOCWRK 509) MANAGEMENT OF CLINICAL SERVICES FOR REFUGEES (3-0-3)(S). Teaches non-clinical administrators, managers and supervisors about clinical services in health and mental health programs serving refugee clients. Examines best practice and cross-cultural health and mental health programs. Prepares supervisors and managers for informed decision-making, problem-solving, policy development and advocacy. May be taken for credit in REFUGEE or SOCWRK but not both. PREREQ: REFUGEE 507 or SOCWRK 507; and REFUGEE 517 or SOCWRK 517; and REFUGEE 518 or SOCWRK 518.

REFUGEE 510 (SOCWRK 510) REFUGEE SERVICES CAPSTONE (3-0-3)(S). Prepares students to develop a professional portfolio and service project with refugees. May be taken for credit in REFUGEE or SOCWRK but not both. PRE/COREQ: REFUGEE 507 or REFUGEE 508 or REFUGEE 519 or equivalent; and REFUGEE 517 or SOCWRK 517; and REFUGEE 518 or SOCWRK 518.

REFUGEE 517 (SOCWRK 517) PRINCIPLES OF REFUGEE RESETTLEMENT (3-0-3)(F/S). Explores the resettlement process in the United States. Provides knowledge and skills needed to assist in the resettlement experience of refugees. Examination of personal values and beliefs and their impacts on practice are integral. May be taken for credit in REFUGEE or SOCWRK but not both. PREREQ: Admission to MSW program or PERM/INST.

REFUGEE 518 (SOCWRK 518) WORKING ACROSS CULTURES WITH REFUGEES (3-0-3)(F/S). Provides a framework and skills practice for effective and competent cross-cultural practice with refugees in the human services. May be taken for credit in REFUGEE or SOCWRK but not both. PREREQ: Admission to MSW program or PERM/INST.

REFUGEE 519 (SOCWRK 519) CASE MANAGEMENT WITH REFUGEES (3-0-3)(S). Case management knowledge and skills as applied in refugee serving agencies such as refugee resettlement, health settings and mental health agencies. May be taken for credit in REFUGEE or SOCWRK but not both. PREREQ: Admission to MSW program or PERM/INST.

SOCWRK — Social Work

SOCWRK 503 FOUNDATION SOCIAL WORK PRACTICE I: INDIVIDUALS (3-0-3)(F,S,SU). This is the first practice course within the foundation year of the MSW program. Practice I introduces students to values, knowledge, skills and competencies for generalist practice with individuals. Students practice key skills that include engagement, interviewing, assessment, contracting, intervention, recording, and the use of consultation and supervision in the context of social work values and ethics and affirming working relationships. PREREQ: Admission to MSW Program. PRE/COREQ: SOCWRK 512.

SOCWRK 504 FOUNDATION SOCIAL WORK PRACTICE II: FAMILIES AND GROUPS (3-0-3)(F,S,SU). This is the second generalist practice course within the three course practice sequence in the foundation year. This course builds on the foundational skills gained through successful completion of Practice I. Practice II introduces the student to theories and skills required for social work practice with diverse families and groups including assessing, building upon strengths and resources within all client systems, social work values and ethics, and delivering empirically based interventions to small groups and families. PREREQ: SOCWRK 503.

SOCWRK 505 FOUNDATION OF SOCIAL WELFARE POLICY (3-0-3)(F,S,SU). Critically examines contemporary welfare policies, in a value-analytic

framework, and in the context of the United States and international political economies. Emphasis is placed on values of equity, adequacy, and universality of access to basic social and economic security. Policy practice skills include identification and evaluation of policy problems, including their empirical and value dimensions, and skills in policy advocacy with legislators and with the general public. Major importance is placed on policies and programs that impact populations-at-risk. PREREQ: Admission to MSW.

SOCWRK 506 PROGRAM LEADERSHIP AND MANAGEMENT (3-0-3)

(F,S,SU). This advanced course is designed to prepare students with the knowledge and skills for management and leadership in social service programs. PREREQ: SOCWRK 505 or admission to Advanced Standing MSW Program.

SOCWRK 507 (REFUGEE 507) INTRODUCTION TO REFUGEE PROGRAM

SUPERVISION AND MANAGEMENT (3-0-3)(S). Supervision and management knowledge and skills for agencies serving refugee clients. Financing, grant writing, budget management as well as supervision, staff retention strategies, managing vicarious trauma, workload management and outcomes monitoring. May be taken for credit in REFUGEE or SOCWRK but not both. PRE/COREQ: REFUGEE 517 or SOCWRK 517; and REFUGEE 518 or SOCWRK 518.

SOCWRK 508 (REFUGEE 508) ADVANCED REFUGEE MACRO PRACTICE

(3-0-3)(F). Covers the current policy and issues related to refugee resettlement, follows any legislation related to refugees that is in process at the federal and state levels, and teaches strategies for effective community change and advocacy. May be taken for credit in REFUGEE or SOCWRK but not both. PRE/COREQ: REFUGEE 517 or SOCWRK 517; and REFUGEE 518 or SOCWRK 518.

SOCWRK 509 (REFUGEE 509) MANAGEMENT OF CLINICAL SERVICES FOR

REFUGEES (3-0-3)(S). Teaches non-clinical administrators, managers and supervisors about clinical services in health and mental health programs serving refugee clients. Examines best practice and cross-cultural health and mental health programs. Prepares supervisors and managers for informed decision-making, problem-solving, policy development and advocacy. May be taken for credit in REFUGEE or SOCWRK but not both. PREREQ: REFUGEE 507 or SOCWRK 507; and REFUGEE 517 or SOCWRK 517; and REFUGEE 518 or SOCWRK 518.

SOCWRK 510 (REFUGEE 510) REFUGEE SERVICES CAPSTONE (3-0-3)(S).

Prepares students to develop a professional portfolio and service project with refugees. May be taken for credit in REFUGEE or SOCWRK but not both. PRE/COREQ: REFUGEE 507 or REFUGEE 508 or REFUGEE 519 or equivalent; and REFUGEE 517 or SOCWRK 517; and REFUGEE 518 or SOCWRK 518.

SOCWRK 512 HBSE I HUMAN DEVELOPMENT THROUGH THE LIFE CYCLE

(3-0-3)(F,S,SU). Provides knowledge of empirically based theories that focus on the interactions between and among individuals, groups, societies and economic systems. Students learn and apply life span theories and knowledge. Examines social systems in which people live and their influence in maintaining or achieving health and well-being. Explores the consequences of difference on a person's life experiences. PREREQ: Admission to MSW Program.

SOCWRK 513 ADVANCED ISSUES IN HUMAN DIVERSITY (3-0-3)(F,S,SU).

Provides learning opportunities to increase knowledge to effectively work with persons from diverse backgrounds. A highly experiential course requiring overt and candid investigation of personal identity development and its impact on social work practice with persons from diverse backgrounds. PREREQ: Admission to Advanced Standing MSW Program.

SOCWRK 514 ETHNICITY, GENDER, AND CLASS (2-0-2)(F,S,SU).

This experiential course in a small group format is designed to provide a positive environment for students' exploration of their attitudes toward human diversity. Students will increase their knowledge and awareness of the experiences of people of oppressed groups, in relation to historical prejudice and discrimination. Students will gain insight in sociohistorical and familial roots of their own biases and increase their ability to sensitively work with individuals and groups, who are subjected to oppression, based on race, ethnicity, gender, sexual orientation, class, and other stigmatizing characteristics. PREREQ: Admission to MSW Program.

SOCWRK 515 FOUNDATION SOCIAL WORK PRACTICE III:

ORGANIZATIONS AND COMMUNITIES (3-0-3)(F,S,SU). This is the third generalist practice course within the foundation year of the MSW program. Practice III introduces students to theories and skills required for social work practice in organizational and community settings. Using organizations and

communities as settings for social work practice and targets of change, and based on social work values and ethics, students learn strategies and skills for assessment and intervention. Conceptual models of macro change are examined including social planning, community organizing, social action, and community/ organizational development and change. PREREQ: SOCWRK 503. PRE/COREQ: SOCWRK 504; SOCWRK 521.

SOCWRK 517 (REFUGEE 517) PRINCIPLES OF REFUGEE RESETTLEMENT

(3-0-3)(F/S). Explores the resettlement process in the United States. Provides knowledge and skills needed to assist in the resettlement experience of refugees. Examination of personal values and beliefs and their impacts on practice are integral. May be taken for credit in REFUGEE or SOCWRK but not both. PREREQ: Admission to MSW program or PERM/INST.

SOCWRK 518 (REFUGEE 518) WORKING ACROSS CULTURES WITH

REFUGEES (3-0-3)(F/S). Provides a framework and skills practice for effective and competent cross-cultural practice with refugees in the human services. May be taken for credit in REFUGEE or SOCWRK but not both. PREREQ: Admission to MSW program or PERM/INST.

SOCWRK 519 (REFUGEE 519) CASE MANAGEMENT WITH REFUGEES

(3-0-3)(S). Case management knowledge and skills as applied in refugee serving agencies such as refugee resettlement, health settings and mental health agencies. May be taken for credit in REFUGEE or SOCWRK but not both. PREREQ: Admission to MSW program or PERM/INST.

SOCWRK 521 HBSE II SOCIAL DIMENSIONS OF HUMAN BEHAVIOR (3-0-3)

(F,S,SU). Utilizes a variety of theoretical perspectives to examine the impact of social systems and institutions on human behavior. Draws on traditional and alternative/conflict theoretical perspectives and the role of systemic oppression and discrimination to examine how experiences differ across factors such as race/ethnicity, immigration status, gender, gender identity/ expression, sexual orientation, ability, social and economic status, political ideology, and religiosity/spirituality. Examines strategies designed to eliminate oppressive structural barriers and ensure human rights are protected. PREREQ: SOCWRK 512.

SOCWRK 522 BEREAVED CHILDREN (3-0-3)(F,S,SU).

An intensive service-learning hybrid course built on the premise that individual citizens have both the opportunity and responsibility to be involved in addressing community problems. Using a human development theoretical framework, students create and implement age appropriate individual, group and community-focused grief activities to support a bereavement camp curriculum. Requirements include attending four class sessions, camp orientation, and committee meetings throughout the summer, and a one day camp session. PREREQ: PERM/INST.

SOCWRK 525 ADVANCED SOCIAL WORK INTERVENTIONS II: INDIVIDUALS

AND FAMILIES (3-0-3)(F,S,SU). This is the second practice course in the concentration year of the MSW program. Builds and expands upon knowledge gained through successful completion of all prior courses. Designed to provide students the opportunity to enhance practice skills necessary to provide effective assessment and intervention techniques regarding the more general issues and disorders, which are frequently seen by social workers, such as child maltreatment, substance abuse, and mental health. PREREQ: SOCWRK 550. COREQ: SOCWRK 576.

SOCWRK 526 THE EVALUATION AND TREATMENT OF MENTAL

DISORDERS (3-0-3)(F,S,SU). Prepares students to conduct systematic biopsychosocial assessments, formulate differential diagnostic impressions in accordance with the Diagnostic and Statistical Manual of Mental Disorders (DSM), and recommend treatment plans informed by the state of the art. Championing the development of robust helping relationships that empower consumers by building on assets and strengths, students are taught to monitor their practice for bias related to affectional orientation, disability, ethnicity, gender, race, and spirituality. PREREQ: SOCWRK 504 or admission to Advanced Standing MSW Program.

SOCWRK 529 RESEARCH AND STATISTICS FOR SOCIAL WORK (3-0-3)(SU).

Methods of data processing, analysis, and implications of quantitative and qualitative data to advance social work practice, knowledge, and theory. Use and interpret various statistical procedures for analyzing quantitative and qualitative data using computer software applications. PREREQ: Admission to Advanced Standing MSW Program.

SOCWRK 530 FOUNDATIONS OF RESEARCH I (2-0-2)(F,S,SU).

This is the first of a two-course sequence on foundations of research and analysis. It is designed to provide students with the knowledge base and skills for using scientific method to advance social work practice, knowledge, and theory. The course covers quantitative and qualitative methods. Content includes

conceptualization, operationalization, design, sampling, measurement, data collection, use of results, and ethical considerations including how research affects diverse populations. PREREQ: Admission to MSW Program.

SOCWRK 531 FOUNDATIONS OF RESEARCH II (2-0-2)(S). This is the second course in a two-course sequence on foundations of research and analysis. This course focuses on methods of analysis, and implications of quantitative and qualitative data to advance social work practice, knowledge, and theory. Students learn to use and interpret various statistical procedures for analyzing quantitative data, including univariate, bivariate, and multivariate analysis, and analysis for qualitative data. Students apply analytic techniques using computer software applications. PREREQ: SOCWRK 530.

SOCWRK 532 ADVANCED RESEARCH: PROGRAM AND PRACTICE EVALUATION (3-0-3)(F,S,SU). This course builds on basic understanding of quantitative and qualitative research methods and analysis. Students gain knowledge and skills to use appropriate research methods for empirically based knowledge building and to enhance program and practice effectiveness. Content includes single system and group design and formative and summative approaches to practice and program evaluation. The course is intended to prepare students to participate in and utilize outcome evaluation of practice in their agency settings. Students complete an evaluation project in this course in conjunction with their advanced practicum placement. PREREQ: Admission to MSW Program or SOCWRK 530 and SOCWRK 531 COREQ: SOCWRK 575.

SOCWRK 550 ADVANCED INTERVENTIONS I: COMPARATIVE THEORIES (3-0-3)(F,S,SU). This is the first practice course in the concentration year of the MSW Program, which focuses on individuals and families. This course builds upon the generalist foundation and advances student knowledge of theoretical frameworks used in social work practice to bring about change with individuals and families. Students will examine practice implications of different theoretical frameworks with particular attention to the efficacy of those theoretical and practice models with oppressed and at-risk populations. In addition, empirically based interventions, critical aspects of the therapeutic relationship, which promote growth and bring about change, and the application of social work values and evaluation of practice are areas of focus. PREREQ: Admission to Advanced Standing MSW Program or SOCWRK 503, SOCWRK 504, and SOCWRK 515. COREQ: SOCWRK 575.

SOCWRK 561 CORE CONCEPTS IN TRAUMA-INFORMED CHILD WELFARE PRACTICE (2-0-2)(F,S,SU). Introduces students to the core concepts (general theory and foundational knowledge), informing evidence-based assessment and treatment for traumatized children and adolescents who are in the child welfare system. Highlights the roles of development, culture, and empirical evidence in trauma-specific assessment, referral and treatments, the level of functioning of primary care-giving environments and the capacity of the community and child welfare system to facilitate restorative processes. PREREQ: Admission to MSW program.

SOCWRK 562 SCHOOL SOCIAL WORK (2-0-2)(F,S,SU). To develop an in-depth understanding of school social work skills and knowledge. Emphasis on school social work from a point of view that incorporates knowledge and values from a broad range of social work theoretical approaches. PREREQ: SOCWRK 550.

SOCWRK 563 ALCOHOLISM AND SUBSTANCE ABUSE (2-0-2)(F,S,SU). Examines theories and causes of alcoholism and substance abuse, criteria for assessment, and major treatment approaches for working with individuals and families. PREREQ: SOCWRK 550.

SOCWRK 564 AGING (2-0-2)(F,S,SU). Includes policy issues and services that should be available to all aged, and special services that are essential for the frail, impaired, or isolated elderly. Available programs are explored, including local organizations and related social services. Emphasis on strengths-based social work practice. PREREQ: SOCWRK 550.

SOCWRK 570 FOUNDATION FIELD WORK I (0-15-2)(F,S,SU). This foundation practicum provides students with a supervised social work practice experience in a social service agency under the direct supervision of a

licensed social worker. It includes experiential learning in foundation social work values, skills and knowledge, and development of professional self. (Pass/Fail.) PRE/COREQ SOCWRK 503 and admission to the MSW Program. COREQ: SOCWRK 573.

SOCWRK 571 (COUN 571)(MHLTHSCI 571) FUNDAMENTALS OF HEALTHY AGING (3-0-3)(F,S,SU). Overview of gerontology presented by examining major issues related to aging. Content includes theories of aging; the impact of an aging population; and future implications at local, national, and international levels. May be taken as COUN, MHLTHSCI or SOCWRK credit, but only for one department.

SOCWRK 572 FOUNDATION FIELD WORK II (0-15-2)(F,S,SU). Continuation of SOCWRK 570. (Pass/Fail.) PREREQ: SOCWRK 503, SOCWRK 570, and admission to the MSW Program. PRE/COREQ: SOCWRK 504 COREQ: SOCWRK 574.

SOCWRK 573 FOUNDATION PRACTICUM SEMINAR I (1-0-1)(F,S,SU). Provides a forum for students to integrate, synthesize, and apply classroom content with the practical world of the field/practice setting. Fostering a generalist practice perspective, provides a supportive group setting to develop professional identity, self-awareness, self-care, empathy, and critical inquiry and awareness. Students will explore the use of social work values and ethics, examine best practices, and consider diverse experiences, along with processing and evaluation of personal behaviors within the context of field. PREREQ: Admission to the MSW Program. COREQ: SOCWRK 570.

SOCWRK 574 FOUNDATION PRACTICUM SEMINAR II (1-0-1)(F,S,SU). Continuation of SOCWRK 573. PREREQ: SOCWRK 570 and admission to the MSW Program. COREQ: SOCWRK 572.

SOCWRK 575 ADVANCED SOCIAL WORK PRACTICUM I (0-20-5)(F,S,SU). Provides students with a supervised social work practiced experience in a social service agency under the direct supervision of a licensed social worker. Includes experiential learning in direct practice with individuals and families. (Pass/Fail.) PREREQ: SOCWRK 572 or admission to the MSW Advanced Standing Program. COREQ: SOCWRK 577.

SOCWRK 576 ADVANCED SOCIAL WORK PRACTICUM II (0-20-5)(F,S,SU). Continuation of SOCWRK 575. (Pass/Fail.) PREREQ: SOCWRK 575. COREQ: SOCWRK 578.

SOCWRK 577 ADVANCED PRACTICUM SEMINAR I (1-0-1)(F,S,SU). Integrative seminar that facilitates development of advanced direct social work practice knowledge, skills and values with individuals and families. PREREQ: SOCWRK 572 or admission to the MSW Advanced Standing Program. COREQ: SOCWRK 575.

SOCWRK 578 ADVANCED PRACTICUM SEMINAR II (1-0-1)(F,S,SU). Continuation of SOCWRK 577. PREREQ: SOCWRK 575, SOCWRK 577. COREQ: SOCWRK 576.

SELECTED TOPICS (1-4 Variable). To be offered as staff availability permits:

- SOCWRK 580 SOCIAL WORK WITH DIVERSE POPULATIONS
- SOCWRK 581 SOCIAL WORK WITH FAMILIES
- SOCWRK 582 SOCIAL WORK WITH THE ELDERLY
- SOCWRK 583 SOCIAL WORK WITH SPECIAL NEEDS POPULATIONS
- SOCWRK 584 SOCIAL WORK WITH CHILDREN AND YOUTH
- SOCWRK 585 SOCIAL WORK PRACTICE WITH ORGANIZATIONS AND COMMUNITIES
- SOCWRK 586 SOCIAL WORK WITH GROUPS
- SOCWRK 587 SOCIAL WORK SUPERVISION

Refer to the *University-wide Graduate Courses* section in this catalog for additional course offerings.

Additional Graduate Courses

Note: The 500-level courses listed below are not offered on a regular basis. Students interested in these courses should consult with an advisor in the Department before completing their application.

COID — College of Innovation and Design

COID 500 HBX CORE IMMERSION AT BOISE STATE (9-0-9)(F/S/SU). Hybrid course that includes participation in Harvard Business School's online HBX Credential of Readiness course (HBX CORE). Includes a weekly in-person instructor-led class to accompany each week's online lesson. Develops familiarity and foundational skills in areas ranging from data analytics, economics, and accounting. Consists of three concurrent tracks titled Business Analytics, Financial Accounting, and Economics for Managers with online lessons developed by Harvard Business School faculty using real life case examples. Successful completion will receive a Credential of Readiness from HBX in addition to Boise State course credit. (Pass/Fail.) PREREQ: Graduate standing, and PERM/INST.

ENGR — Engineering Science

ENGR 500 RESEARCH METHODS (1-0-1)(F/S). Topics include defining a thesis or other research project, library and Internet searching techniques, completing a literature review, preparing a research or project plan, research methods, preparing the thesis proposal, preparing the final thesis or research project document, and preparing a successful oral presentation.

ENGR 525 THE BUSINESS OF TECHNOLOGY (3-0-3)(F). Gives Engineering and Science graduates a deeper understanding of essential business concepts, a broadened business vocabulary, and greater confidence in communicating with hiring managers and business leaders.

ENGR 560 MANUFACTURING PROCESS CONTROL AND IMPROVEMENT (3-0-3)(S). Application of statistics in manufacturing to characterize variation, control processes and to improve quality using statistical process control approaches and design of experiments methodologies. Topics covered include control charts, process capability, gage reproducibility and reliability, analysis of variance, acceptance sampling, factorial designs, response surfaces and regression analysis. PREREQ: MATH 360 or MATH 361.

ENGR 575 MICROGRAVITY LEADERSHIP (1-0-1)(F/S). Advising undergraduate NASA Microgravity University research teams. May be repeated for credit. PREREQ: PERM/INST.

GENDER—Gender Studies

GENDER 580 SELECTED TOPICS IN GENDER STUDIES (3-0-3)(F/S). Graduate-level studies of a particular topic relating to the field of gender studies.

GCOLL—Graduate College

GCOLL 505 RESPONSIBLE CONDUCT OF RESEARCH (1-0-1)(F/S). Basic concepts, principles and practices governing research compliance and Responsible Conduct of Research (RCR) in each of four disciplinary areas (one area chosen by each student): biomedical sciences, social and behavioral sciences, physical sciences and engineering, humanities. Each area includes an overview of research conduct and misconduct, data acquisition and management, responsible authorship, peer review, mentoring, conflicts of interest, collaborative research, human subjects, and animal research. Online materials produced by the Collaborative Institutional Training Initiative (CITI). Lectures will cover the online materials and related case studies, and other areas of research compliance including patents, intellectual properties, non-disclosure agreements, and sponsored projects. (Pass/Fail.) PREREQ: Graduate standing.

ISLE — Intensive Semester Learning Experience

ISLE 550 INTENSIVE SEMESTER LEARNING EXPERIENCE (3-6 credits) (F/S/SU). Dedicates a semester of coursework to a discrete project. Individually-designed immersive learning experiences encourage creative responses to tangible challenges through the development of creative/research projects. With modeling and mentoring, students work collaboratively and cross-disciplinarily, develop projects from start to finish, present their results, and build relationships with community partners. PREREQ: PERM/INST.

PSYC — Psychology

PSYC 331G THE PSYCHOLOGY OF HEALTH (3-0-3)(F/S). Principles that have emerged from the experimental analysis of behavior will be examined. The principles include, but are not limited to, operant and classical conditioning. The course will deal with applications of these principles to the understanding and change of phobias, obesity, smoking, alcoholism, aberrant sexual behavior, and similar problems. PREREQ: PSYC 101.

PSYC 405G ADVANCED STATISTICAL METHODS (3-0-3)(S). Advanced topics in univariate statistics (for example, repeated measures designs) and multivariate techniques such as discriminant analysis, factor analysis, and principal component analysis. PREREQ: PSYC 321 or equivalent or PERM/INST.

PSYC 421G PSYCHOLOGICAL MEASUREMENT (3-0-3)(F). Theory and nature of psychological measurement together with a survey of types of psychological tests currently used. PREREQ: PSYC 321.

PSYC 438G COMMUNITY PSYCHOLOGY (3-0-3)(F,S). Focuses on human and social problems in a systemic context. Primary prevention and community empowerment strategies employed are emphasized for individual, community, and social benefit. A course in research methods or statistics is recommended but not required. PREREQ: PSYC 101.

PSYC 512 LIFESPAN HUMAN DEVELOPMENT (3-0-3)(F). Examines both typical and atypical development across the lifespan using an ecological systems perspective. Topics include the mutual influences and contexts of biology, personality, cognitions, social relationships and culture on a variety of age-related issues. PREREQ: PERM/INST.

PSYC 514 DIVERSITY IN FAMILY SYSTEMS (2-0-2)(S/SU). Explores attitudes toward human diversity and includes the acquisition of skills necessary to work sensitively with individuals and groups who are subjected to prejudice and discrimination based on race, ethnicity, gender, sexual orientation, socioeconomic status. Topics include experiences of people of oppressed groups and sociohistorical roots of biases. PREREQ: PERM/INST.

SPS—School of Public Service

SPS 508 MAXIMUM LIKELIHOOD ESTIMATION (3-0-3)(F/S). Examine and implement techniques necessary to estimate limited dependent variables using maximum likelihood estimation. Topics include binary, count, ordinal, nominal, and duration dependent variables and the appropriate models and robustness tests for them. PREREQ: CJ 504 or POLS 508 or PUBADM 503, or PERM/INST.

SPS 509 ADVANCED QUANTITATIVE METHODOLOGY (3-0-3)(F/S). Examines and implements advanced techniques in quantitative methodology as it applies to the social sciences. PREREQ: CJ 504 or POLS 508 or PUBADM 503, or PERM/INST.

SOC — Sociology

SOC 500 ADVANCED SOCIAL STATISTICS (3-0-3)(S). The methods of nonparametric statistics in the analysis of sociological data are examined in depth with application to research. PREREQ: SOC 101 and SOC 310 or equivalents as determined by consultation with department chair.

SOC 501 THE SOCIOLOGY OF EDUCATION (3-0-3)(F/S). A sociological analysis of the American school system, its problems and the social forces that shape the schools in contemporary society.

SOC 502 QUALITATIVE SOCIAL RESEARCH METHODS (3-0-3)(F). An intensive course in interpretive social science, covering the practice of fieldwork ethnography, the use of computers in qualitative research, techniques of qualitative data analysis, and the writing of qualitative research reports. PREREQ: Graduate standing.

SOC 510 CONFLICT AND CHANGE IN SOCIO-CULTURAL SYSTEMS (3-0-3) (F/S). Intensive examination of social and cultural change as related to technological evolution, value changes and the resultant conflict in society.

SOC 512 SOCIAL DEMOGRAPHY (3-0-3)(F/S). Techniques and methods for analyzing population growth, trends, and movement as reflected in actuarial data, birth-death rate; mobility, fertility and fecundity as these affect the societal patterns, especially planning for human service programs.

SOC 535 DRUGS IN SOCIETAL CONTEXT (3-0-3)(F/S). This class applies the sociological perspective on social problems to drug use. It examines how different social groups use drugs, attempt to control and prohibit the use of drugs, and the societal effects of using and controlling the use of drugs.

SOC 571 FEMINIST SOCIOLOGICAL THEORY (3-0-3)(F/S). An examination of the major types of feminist theory in Sociology or theory directly useful to sociologists in search of understanding and explaining gender relations. The student will encounter new perspectives in Sociology that arise from the exchange of new ideas, new data, exciting possibilities for social change, and the emergence of new theoretical models to understand gender relations.
PREREQ: Graduate standing.

SOC 572 SOCIOLOGY OF AGING (3-0-3)(F/S). The study of aging and age cohorts as they relate to and interact with social structures and processes with an emphasis on the later stages of aging. Topics include ageism within social institutions, the effects of age cohorts on work, education and medicine, and the boomer age cohort.

SOC 595 READING AND CONFERENCE (1-2 credits). Directed reading on selected materials in human services administration and discussion of these materials as arranged and approved through major advisor.

VIP — Vertically Integrated Projects

VIP 500 VERTICALLY INTEGRATED PROJECTS (1-2 credits)(F,S,SU). Develops important professional and technical skills through work on

team-based, research projects. Graduate students serve as project managers and are responsible for modelling the behavior, technical expertise, and leadership of a professional researcher and project leader. Roles include teaching, leading, and developing members of large multidisciplinary design/discovery teams. Course topic is based on the VIP project, and design challenges considered are those necessary for the success of the VIP project. Topics may be repeated up to 6 semesters. Either graded or pass/fail.
PREREQ: PERM/INST.

VIP 600 VERTICALLY INTEGRATED PROJECTS (1-2 credits) (F,S). Reinforces professional and technical skills developed at the 200 - 500 level through work on team-based, research projects. Doctoral students serve as research leaders (which may include research on dissertation topic) and are responsible for modelling the behavior, technical expertise, and leadership of a professional researcher and project leader while mentoring students of all levels in support of the team's success. Roles include comprehensive project management, objective setting/clarification, role definition and assignment, teaching, leading, mentoring team members, and working with the professor to evaluate team member performance. Course topic is based on the VIP project and design challenges considered are those necessary for the success of the VIP project. Course and topic may be repeated up to 6 semesters for credit.
PREREQ: PERM/INST.

Boise State University Administration

President Robert W. Kustra	Graduate College Dean, Tammi Vacha-Haase
Provost and Vice President for Academic Affairs Martin E. Schimpf	College of Arts and Sciences Dean, Tony Roark
Vice President for Finance and Administration Mark J. Heil	College of Business and Economics Dean, Kenneth Petersen
Vice President for Student Affairs Leslie Webb	College of Education Dean, Richard Osguthorpe
Vice President for University Advancement Laura C. Simic	College of Engineering Dean, JoAnn S. Lighty
Vice President for Research Mark Rudin	College of Health Sciences Dean, Tim Dunnagan
Vice President for Campus Operations and General Council Kevin Satterlee	College of Innovation and Design Dean, Gordon Jones
Dean of Honors College Andrew Finstuen	School of Public Service Dean, Corey Cook
Dean of University Libraries Tracy Bicknell-Holmes	Division of Extended Studies Dean, Mark Wheeler

Boise State University Graduate Faculty

Full-Time Official Faculty as of April 1, 2017

Note: The date in parentheses is the year of first graduate appointment.

*May chair graduate committees.

A	Anderson, Holly L.* (1989) Professor, Curriculum, Instruction, and Foundational Studies; Ph.D., Utah State University	Baker, Edward (Ted)* (2002) Associate Professor, Community and Environmental Health; Ph.D., Temple University
Ackler, Harold (2013) Clinical Assistant Professor, Materials Science and Engineering; Ph.D., Massachusetts Institute of Technology	Anderson, Jeffrey M.* (2005) Director, Clinical Education and Associate Professor, Respiratory Care; M.A., Boise State University	Baldwin, John B.* (1971) Professor, Music; Ph.D., Michigan State University
Ahmed-Zaid, Said* (1996) Assistant Professor and Computer Engineering; Ph.D., University of Illinois at Urbana-Champaign	Anson, Robert* (1990) Professor, Information Technology and Supply Chain Management; Ph.D., Indiana University	Ballenger, Bruce* (1995) Professor, English; Ph.D., University of New Hampshire
Ahten, Sara M.* (2012) Assistant Professor, Nursing; D.N.P., Rush University	Atlakson, Philip* (1985) Professor, Theatre Arts; M.A., State University of New York, Binghamton	Baltzell, Michael* (1995) Associate Professor, Theatre Arts; M.F.A., Idaho State University
Albig, Allan* (2012) Assistant Professor, Biological Sciences; Ph.D., Washington State University	Ashley, Amanda (2011) Assistant Professor, School of Public Service; Ph.D., University of Pennsylvania	Barber, Jesse R.* (2011) Assistant Professor, Biological Sciences; Ph.D., Wake Forest University
Alm, Leslie* (1991) Distinguished Professor, Public Policy and Administration; Ph.D., Colorado State University	Ashley, Seth* (2012) Assistant Professor, Communication; Ph.D., University of Missouri	Barney Smith, Elisa* (1999) Professor, Electrical and Computer Engineering; Ph.D., Rensselaer Polytechnic Institute
Allen, Michael* (2014) Graduate Program Coordinator and Assistant Professor, Political Science; Ph.D., Binghamton University	Ausman, Kevin D. (2015) Assistant Professor, Chemistry and Biochemistry; Ph.D., Rice University	Basu Thakur, Gautam* (2012) Assistant Professor, English; Ph.D., University of Illinois at Urbana-Champaign
Allen, Robin* (1997) Associate Professor, Social Work; Ph.D., University of Illinois at Urbana-Champaign	B	Baughn, C. Christopher* (1998) Professor, Management; Ph.D., Wayne State University
Allred, Keith W.* (2007) Associate Professor, Early and Special Education; Ph.D., Vanderbilt University	Babinkostova, Liljana* (2007) Associate Professor, Mathematics; Ph.D., University of St. Cyril and Methodius, Macedonia	Baxter, Ryan J. (2015) Assistant Professor, Accountancy; Ph.D., Case Western Reserve University
AnnieMargaret, Jill* (2006) Assistant Professor, Art; M.F.A., California State University, Long Beach	Bacon, Stephanie* (1998) Professor, Art; M.F.A., Brooklyn College	Beard, Richard S.* (2017) Assistant Research Professor, Biological Sciences; Ph.D., Idaho State University
Andersen, Timothy* (2001) Professor, Computer Science; Ph.D., Brigham Young University	Baek, Young Kyun* (2011) Professor, Educational Technology; Ph.D., Georgia State University	Bechard, Marc Joseph* (1983) Distinguished Professor, Biological Sciences; Ph.D., Washington State University
	Bahnonson, Paul R.* (1999) Professor, Accountancy; Ph.D., University of Utah	Belfy, Jeanne Marie* (1983) Graduate Program Coordinator and Professor, Music; Ph.D., University of Kentucky

- Bell, Kenneth* (1997)
Associate Professor, Kinesiology; Ph.D., Virginia Polytechnic Institute and State University
- Belthoff, James* (1993)
Professor, Biological Sciences; Ph.D., Clemson University
- Benner, Shawn* (2004)
Professor, Geosciences; Ph.D., University of Waterloo
- Berg, Lynn R.* (1984)
Professor, Music; D.M.A., University of Wisconsin, Madison
- Bieter, John Jr.* (2004)
Professor, History; Ph.D., Boston College
- Black, Geoffrey A. (2014)
Associate Professor, Economics; Ph.D., University of Washington
- Blain, Michael* (1982)
Professor, Sociology; Ph.D., University of Colorado
- Blakeslee, Laurie* (2001)
Associate Professor, Art; M.F.A., University of Arizona
- Boothe, Diane (2015)
Director of P-20 Outreach and Professor, Literacy, Language, and Culture; D.P.A., University of Southern California
- Bostaph, Lisa G* (2004)
Chair, Graduate Program Coordinator, and Associate Professor, Criminal Justice; Ph.D., University of Cincinnati
- Boucher, Teresa* (1997)
Professor, World Languages; Ph.D., Princeton University
- Bradford, John* (2001)
Professor, Geosciences; Ph.D., Rice University
- Brady, Lisa Marie* (2004)
Professor, History; Ph.D., University of Kansas
- Brand, Brittany D.* (2013)
Assistant Professor, Geosciences; Ph.D., Arizona State University
- Brandt, Jodi* (2016)
Assistant Professor, Geosciences; Ph.D., University of Wisconsin
- Breitkreuz, Karen* (2012)
Assistant Professor, Nursing; Ed.D., Columbia University
- Brendefur, Jonathan* (2000)
Professor, Curriculum, Instruction, and Foundational Studies; Ph.D., University of Wisconsin, Madison
- Brill, Stephen H.* (1998)
Associate Professor, Mathematics; Ph.D., University of Vermont
- Brown, Eric (2008)
Associate Professor, Chemistry and Biochemistry; Ph.D., Oregon State University
- Brown, Marcellus* (1989)
Associate Professor, Music; M.M., University of Michigan at Ann Arbor
- Brown, Tyler N.* (2015)
Assistant Professor, Kinesiology; Ph.D., University of Michigan at Ann Arbor
- Browning, Jim* (2007)
Associate Professor, Electrical and Computer Engineering; Ph.D., University of Wisconsin, Madison
- Buchanan, Mark A.* (1996)
Professor, Management; J.D., University of Nebraska, Lincoln
- Budde, James* (1997)
Professor, Art; M.F.A., California State University, Fullerton
- Budge, Kathleen* (2006)
Associate Professor Educational Leadership Coordinator, Curriculum, Instruction, and Foundational Studies; Ed.D., University of Washington
- Buffenbarger, James* (1991)
Associate Professor, Computer Science; Ph.D., University of California, Davis
- Bullock, Douglas* (1995)
Associate Dean, College of Arts and Sciences, and Associate Professor, Mathematics; Ph.D., University of Iowa
- Burkhart, Ross* (2004)
Associate Professor, Political Science; Ph.D., University of Iowa

C

- Calhoun, Donna* (2012)
Assistant Professor, Mathematics; Ph.D., University of Washington
- Callahan, Janet* (2004)
Chair and Professor, Materials Science and Engineering; Ph.D., University of Connecticut
- Callahan, Michael P.* (2015)
Assistant Professor, Chemistry and Biochemistry; Ph.D., University of California, Santa Barbara
- Campbell, Ann* (2004)
Associate Professor, English; Ph.D., Emory University
- Campbell, Cynthia G.* (2013)
Assistant Professor, Psychology; Ph.D., Pennsylvania State University
- Campbell, Kris A.* (2005)
Associate Professor, Electrical and Computer Engineering; Ph.D., University of California, Davis
- Cannon, Ryan* (2014)
Assistant Professor, Communication; M.F.A., University of Texas at Austin
- Cantley, Kurtis D.* (2013)
Assistant Professor, Electrical and Computer Engineering; Ph.D., University of Texas, Dallas
- Carney, Michele* (2012)
Assistant Professor, Curriculum, Instruction, and Foundational Studies; Ph.D., University of Idaho
- Carter, Deborah* (2009)
Professor, Early and Special Education; Ph.D., University of Oregon
- Carter, Neil* (2015)
Assistant Professor, College of Innovation; Ph.D., Michigan State University
- Casper, Mary Frances* (2007)
Associate Professor, Communication; Ph.D., North Dakota State University
- Cavey, Laurie* (2010)
Associate Professor, Mathematics; Ph.D., North Carolina State University
- Champion, Joe* (2014)
Assistant Professor, Mathematics; Ph.D., University of Northern Colorado
- Chang, Wanchen* (2015)
Assistant Professor, Curriculum, Instruction, and Foundational Studies; Ph.D., University of Texas at Austin
- Charlier, Henry A.* (2000)
Associate Professor, Chemistry and Biochemistry; Ph.D., Medical College of Wisconsin
- Chase, Margaret E.* (2007)
Chair, Graduate Program Coordinator, and Associate Professor, Literacy, Language, and Culture; Ph.D., Indiana University
- Chen, Hao* (2010)
Assistant Professor, Electrical and Computer Engineering; Ph.D., Syracuse University
- Chen, Ke (Kelly) (2015)
Assistant Professor, Economics; Ph.D., Dalhousie University
- Chenoweth, Timothy* (2004)
Associate Professor, Information Technology and Supply Chain Management; Ph.D., Washington State University
- Chiasson, John N.* (2006)
Professor, Electrical and Computer Engineering; Ph.D., University of Minnesota
- Ching, Yu-Hui* (2011)
Assistant Professor, Educational Technology; Ph.D., Pennsylvania State University
- Chinnathambi, Karthik* (2012)
Research Associate, Materials Science and Engineering; Ph.D., Indian Institute of Science

D

- Chittoori, Bhaskar* (2013)
Assistant Professor, Civil Engineering; Ph.D., University of Texas, Arlington
- Cho, Daehwan* (2010)
Assistant Professor, Communication; M.F.A., Southern Illinois University Carbondale
- Chyung, Seung Youn (Yonnie)* (1997)
Professor, Organizational Performance and Workplace Learning; Ed.D., Texas Tech University
- Clare, Ralph* (2012)
Assistant Professor, English; Ph.D., Stony Brook University
- Conger, Scott A.* (2013)
Assistant Professor, Kinesiology; Ph.D., University of Tennessee
- Conley, Quincy* (2014)
Assistant Professor, Organizational Performance and Workplace Learning; Ph.D., Arizona State University
- Conrad, Jim (2014)
Assistant Clinical Professor, Computer Science; Ph.D., University of Idaho
- Corless-Smith, Martin* (2000)
Professor, English; Ph.D., University of Utah
- Cornell, Kenneth A.* (2006)
Associate Professor, Chemistry and Biochemistry; Ph.D., Oregon Health and Sciences University
- Corral, Karen (2008)
Associate Professor, Information Technology and Supply Chain Management; Ph.D., University of Arizona
- Coskey, Samuel* (2013)
Assistant Professor, Mathematics; Ph.D., Rutgers University
- Cowan, Mark* (2005)
Professor, Accountancy; J.D., University of Connecticut
- Cross, Kelly* (2008)
Clinical Assistant Professor, Curriculum, Instruction, and Foundational Studies; Ed.D., Boise State University
- Crowley, Stephen J. (2015)
Associate Professor, Philosophy; Ph.D., Indiana University
- Curl, Cynthia L. (2016)
Assistant Professor, Community and Environmental Health; Ph.D., University of Washington
- Cutchin, Steven M.* (2014)
Associate Professor, Computer Science; Ph.D., Purdue University
- Dagher, Gaby* (2016)
Assistant Professor, Computer Science; Ph.D., Concordia University
- Davis, Shoni* (2005)
Associate Professor, Nursing; D.N.Sc., University of California, Los Angeles
- de Graaff, Marie-Anne* (2010)
Assistant Professor, Biological Sciences; Ph.D., Wageningen University
- Demps, Kathryn* (2012)
Assistant Professor, Anthropology; Ph.D., University of California, Davis
- Devereux Herbeck, Mariah E.* (2012)
Professor, World Languages; Ph.D., University of Wisconsin-Madison
- Dinkar, Niharika* (2006)
Associate Professor, Art; Ph.D., State University of New York at Stony Brook
- Dismuke, Sherry* (2013)
Graduate Program Coordinator and Clinical Assistant Professor, Curriculum, Instruction, and Foundational Studies; Ed.D., Boise State University
- Dit, Bogdan* (2016)
Assistant Professor, Computer Science; Ph.D., College of William and Mary
- Douglas, Whitney* (2013)
Assistant Professor; English; Ph.D., University of Nebraska-Lincoln

Graduate Faculty

Doumas, Diana M.* (2003)
Chair and Professor, Counselor Education; Ph.D.,
University of Southern California

Downey, Margaret (1993)
Associate Professor, Nursing; Ph.D., University of Idaho

Dumais, Joseph J. (2015)
Associate Research Professor, Chemistry and
Biochemistry; Ph.D., University of Washington

Dunne, Timothy C. (2016)
Assistant Professor, College of Business and Economics;
Ph.D., University of Missouri

Durham, Leslie (2006)
Associate Dean, College of Arts and Sciences, and
Professor, Theatre Arts; Ph.D., University of Kansas

E

Earley, Caroline* (2010)
Associate Professor, Art; M.F.A., University of
Wisconsin–Milwaukee

Ekstrand, Michael D.* (2016)
Assistant Professor, Computer Science; Ph.D.,
University of Minnesota

Elder, Thomas (2001)
Associate Professor, Art; M.F.A., Iowa State University

Eliason, Meghan* (2014)
Assistant Professor, Curriculum, Instruction, and
Foundational Studies; Ph.D., Oklahoma State University

English, Denise M.* (2008)
Professor, Accountancy; Ph.D., Indiana University,
Bloomington

Enright, Esther A.* (2016)
Graduate Program Coordinator and Assistant Professor,
Curriculum, Instruction, and Foundational Studies;
Ph.D., University of Michigan

Erpelding, Chad* (2010)
Graduate Program Coordinator and Associate Professor,
Art; M.F.A., Southern Illinois University Carbondale

Esp, Susan (2010)
Associate Professor, Community and Environmental
Health, Ph.D., University of Idaho

Estrada, David* (2013)
Assistant Professor, Materials Science and Engineering;
Ph.D., University of Illinois at Urbana–Champaign

Estrem, Heidi* (2008)
Associate Professor, English; Ph.D., University of
Nevada, Reno

F

Fails, Jerry Alan* (2016)
Graduate Program Coordinator and Associate Professor,
Computer Science; Ph.D., University of Maryland

Farid, Arvin* (2008)
Graduate Program Coordinator and Associate Professor,
Civil Engineering; Ph.D., Northeastern University,
Boston

Ferguson, James R.* (1996)
Associate Professor, Mechanical and Biomedical
Engineering; Ph.D., Washington State University

Ferguson, Matthew L. (2013)
Assistant Professor, Physics; Ph.D., University of
Maryland

Feris, Kevin* (2005)
Chair and Professor, Biological Sciences; Ph.D.,
University of Montana

Filzen, Josh (2015)
Assistant Professor, Accountancy; Ph.D., University of
Oregon

Finseth, Carly* (2015)
Assistant Professor, English; Ph.D., Texas Tech
University

Finstuen, Andrew* (2011)
Director of Honors College and Associate Professor,
History; Ph.D., Boston College

Fitzpatrick, Clare K. (2016)
Assistant Professor, Mechanical and Biomedical
Engineering; Ph.D., University College Dublin

Flay, Brian R. (2014)
Research Professor, College of Education; Ph.D.,
Waikato University

Flores, Alejandro N.* (2009)
Associate Professor, Geosciences; Ph.D. Massachusetts
Institute of Technology

Folger, Daniel* (2012)
Assistant Professor, Physics; Ph.D., University of
Bucharest

Forbey, Jennifer* (2008)
Associate Professor, Biological Sciences; Ph.D.,
University of Utah

Ford, Philip (2015)
Clinical Assistant Professor, Kinesiology; Ph.D.,
University of Southern Mississippi

Fowler, Nicholas (Luke) (2016)
Assistant Professor, Public Policy and Administration;
Ph.D., Mississippi State University

Fox, Francis* (1999)
Professor, Art; M.F.A., University of Wyoming

Fragkias, Michail (2014)
Assistant Professor, Economics; Ph.D., Clark University

Francis, John* (2002)
Associate Professor, Art; M.S., Florida State University

Frary, Megan* (2005)
Associate Professor, Materials Science and Engineering;
Ph.D., Massachusetts Institute of Technology

Fredericksen, Elizabeth* (1999)
Professor, Public Policy and Administration; Ph.D.,
Washington State University

Fredricksen, James E.* (2008)
Graduate Program Coordinator and Associate Professor,
English; Ph.D., Michigan State University

Freemuth, John C.* (1986)
Professor, Public Policy and Administration; Ph.D.,
Colorado State University

Friesen, Norm* (2013)
Associate Professor, Educational Technology; Ph.D.,
University of Alberta

Fry, Phillip C.* (1987)
Professor, Information Technology and Supply Chain
Management; Ph.D., Louisiana State University

Fry, Sara* (2008)
Associate Professor, Curriculum, Instruction, and
Foundational Studies; Ph.D., University of Wyoming

G

Gabbard, David (2013)
Professor, Curriculum, Instruction, and Foundational
Studies; Ed.D., University of Cincinnati

Gallegos, Cara M.* (2013)
Assistant Professor, Nursing; Ph.D., University New
Mexico

Gallo, Laura L.* (2016)
Assistant Professor, Counselor Education; Ph.D.,
University of Iowa

Gao, Yong* (2008)
Assistant Professor, Kinesiology; Ph.D., University of
Illinois at Urbana–Champaign

Gardner, John F.* (2000)
Director for Energy Efficiency Research, Graduate
Program Coordinator and Professor, Mechanical and
Biomedical Engineering; Ph.D., Ohio State University

Garza, Maria Alicia* (1997)
Associate Professor, World Languages; Ph.D., University
of Arizona

Gattiker, Thomas* (2005)
Chair and Associate Professor, Information Technology
and Supply Chain Management; Ph.D., University of
Georgia

Gehrke, Pamela* (1998)
Associate Professor, Nursing; Ed.D., Boise State
University

Genuchi, Matthew C. (2013)
Assistant Professor, Psychology; Ph.D., University of
Denver

Giacomazzi, Andrew* (1998)
Professor, Criminal Justice; Ph.D., Washington State
University

Giacumo, Lisa A.* (2016)
Assistant Professor, Organizational Performance and
Workplace Learning; Ph.D., Arizona State University

Gibson, Terry-Ann Spitzer* (1981)
Associate Professor, Kinesiology; Ph.D., University of
Idaho

Gill, Jill K.* (2000)
Chair and Professor, History; Ph.D., University of
Pennsylvania, Philadelphia

Gillespie, Lane* (2013)
Assistant Professor, Criminal Justice; Ph.D., University
of South Florida

Glenn, Nancy (2008)
Professor, Geosciences; Ph.D., University of Nevada,
Reno

Gooden, Eric S. (2015)
Assistant Professor, Accountancy; Ph.D., Florida State
University

Grassley, Jane S.* (2010)
Professor, Nursing; Ph.D., Texas Woman's University

Graugnard, Elton* (2010)
Assistant Research Professor, Materials Science and
Engineering; Ph.D., Purdue University

Gregory, Bayard O.* (2004)
Instructor, Public Policy and Administration; Ph.D.,
University of Idaho

Greufe-Hall, Stephanie (2015)
Clinical Assistant Professor, Kinesiology; Ph.D.,
University of Northern Colorado

Guarino, Joseph C.* (2000)
Professor, Mechanical and Biomedical Engineering;
Ph.D., University of Idaho

H

Hagenah, Sara* (2015)
Graduate Program Coordinator and Assistant Professor,
Curriculum, Instruction, and Foundational Studies;
Ph.D., University of Washington

Hamilton, Robert W.* (2000)
Associate Professor, Civil Engineering; Ph.D., University
of Maine

Hampikian, Gregory* (2004)
Professor, Biological Sciences; Ph.D., University of
Connecticut

Hampshire, Patricia* (2011)
Assistant Professor, Early and Special Education; Ph.D.,
Indiana University

Hanna, Charles B.* (1996)
Chair and Professor, Physics; Ph.D., Stanford University

Hannah, Elizabeth (2001)
Associate Professor, Community and Environmental
Health; D.V.M., University of Florida

Hansen, Mark R.* (2007)
Professor, Music; D.M.A., University of North Texas,
Denton

Hansen, Marla* (1991)
Associate Professor, Theatre Arts; M.F.A., University
of Utah

Hansen, Matthew C.* (2005)
Associate Professor, English; Ph.D., University of
Nebraska

Hansen, Zeynep Kobabiyik (2008)
Chair and Professor, Economics; Ph.D., University of
Arizona

Hardy, Kimberly (2013)
Assistant Professor, Psychology; Ph.D., Michigan State
University

Harkness, Daniel* (1993)
Professor, Social Work; Ph.D., University of Kansas

Harlander, Jens* (2007)
Associate Professor, Mathematics; Ph.D., University of
Oregon

- Harvey, Keith* (2000)
Associate Dean, College of Business and Economics and
Professor, Marketing and Finance; Ph.D., University of
Tennessee, Knoxville
- Harvey, Samantha C.* (2011)
Associate Professor, English; Ph.D., Cambridge
University
- Hausegger, Lori* (2015)
Chair and Associate Professor, Political Science; Ph.D.,
Ohio State University
- Hayden, Eric J.* (2013)
Assistant Professor, Biological Sciences; Ph.D., Portland
State University
- Heath, Julie* (2007)
Graduate Program Coordinator and Associate Professor,
Biological Sciences; Ph.D., University of Florida
- Henderson, Heike* (1997)
Professor, World Languages; Ph.D., University of
California, Davis
- Herbeck, Jason R.* (2012)
Professor, World Languages; Ph.D., University of
Wisconsin–Madison
- Hereford, Mary* (2003)
Associate Professor, Nursing; Ph.D., University of Idaho,
Moscow
- Hernandez, Jairo* (2012)
Assistant Professor, Civil Engineering; Ph.D., Utah State
University
- Hicks, Manda* (2013)
Assistant Professor, Communication; Ph.D., Bowling
Green State University
- Hill, Christopher L.* (2002)
Professor, Anthropology; Ph.D., Southern Methodist
University
- Hill, Gregory* (2005)
Associate Professor, Public Policy and Administration;
Ph.D., Texas A&M University
- Hillard, Thomas* (2008)
Graduate Program Coordinator and Associate Professor,
English; Ph.D., University of Arizona
- Hindrichs, Cheryl* (2008)
Associate Professor, English; Ph.D., Ohio State
University
- Hodges, Brian* (2008)
Associate Professor, Music; D.M.A., University of North
Carolina at Greensboro
- Holmes, Janet* (1999)
Professor, English; M.F.A., Warren Wilson College
- Holmes, M. Randall* (1991)
Professor, Mathematics; Ph.D., State University of New
York at Binghamton
- Honts, Charles R.* (1995)
Professor, Psychology; Ph.D., University of Utah
- Hou, Yantian* (2016)
Assistant Professor, Computer Science; Ph.D., Utah
State University
- Hsu, Yu-Chang* (2011)
Associate Professor, Educational Technology; Ph.D.,
Pennsylvania State University
- Hubbard, Monica (2014)
Visiting Assistant Professor, Public Policy and
Administration; Ph.D., Oregon State University
- Hubbert, Ann* (2012)
Director and Associate Professor, Nursing; Ph.D.,
Nebraska Medical Center
- Hughes, William L.* (2008)
Associate Dean, College of Innovation and Design and
Associate Professor, Materials Science and Engineering;
Ph.D., Georgia Institute of Technology
- Humphrey, Michael John* (2007)
Chair, Associate Professor, Early and Special Education;
Ed.D., University of Northern Colorado
- Hung, Jui-long (Andy)* (2008)
Professor, Educational Technology; Ed.D., Texas Tech
University
- Huntley, Katherine V.* (2011)
Assistant Professor, History; Ph.D., University of
Leicester
- Hurley, Michael* (2010)
Assistant Research Professor, Materials Science and
Engineering; Ph.D., University of Virginia
- Husting, Virginia* (1999)
Associate Professor, Sociology; Ph.D., University of
Illinois at Urbana–Champaign
- Hutson, Royce (2012)
Associate Professor, Social Work; Ph.D., University of
Wisconsin–Madison
- Hyatt, Troy* (2011)
Chair and Associate Professor, Accountancy; Ph.D.,
University of Arizona
- I
- Isbell, Matthew G.* (2016)
Associate Professor, Communication; Ph.D., University
of Texas at Arlington
- Islam, Samia (2015)
Associate Professor, Economics; Ph.D., West Virginia
University
- J
- Jain, Amit* (1996)
Associate Professor, Associate Chair, Computer Science;
Ph.D., University of Central Florida
- Jankowski, Eric* (2015)
Assistant Professor, Materials Science and Engineering;
Ph.D., University of Michigan
- Jebe, Ruth (2016)
Assistant Professor, College of Business and Economics;
J.D., University of Minnesota
- Jirak, James* (1994)
Associate Professor, Music; D.A., University of Colorado
- Johnson, Evelyn* (2008)
Professor, Early and Special Education; Ed.D.,
University of Washington
- Johnson, Jeffrey B.* (2012)
Associate Professor, Geosciences; Ph.D., University of
Washington
- Johnson, Tyler G.* (2008)
Assistant Professor, Kinesiology; Ph.D., Arizona State
University
- Jones, Daryl E.* (1986)
Director, Interdisciplinary Studies Graduate Program;
Ph.D., Michigan State University
- Jorcyk, Cheryl* (1998)
Professor, Biological Sciences; Ph.D., Johns Hopkins
University
- Jorgensen, J. Cody* (2015)
Assistant Professor, Criminal Justice; Ph.D., University
of Texas at Dallas
- K
- Kaiser, Uwe* (2001)
Associate Professor, Mathematics; Ph.D., University of
Siegen
- Kane, Adrian T.* (2012)
Professor, World Languages; Ph.D., University of
California–Riverside
- Kardong-Edgren, Suzan (2013)
Research Associate Professor, Nursing; Ph.D., Texas
Women's University
- Kaupins, Gundars (2008)
Chair and Professor, Management; Ph.D., University
of Iowa
- Keck, Casey* (2012)
Associate Professor, English; Ph.D., Northern Arizona
University
- Kelly, Philip P.* (2001)
Professor, Curriculum, Instruction, and Foundational
Studies; Ph.D., Michigan State University
- Kempf, Timothy R. (2015)
Clinical Assistant Professor; Kinesiology; Ph.D., Purdue
University
- Kenaley, Bonnie L. Davis (2009)
Associate Professor, Social Work; Ph.D., University of
Albany, State University of New York
- Kennington, Casey* (2016)
Assistant Professor, Computer Science; Ph.D.,
Universitat Bielefeld
- Kettler, Jaelyn J.* (2015)
Assistant Professor, Political Science; Ph.D., Rice
University
- Keys, Kathleen* (2004)
Graduate Program Coordinator and Professor, Art;
Ph.D., The Ohio State University
- Khanal, Mandar* (2000)
Chair and Associate Professor, Civil Engineering; Ph.D.,
University of California, Irvine
- Kim, Byung-II* (2006)
Professor, Physics; Ph.D., Seoul National University
- King, Laura* (2012)
Assistant Professor, Criminal Justice; Ph.D., Indiana
University Pennsylvania
- King, Matthew D.* (2016)
Assistant Professor, Chemistry and Biochemistry; Ph.D.,
Syracuse University
- Kinzel, Margaret T.* (2000)
Associate Professor, Mathematics; Ph.D., Pennsylvania
State University
- Klautsch, Richard* (1992)
Chair and Associate Professor, Theatre Arts; Ph.D.,
Wayne State University
- Klein, Joanne* (2001)
Associate Chair and Professor, History; Ph.D., Rice
University
- Kline, Linda* (2000)
Chair and Professor, Music; D.A., University of
Memphis
- Knowlton, William B.* (2000)
Professor, Electrical and Computer Engineering,
Materials Science and Engineering; Ph.D., University of
California, Berkeley
- Ko, Kyungduk (2004)
Associate Professor, Mathematics; Ph.D., Texas A&M
University
- Koeppen, David R.* (1996)
Professor, Accountancy; Ph.D., University of
Wisconsin–Madison
- Koetsier, Peter* (1995)
Professor, Biological Sciences; Ph.D., Idaho State
University
- Kohn, Matthew J.* (2007)
Professor, Geosciences; Ph.D., Rensselaer Polytechnic
Institute
- Kuang, Wan* (2005)
Associate Professor, Electrical and Computer
Engineering; Ph.D., University of Southern California
- L
- Landrum, R. Eric* (1992)
Professor, Psychology; Ph.D., Southern Illinois
University Carbondale
- Lane, Julie* (2010)
Assistant Professor, Communication; Ph.D., University
of Wisconsin–Madison
- Lee, Jaechoul* (2003)
Associate Professor, Mathematics; Ph.D., University of
Georgia
- Lee, Jeunghoon* (2008)
Associate Professor, Chemistry and Biochemistry,
Materials Science and Engineering; Ph.D., University of
Connecticut
- Lee, Lily (2014)
Assistant Professor, Art; M.F.A., University of Oregon
- LeMaster, Clifford* (1990)
Professor, Chemistry and Biochemistry; Ph.D.,
University of California, Davis

Graduate Faculty

- Lete, Nerea* (2012)
Associate Professor, World Languages; M.F.A.,
University of Iowa
- Li, Lan* (2012)
Assistant Professor, Materials Science and Engineering;
Ph.D., University of Cambridge
- Liberty, Lee M.* (1994)
Research Professor, Geosciences; M.S., University of
Wyoming
- Liley, Denise Goodrich* (1997)
Associate Professor, Social Work; Ph.D., University of
Utah
- Lincoln, Douglas J.* (1980)
Professor, Marketing and Finance; Ph.D., Virginia
Polytechnic Institute and State University
- Lindquist, Eric* (2012)
Director, Public Policy Center, MA; Ph.D., Texas A&M
University
- Lindquist, Paul* (2010)
Assistant Research Professor, Materials Science and
Engineering; Ph.D., University of Illinois
- Long, Min* (2016)
Assistant Professor, Computer Science; Ph.D., Cornell
University
- Loo, Sin Ming* (2004)
Professor, Electrical and Computer Engineering; Ph.D.,
University of Alabama in Huntsville
- Loucks, Christine* (1989)
Professor, Economics; Ph.D., Washington State
University
- Lowe, Scott E.* (2006)
Associate Dean, Graduate College and Professor,
Economics; Ph.D., University of California, Santa
Barbara
- Lowenthal, Patrick R.* (2013)
Assistant Professor, Educational Technology; Ph.D.,
University of Colorado, Denver
- Lu, Yang* (2013)
Assistant Professor, Civil Engineering; Ph.D., Virginia
Tech
- Lubamersky, Lynn* (2001)
Associate Professor, History; Ph.D., Indiana University
- Lucas, Shelley* (2001)
Graduate Program Coordinator and Associate Professor,
Kinesiology; Ph.D., University of Iowa
- Lujan, Trevor* (2011)
Assistant Professor, Mechanical and Biomedical
Engineering; Ph.D., University of Utah
- Lyons, Jeffrey (2016)
Assistant Professor, Political Science; Ph.D., University
of Colorado at Boulder
- M**
- MacDonald, Jason B. (2000)
Associate Professor, Marketing and Finance; Ph.D.,
University of Texas–Pan American
- Macomb, Daryl* (2011)
Associate Professor, Physics; Ph.D., Iowa State
University
- Macy, Rosemary* (2005)
Associate Professor, Nursing; Ph.D., University of Idaho
- Madsen-Brooks, Leslie J.* (2010)
Associate Professor, History; Ph.D., University of
California–Davis
- Magen, Randy (2015)
Director and Professor, Social Work; Ph.D., University
of Wisconsin–Madison
- Maher, Matthew* (1989)
Professor, Marketing and Finance; Ph.D., University of
Illinois at Urbana–Champaign
- Mallette, Jennifer C.* (2015)
Assistant Professor, English; Ph.D., University of
Arkansas
- Marker, Anthony Wayne* (2005)
Chair, Graduate Program Coordinator, and Professor,
Organizational Performance and Workplace Learning;
Ph.D., Indiana University, Bloomington
- Marr, John (Jack) (2015)
Associate Clinical Professor, College of Business and
Economics; M.A., University of Chicago
- Marsh, Robert L.* (1974)
Professor, Criminal Justice; Ph.D., Sam Houston State
University
- Marshall, Hans-Peter* (2009)
Associate Professor, Geosciences; Ph.D., University of
Colorado at Boulder
- Martin, Eric M.* (2016)
Assistant Professor, Kinesiology; Ph.D., Michigan State
University
- Martinez, Michal Tempkin* (2011)
Assistant Professor, English; Ph.D., University of
Southern California
- Martz, Kim (2014)
Assistant Professor, Nursing; Ph.D., University of Utah
- Matson, Samuel D.* (2014)
Clinical Assistant Professor, Geosciences; Ph.D.,
University of Minnesota
- Mattingly, E. Shaunn (2014)
Assistant Professor, Management; Ph.D., University of
Louisville
- McChesney, John W.* (1995)
Chair and Associate Professor, Kinesiology; Ph.D.,
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- McClain, Lisa* (2001)
Graduate Program Coordinator and Professor, History;
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Assistant Professor, Communication; Ph.D., University
of Colorado at Boulder
- McClellan, John G.* (2009)
Graduate Program Coordinator and Associate Professor,
Communication; Ph.D., University of Colorado at
Boulder
- McDonald, Theodore W.* (2001)
Professor, Community and Environmental Health;
Ph.D., University of Wisconsin–Milwaukee
- McDougal, Owen (2008)
Chair and Professor, Chemistry and Biochemistry;
Ph.D., University of Utah
- McIntosh, John (2008)
Associate Professor, Management; Ph.D., University of
Illinois at Urbana Champaign
- McNamara, James P.* (1997)
Chair, Graduate Program Coordinator, and Professor,
Geosciences; Ph.D., Syracuse University
- McNatt, D. Brian (2010)
Associate Professor, Management; Ph.D., University
of Iowa
- Mead, Jodi L.* (2000)
Graduate Program Coordinator and Professor,
Mathematics; Ph.D., Arizona State University
- Mehrpouyan, Hani* (2015)
Assistant Professor, Electrical and Computer
Engineering; Ph.D., Queen's University
- Mehrpouyan, Hoda* (2016)
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State University
- Michaels, Paul* (1993)
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- Midgett, Aida* (2010)
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Northern Arizona University
- Mikesell, Dylan* (2015)
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- Miller, Nicholas* (1993)
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- Miller, Raissa* (2014)
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- Miller, Rickie* (1992)
Associate Chair and Associate Professor, Curriculum,
Instruction, and Foundational Studies; Ph.D., New
Mexico State University
- Miller, Sondra M.* (2006)
Associate Professor, Civil Engineering; Ph.D., University
of Iowa
- Minch, Robert P.* (1986)
Professor, Information Technology and Supply Chain
Management; Ph.D., Texas Tech University
- Mishra, Debakanta* (2014)
Assistant Professor, Civil Engineering; Ph.D., University
of Illinois at Urbana–Champaign
- Mitchell, Kristen A.* (2007)
Associate Professor, Biological Sciences; Ph.D.,
Washington State University
- Mitkova, Maria I.* (2007)
Professor, Electrical and Computer Engineering; Ph.D.,
University of Chemical Technology and Metallurgy,
Sofia, Bulgaria
- Moll, Amy J.* (2000)
Professor, Materials Science and Engineering; Ph.D.,
University of California, Berkeley
- Molunby, Nicole* (2005)
Graduate Program Coordinator and Professor, Music;
D.M.A., Ohio State University
- Moncrief, Gary E.* (1976)
Professor, Political Science and Public Policy and
Administration; Ph.D., University of Kentucky
- Moneyhun, Clyde* (2011)
Associate Professor, English; Ph.D., University of
Arizona
- Moore, Rick Clifton* (1994)
Professor, Communication; Ph.D., University of Oregon
- Moorcroft, Scott J. (2017)
Graduate Program Coordinator and Clinical Assistant
Professor, Kinesiology; M.A., Boise State University
- Moreau, Leslie M.* (2007)
Associate Professor, Music; D.M.A., Arizona State
University
- Moro, Regina R.* (2016)
Assistant Professor, Counselor Education; Ph.D.,
University of North Carolina at Charlotte
- Morrison, Brad E.* (2013)
Assistant Professor, Biological Sciences; Ph.D.,
University of Texas at Dallas
- Most, Marshall* (1987)
Associate Professor, Communication; M.A., Boise State
University
- Mosebach, Janet E. (2016)
Associate Professor, Accountancy; Ph.D., University of
Arkansas
- Mulhern, Margaret* (2014)
Clinical Assistant Professor, Literacy, Language, and
Culture; Ph.D., University of Illinois at Chicago
- Müllner, Peter* (2004)
Chair and Distinguished Professor, Materials Science
and Engineering; Ph.D., Swiss Federal Institute of
Technology
- Munger, James C.* (1988)
Associate Vice-President, Academic Planning and
Professor, Biological Sciences; Ph.D., University of
Arizona
- Munger, Roger* (2001)
Associate Chair, Director of Technical Communication,
and Professor, English; Ph.D., Rensselaer Polytechnic
Institute
- Mukherjee, Partha S. (2013)
Assistant Professor, Mathematics; Ph.D., University of
Minnesota
- Murdoch, Danielle J.* (2015)
Assistant Professor, Criminal Justice; Ph.D., Simon
Fraser University
- N**
- Nagarajan, Rajesh* (2011)
Assistant Professor, Chemistry and Biochemistry; Ph.D.,
Wesleyan University
- Napier, Nancy K.* (1986)
Director of International Business Consortium
and Programs, College of Business and Economics;
Professor, Management; Ph.D., Ohio State University

- Neupert, Kent* (2004)
Professor, Management; Ph.D., University of Western Ontario
- Norman, Beret Liv* (2012)
Associate Professor, World Languages; Ph.D., University of Massachusetts–Amherst
- Northrup, Clyde J.* (1998)
Associate Dean, College of Arts and Sciences, and Professor, Geosciences; Ph.D., Massachusetts Institute of Technology
- Norton, Todd* (2016)
Department Head and Associate Professor, Communication; Ph.D., University of Utah
- Novak, Stephen* (1993)
Professor, Biological Sciences; Ph.D., Washington State University
- O**
- O'Connor, Jacqueline* (2001)
Professor, English; Ph.D., University of California, Davis
- O'Mallon, Marilyn (2016)
Associate Director, Nursing; Ph.D., Hampton University
- Olshanowsky, Catherine* (2016)
Assistant Professor, Computer Science; Ph.D., University of California, San Diego
- Olsen-Smith, Steven* (2000)
Professor, English; Ph.D., University of Delaware
- Orr, Martin* (1998)
Chair and Associate Professor, Sociology; Ph.D., University of Oregon
- Osguthorpe, Richard* (2005)
Dean, College of Education and Professor, Curriculum, Instruction, and Foundational Studies; Ph.D., University of Michigan
- Oxford, Julia Thom* (2000)
Director, INBRE/Biomolecular Research and Distinguished Professor, Biological Sciences; Ph.D., Washington State University, Pullman
- P**
- Paradis, Sarah R. (2014)
Assistant Professor, Music; D.M., Indiana University
- Park, Sanghee (2015)
Assistant Professor, Public Policy and Administration; Ph.D., Seoul National University
- Parkinson, Del R.* (1985)
Professor, Music; D.M., Indiana University
- Parrett, William H.* (1996)
Director, Center for School Improvement and Professor, Curriculum, Instruction, and Foundational Studies; Ph.D., Indiana University
- Paterson, Sharon (2008)
Associate Professor, Sociology; Ph.D., Virginia Polytechnic Institute and State University
- Payne, Michelle M.* (1997)
Chair and Professor, English; Ph.D., University of New Hampshire
- Peariso, Craig* (2009)
Associate Professor, Art; Ph.D., State University of New York at Stony Brook
- Pelton, John R.* (1981)
Professor, Geosciences; Ph.D., University of Utah
- Penry, Tara* (2000)
Professor, English; Ph.D., Fordham University
- Pera, Maria Soledad* (2015)
Assistant Professor, Computer Science; Ph.D., Brigham Young University
- Peralta, Claudia* (2011)
Professor, Literacy, Language, and Culture; Ph.D., University of Colorado at Boulder
- Perkins, Ross* (2008)
Graduate Program Coordinator and Associate Professor, Educational Technology; Ph.D., Virginia Polytechnic Institute and State University
- Petraneck, Laura Jones* (2005)
Associate Professor, Kinesiology; Ph.D., University of South Carolina, Columbia
- Pierce, Jennifer* (2005)
Associate Professor, Geosciences; Ph.D., University of New Mexico
- Pinto, Karen C.* (2015)
Assistant Professor, History; Ph.D., Columbia University
- Plew, Mark G.* (1984)
Graduate Program Coordinator and Professor, Anthropology; Ph.D., Indiana University, Bloomington
- Plumlee, Donald* (2008)
Chair and Associate Professor, Mechanical and Biomedical Engineering; Ph.D., University of Idaho
- Pool, Juli Lull* (2007)
Associate Professor, Early and Special Education; Ph.D., University of Oregon
- Porter, C. Michael* (2011)
Associate Professor, Music; D.M.A., University of Iowa
- Powers, Joelle (2012)
Associate Dean, College of Health Sciences and Associate Professor, Social Work; Ph.D., University of North Carolina at Chapel Hill
- Prengaman, Molly (2014)
Associate Professor, Nursing; M.S., Idaho State University
- Pritchard, Mary E.* (2004)
Professor, Psychology; Ph.D., University of Denver
- Purdy, Craig A.* (1987)
Associate Professor, Music; M.M., New England Conservatory
- Q**
- Qu, Leming* (2002)
Chair and Associate Professor, Mathematics; Ph.D., Purdue University
- Quarles, Roger* (2011)
Associate Professor, Curriculum, Instruction, and Foundational Studies; Ph.D., University of Idaho
- R**
- Rafla, Nader* (1996)
Chari and Associate Professor, Electrical and Computer Engineering; Ph.D., Case Western Reserve University
- Raghani, Pushpa* (2010)
Associate Professor, Physics; Ph.D., Jawaharlal Nehru Technological University
- Ramirez, Dora Alicia* (2008)
Associate Professor, English; Ph.D., University of Nebraska, Lincoln
- Reeder, Heidi M.* (2000)
Associate Professor, Communication; Ph.D., Arizona State University
- Refinetti, Roberto* (2014)
Chair and Professor, Psychology; Ph.D., University of California, Santa Barbara
- Reischl, Uwe* (2002)
Professor, Community and Environmental Health; Ph.D., University of California, Berkeley
- Rice, Kerry Lynn* (2006)
Professor, Educational Technology; Ed.D., Boise State University
- Roark, Anthony P.* (2005)
Dean, College of Arts and Sciences and Professor, Philosophy; Ph.D., University of Washington
- Roberts, Jessica* (2016)
Assistant Professor, Communication; Ph.D., University of Maryland
- Robertson, Ian C.* (2000)
Graduate Program Coordinator and Professor, Biological Sciences; Ph.D., Simon Fraser University, Burnaby, B.C., Canada
- Robbins, Bruce* (1990)
Professor, English; Ph.D., Indiana University
- Rodriguez, Arturo (2007)
Graduate Program Coordinator and Associate Professor, Literacy, Language, and Culture; Ph.D., New Mexico State University
- Rohn, Troy* (2000)
Professor, Biological Sciences; Ph.D., University of Washington
- Romero, Sergio* (2008)
Assistant Professor, Sociology; Ph.D., University of Oregon
- Rossetto, Kelly* (2016)
Assistant Professor, Communication; Ph.D., University of Texas at Austin
- Rudin, Mark* (2008)
Vice President for Research and Professor, Chemistry and Biochemistry; Ph.D., Purdue University
- Rushing-Raynes, Laura* (1998)
Associate Professor, Music; D.M.A., University of Arizona
- Russell, Dale D.* (1995)
Professor, Chemistry and Biochemistry; Ph.D., University of Arizona, Tucson
- S**
- Sadegh, Mojtaba* (2017)
Assistant Professor, Civil Engineering; Ph.D., University of California, Irvine
- Sadler, Jonathan* (2007)
Associate Professor, Art; M.F.A., The School of the Museum of Fine Arts, Boston and Tufts University, Summerville
- Salzman, Noah* (2015)
Assistant Professor, Electrical and Computer Engineering; Ph.D., Purdue University
- Sam Castellano, Rebecca L.* (2013)
Assistant Professor, Sociology; Ph.D., Ohio State University
- Sanders, Cynthia K.* (2004)
Graduate Program Coordinator and Professor, Social Work; Ph.D., Washington University St. Louis
- Sarin, Shikhar* (2002)
Professor, Marketing and Finance; Ph.D., University of Texas at Austin
- Saunders, David* (1997)
Professor, Music; D.M.A., State University of New York at Stony Brook
- Scarritt, Arthur* (2008)
Assistant Professor, Sociology; Ph.D., University of Wisconsin-Madison
- Scheepers, Marion* (1988)
Distinguished Professor, Mathematics; Ph.D., University of Kansas
- Schimpf, Martin E.* (1990)
Provost and Vice President for Academic Affairs and Professor, Chemistry and Biochemistry; Ph.D., University of Utah
- Schmitz, Mark* (2004)
Graduate Program Coordinator and Professor, Geosciences; Ph.D., Massachusetts Institute of Technology
- Schneider, Jen* (2014)
Graduate Program Coordinator and Associate Professor, Public Policy and Administration; Ph.D., Claremont Graduate University
- Schooley-Pettis, Diane* (1989)
Associate Dean, College of Business and Economics and Professor, Marketing and Finance; Ph.D., University of Colorado at Boulder
- Scott, Dan* (2006)
Associate Professor, Art; M.F.A., New York Academy of Art
- Sego, Trina* (2002)
Professor, Marketing and Finance; Ph.D., University of Texas at Austin
- Seibert, Pennie S.* (1990)
Professor, Psychology; Ph.D., University of New Mexico
- Senocak, Inanc* (2008)
Associate Professor, Mechanical and Biomedical Engineering; Ph.D., University of Florida
- Serpe, Marcelo* (1998)
Professor, Biological Sciences; Ph.D., University of California, Davis
- Serra, Edoardo* (2015)
Assistant Professor, Computer Science; Ph.D., University of Calabria

Graduate Faculty

- Serratt, Teresa D. (2015)
Associate Professor, Nursing; Ph.D., University of California, San Francisco
- Shadle, Susan* (1997)
Director, Center for Teaching and Learning and Professor, Chemistry and Biochemistry; Ph.D., Stanford University
- Shallat, Todd A.* (1985)
Director, Center for Idaho History and Professor, History; Ph.D., Carnegie–Mellon University
- Shannon, Patrick* (1974)
Professor, Information Technology and Supply Chain Management; Ph.D., University of Oregon
- Shelton, Brett E.* (2013)
Department Head and Professor, Educational Technology; Ph.D., University of Washington
- Shepherd, Dawn* (2012)
Assistant Professor, English; Ph.D., North Carolina State University
- Sherman, Elena A.* (2012)
Assistant Professor, Computer Science; Ph.D., University of Nebraska, Lincoln
- Shimon, Jane* (2001)
Professor, Kinesiology; Ed.D., University of Northern Colorado
- Shuck, Gail* (2001)
Associate Professor, English; Ph.D., University of Arizona
- Siebert, Carl F.* (2015)
Assistant Professor, Curriculum, Instruction, and Foundational Studies; Ph.D., Florida State University
- Simmonds, Paul J.* (2014)
Assistant Professor, Materials Science and Engineering; Ph.D., University of Cambridge
- Simonson, Shawn R.* (2008)
Associate Professor, Kinesiology; Ed.D., University of Northern Colorado
- Smith, James F.* (1992)
Professor, Biological Sciences; Ph.D., University of Wisconsin, Madison
- Smith, Jennifer A.* (2001)
Associate Professor, Electrical and Computer Engineering; Ph.D., University of Idaho; Ph.D., State University of New York, Albany
- Smith, Kirk* (1993)
Professor, Marketing and Finance; Ph.D., University of Houston
- Smith, Mary Jarratt* (1987)
Associate Professor, Mathematics; Ph.D., Montana State University
- Smulovitz, Anika* (2003)
Professor, Art; M.F.A., University of Wisconsin, Madison
- Snelson, Chareen Lee* (2006)
Graduate Program Coordinator, Associate Chair, and Associate Professor, Educational Technology; Ed.D., Boise State University
- Snopkowski, Kristin* (2014)
Assistant Professor, Anthropology; Ph.D., University of New Mexico
- Snow, Jennifer L.* (2003)
Associate Dean and Professor, Curriculum, Instruction, and Foundational Studies; Ph.D., Pennsylvania State University, University Park
- Son, Eun Hye* (2009)
Associate Professor, Literacy, Language, and Culture; Ph.D., Ohio State University, Columbus
- Souza, Tasha J. (2016)
Associate Director, Center for Teaching and Learning, Graduate Program Coordinator, and Professor, Communication; Ph.D., University of Washington
- Spear, Caile E.* (1996)
Professor, Kinesiology; Ph.D., University of Arkansas
- Spezzano, Francesca* (2015)
Assistant Professor, Computer Science; Ph.D., University of Calabria
- Steiner, Stanley* (1992)
Professor, Literacy, Language, and Culture; Ph.D., University of Wyoming
- Stephenson, Dale* (2003)
Director of Environmental Health and Professor, Community and Environmental Health; Ph.D., Colorado State University
- Stewart, Roger* (1995)
Professor, Literacy, Language, and Culture; Ph.D., Purdue University
- Stieha, Vicki* (2015)
Clinical Assistant Professor, Organizational Performance and Workplace Learning; Ph.D., University of Cincinnati
- Strohfs, Pam* (2012)
Graduate Program Coordinator and Associate Professor, Nursing; D.N.P., Rush University
- Subbaraman, Harish* (2016)
Assistant Professor, Electrical and Computer Engineering; Ph.D., University of Texas at Austin
- Sugheir, Jeffrey S. (2008)
Assistant Professor, Management; Ph.D., Rensselaer Polytechnic Institute

T

- Tabor, Sharon W.* (1998)
Professor, Information Technology and Supply Chain Management; Ph.D., University of North Texas
- Teitler, Zachariah* (2011)
Associate Professor, Mathematics; Ph.D., University of Michigan
- Tenne, Dmitri* (2006)
Professor, Physics; Ph.D., Russian Academy of Sciences
- Tennyson, Stephen A.* (1995)
Professor, Mechanical and Biomedical Engineering; Ph.D., Wayne State University
- Terpend, Regis (2006)
Associate Professor, Information Technology and Supply Chain Management; Ph.D., Arizona State University
- Test, Edward M.* (2008)
Associate Professor, English; Ph.D., University of California, Santa Barbara
- Thiede, Keith W.* (2006)
Associate Dean, College of Education, Graduate Program Coordinator, and Professor, Curriculum, Instruction, and Foundational Studies; Ph.D., University of Washington
- Thornes, Timothy* (2013)
Associate Professor, English; Ph.D., University of Oregon
- Tinker, Juliette* (2004)
Associate Professor, Biological Sciences; Ph.D., University of Iowa
- Toebs, Sarah E.* (2000)
Graduate Program Coordinator and Professor, Community and Environmental Health; Ph.D., University of Utah
- Tornello, Joseph F. (2011)
Associate Professor, Music; D.M.A., University of Kentucky
- Traynowicz, Laurel* (1981)
Associate Professor, Communication; Ph.D., University of Iowa
- Trespacios, Jesús* (2013)
Assistant Professor, Educational Technology; Ph.D., Virginia Polytechnic Institute and State University
- Turner, Lee Ann* (1996)
Chair and Professor, Art; Ph.D., University of Pennsylvania
- Turner, Lindsey R. (2014)
Research Associate Professor, College of Education; Ph.D., University of Illinois at Chicago
- Twight, Charlotte* (1986)
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U

- Ubic, Rick* (2007)
Associate Research Professor, Materials Science and Engineering; Ph.D., The University of Sheffield
- Udall, Brady* (2008)
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- Uribe-Florez, Lida J. (2016)
Associate Professor, Educational Technology; Ph.D., Virginia Tech
- Utych, Stephen M. (2016)
Assistant Professor, Political Science; Ph.D., Vanderbilt University
- Uzer, Gunes (2016)
Assistant Professor, Mechanical and Biomedical Engineering; Ph.D., Stony Brook University

V

- Vaughn, Justin S.* (2015)
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- Veltman, Maximilian (2013)
Instructor, Nursing; M.S., University of Texas at Austin
- Villachica, Steven W.* (2007)
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W

- Wakild, Emily* (2012)
Associate Professor, History; Ph.D. University of Arizona
- Walker, David M.* (2012)
Assistant Professor, History; Ph.D. George Washington University
- Walsh, Anthony* (1984)
Professor, Criminal Justice; Ph.D., Bowling Green State University
- Walker, Kate* (2011)
Assistant Professor, Art; M.F.A., University of Arizona
- Wampler, Brian* (2015)
Professor, Political Science; Ph.D., University of Texas at Austin
- Wanek, James E.* (1996)
Professor, Management; Ph.D., University of Minnesota
- Wang, Sasha* (2011)
Assistant Professor, Mathematics; Ph.D., Michigan State University
- Wanless, V. Dorsey* (2015)
Associate Professor, Geosciences; Ph.D., University of Florida
- Warner, Don* (2002)
Associate Professor, Chemistry and Biochemistry; Ph.D., University of Michigan
- Warner, Lisa (2015)
Assistant Research Professor, Chemistry and Biochemistry; Ph.D., University of Colorado, Boulder
- Weaver, Jennifer (2012)
Assistant Professor, Psychology; Ph.D., University of California, Irvine
- Welch, Thad B.* (2008)
Professor, Electrical and Computer Engineering; Ph.D., University of Colorado, Colorado Springs
- Wenner, Julianne A.* (2015)
Assistant Professor, Curriculum, Instruction and Foundational Studies; Ph.D., University of Georgia
- Westover, Jeffrey W.* (2008)
Associate Professor, English; Ph.D., Boston College
- White, Harry* (1988)
Professor, Marketing and Finance; Ph.D., Texas A&M University
- White, Merlin M.* (2006)
Associate Professor, Biological Sciences; Ph.D., University of Kansas
- Wieland, Mitchell* (1996)
Graduate Program Coordinator and Professor, English; M.F.A., University of Alabama
- Wiley, Brian (2014)
Assistant Professor, Art; M.F.A., Minneapolis College of Art and Design
- Wilhelm, Jeffrey D. (2003)
Professor, English; Ph.D., University of Wisconsin, Oshkosh

Wilkins, David E.* (2000)
 Associate Professor, Geosciences; Ph.D., University of Utah

Willerton, David Russell* (2005)
 Associate Professor, English; Ph.D., Texas Tech University

Willhaus, Janet (2015)
 Graduate Program Coordinator and Assistant Professor, Nursing; Ph.D., Washington State University

Williams, Heather* (2015)
 Assistant Professor, Curriculum, Instruction and Foundational Studies; Ph.D., University of Idaho

Wingett, Denise G.* (2003)
 Graduate Program Coordinator and Professor, Biological Sciences; Ph.D., Washington State University

Winiecki, Donald J.* (1996)
 Professor, Organizational Performance and Workplace Learning; Ph.D. Central Queensland University; Ed.D., Texas Tech University

Witt, Stephanie L.* (1989)
 Director, Public Policy Center, Graduate Program Coordinator, and Professor, Political Science; Public Policy and Administration; Ph.D., Washington State University

Wood, Rulon* (2016)
 Assistant Professor, Communication; Ph.D., University of Utah

Woods, Shelton* (1994)
 Professor, History; Ph.D., University of California, Los Angeles

Wright, Grady* (2007)
 Associate Professor, Mathematics; Ph.D., University of Colorado at Boulder

X

Xiao, Jidong* (2016)
 Assistant Professor, Computer Science; Ph.D., College of William and Mary

Xiong, Hui (Claire)* (2012)
 Assistant Professor, Materials Science and Engineering; Ph.D., University of Pittsburgh

Xu, Dianxiang* (2013)
 Professor, Computer Science; Ph.D., Nanjing University

Y

Yang, Dazhi* (2011)
 Associate Professor, Educational Technology; Ph.D., Purdue University

Yeh, Jyh-haw* (2000)
 Associate Professor, Computer Science; Ph.D., University of Florida

Yenor, Scott* (2015)
 Professor, Political Science; Ph.D., Loyola University

Young, Richard A.* (1994)
 Professor, Art; M.F.A., Washington State University

Yu, Pei-Lin* (2014)
 Assistant Professor, Anthropology; Ph.D., Southern Methodist University

Yurke, Bernard * (2008)
 Distinguished Research Professor, Materials Science and Engineering; Ph.D., Cornell University

Z

Zaerr, Linda Marie* (1987)
 Professor, English; Ph.D., University of Washington

Zhang, Yanliang* (2013)
 Assistant Professor, Mechanical and Biomedical Engineering; Ph.D., Rensselaer Polytechnic Institute

Zhu, Pengyu (2011)
 Assistant Professor, School of Public Service; Ph.D., University of Southern California

Ziker, John P.* (2003)
 Chair and Professor, Anthropology; Ph.D., University of California, Santa Barbara

Zubik-Kowal, Barbara* (2002)
 Professor, Mathematics; Ph.D., Adam Mickiewicz University

Emeriti Graduate Faculty

Emeritus faculty who were members of the Graduate Faculty
prior to retirement who have been
awarded emeritus status by the Graduate Dean

Note: The date in parentheses is the year of first graduate appointment.

*May chair graduate committees.

Affleck, Stephen, Ph.D., Civil Engr*..... (2009)	English, Thomas J., Ph.D., Account..... (1987)	Miller, Margaret, Ph.D., Coun Educ..... (1994)
Armstrong, James O., Lit, Lang, & Culture..... (1992)	Feldman, Alex, Ph.D., Math..... (1988)	Nelson, Anne Marie, Ph.D., Coun Educ..... (1970)
Barr, Robert, Ph.D., Educ* (1994)	Hanlon, Heather, Ed.D., Art..... (2014)	Petlichkoff, Linda, Ph.D., Kines..... (1987)
Barrash, Warren, Ph.D., Geos..... (1995)	Hausrath, Alan R., Ph.D., Math..... (1977)	Renner, Celia J., Ph.D., Account..... (2008)
Bodie, Nancy "Dusty", Ph.D., Mgmt..... (2008)	Ilett, Frank Jr., M.B.A., Account..... (1996)	Singleary, Ted, Ph.D., C & I Found Studies*..... (1989)
Boyer, Dale, Ph.D., Engl..... (1968)	Juola, Robert, Ph.D., Math..... (2004)	Snyder, Walter, Ph.D., Geos..... (1994)
Brudenell, Ingrid, Ph.D., Nurs* (1991)	Lambert, Carroll, Ed.D., Educ..... (1976)	Skoro, Charles, Ph.D., Educ*..... (2008)
Cade, Tom, Ph.D., Biol Sci*..... (1989)	Lathen, William C., Ph.D., Account..... (1984)	Spinosa, Claude, Ph.D., Geos*..... (1970)
Colby, Conrad, Ph.D., Hlth Sci..... (1970)	Lindsey, Melinda, Ph.D., Spec Educ*..... (1987)	Stepich, Donald, Ph.D., Org Perf & Wrk Lrn*..... (1998)
Cook, Devan, Ph.D., Engl*..... (1997)	Long, Elaine M. Ph.D., Com & Env Hlth..... (1975)	Tysseling, Lee Ann, Lit, Lang, & Culture..... (1992)
Cox, David, Ph.D., Org Perf & Wrk Lrn..... (1992)	Luke, Robert A., Ph.D., Physics..... (1971)	Weatherby, James, Ph.D., Pub Pol & Admin*..... (1989)
Cox, Marvin, Ph.D., Comm* (1977)	Lyons, Lamont, Ed.D., Educ* (1977)	White, Craig, Ph.D., Geos*..... (1980)
Dawson, Paul, Ph.D., Mech & Bio Engr*..... (1975)	Martin, Susan D., Lit, Lang, & Culture..... (2004)	Wicklow-Howard, Marcia, Ph.D., Biol Sci*..... (1975)
Eggert, Rudolph, Ph.D., Mech & Bio Engr..... (1996)	McCloskey, Richard, Ph.D., Biol Sci*..... (1976)	Wood, Spencer H., Ph.D., Geos*..... (1977)
Elison-Bowers, Patt, Ph.D., Psy..... (1986)	McLuskie, Ed, Ph.D., Comm..... (1981)	

Adjunct Graduate Faculty

Part-Time Faculty, Faculty from Other Universities, and
Personnel from Affiliated Agencies

Note: The date in parentheses is the year of first graduate appointment.

*May chair graduate committees.

A	C	E
Alileche, Abdelkrim, Ph.D., Biol Sci..... (2010)	Campbell, Mary L., Ed.S., Coun Educ..... (2010)	Ellsworth, Ethan, Ph.D., Biol Sci..... (2016)
Allen, Peter B., Ph.D., Mat Sci & Engr..... (2015)	Cardiff, Michael, Ph.D., Geos*..... (2011)	
Anderson, David, Ph.D., Biol Sci*..... (2013)	Carlisle, Jay D., Ph.D., Biol Sci*..... (2006)	F
Anderson, Jean, D.N.P., Nurs..... (2012)	Carver, Dwaine, M.Des.S., Art..... (2012)	Fernie, Kim, Ph.D., Biol Sci..... (2011)
Apel, Ted, Ph.D., Art..... (2008)	Castellano, Isaac M., Ph.D., Pol Sci..... (2015)	Ferrer, Miguel, Ph.D., Biol Sci..... (2011)
Ariznabarreta, Larraitz, Ph.D., Wrld Lang..... (2016)	Chadwick, Daniel G., J.D., Pub Pol & Admin..... (1996)	Flachbart, Marybeth, Ed.D., C & I Found Studies..... (2012)
	Chandler, David, Ph.D., Civil Engr..... (2009)	Frande, Elizabeth, D.N.P., Nurs..... (2015)
B	Charit, Indrajit, Ph.D., Mat Sci & Engr*..... (2009)	Ford, Richard L., Ph.D., Geos..... (2013)
Baker, Fredrick W., III, Ph.D., Educ Tech..... (2016)	Charlton, Patrick, Ph.D., C & I Found Studies..... (2017)	Freed, Jennifer, Ph.D., Educ Tech..... (2011)
Baker, R. Jacob, Ph.D., Elec & Comp Engr*..... (2000)	Christensen, Fred, M.B.A., Account..... (2003)	Fuller, Mark R., Ph.D., Biol Sci..... (2015)
Balkins, A. James, III, J.D., Bus & Econ..... (2014)	Christensen, Matthew T., J.D., Pol Sci..... (2009)	Fuselier, Edward, Ph.D., Math..... (2013)
Bandfield, Joshua L., Ph.D., Geos*..... (2016)	Clark, John L., Ph.D., Biol Sci..... (2010)	
Barbour, Michael K., Ph.D., Educ Tech..... (2011)	Clemens, John D., Ph.D., Math..... (2016)	G
Becker, Lesa, Ph.D., Org Perf & Wrk Lrn..... (2014)	Coats, Erik R., Ph.D., Biol Sci..... (2015)	Garcia-Cervera, Carlos J., Ph.D., Mat Sci & Engr..... (2016)
Beals, Catherine D., Ed.D., C & I Found Studies..... (2016)	Cobourn, Kelly, Ph.D., Geos*..... (2012)	Garner, Francis "Frank" A., D.Sc., Mat Sci & Engr*..... (2009)
Behnam, Ashkan, Ph.D., Mat Sci & Engr..... (2014)	Cole, James I., Ph.D., Mat Sci & Engr..... (2016)	Gardner, Stewart, Ph.D., Pol Sci..... (2015)
Benscoter, George Jr., Ph.D., Org Perf & Wrk Lrn..... (2016)	Coll, Kenneth M., Ph.D., Coun Educ..... (2015)	Georgiades, Savvas D., Ph.D., Soc Wrk..... (2016)
Betancourt, Julio, Ph.D., Geos..... (2011)	Conlon Khan, Lori, Ed.D., Music*..... (2015)	Germino, Matthew, Ph.D., Biol Sci*..... (2009)
Bildstein, Keith L., Ph.D., Biol Sci..... (2006)	Connelly, John, Ph.D., Biol Sci..... (2011)	Gerstein, Jaclyn, Ed.D., Educ Tech..... (2010)
Black, Jennifer, Ph.D., Engl..... (2016)	Conner, Thaddeus W., Ph.D., Pub Pol & Admin..... (2016)	Gibson, David, Ed.D., Educ Tech..... (2007)
Blanchard, Christopher S., M.A.H.R., Hist..... (2000)	Cosset, John Jr., D.A., Biol Sci..... (2011)	Gillerman, Virginia S., Ph.D., Geos..... (2010)
Blatt, Samantha H., Ph.D., Anth*..... (2013)	Crosby, Benjamin T., Ph.D., Geos..... (2010)	Godwin, Lizandra, Ph.D., Mat Sci & Engr..... (2016)
Bohach, Carolyn, Ph.D., Biol Sci..... (2011)	Crowley, James, Ph.D., Geos..... (2011)	Goirizelaia, Inaki, Ph.D., World Lang..... (2016)
Bolz, Devin, Ph.D., Biol Sci..... (2015)	Cullen, Nicole, M.F.A., Engl..... (2015)	Gomez, Luis Eduardo, LL.M., World Lang..... (2003)
Bond, Laura, M.S., Biol Sci..... (2001)	Curry, Stacie L., Ed.D., Educ..... (2004)	Goswami, Jaydeb, Ph.D., Mat Sci & Engr*..... (2012)
Booms, Travis L., Ph.D., Biol Sci..... (2014)	Curtin, Michael J., M.D., Kines..... (2011)	Gould, Russell T., Ph.D., Anth..... (2016)
Bonnett, John, Ph.D., Educ Tech..... (2013)		Goyal, Sudhir Kumar, Ph.D., Civil Engr..... (2010)
Bolter, Nicole D., Ph.D., Kines*..... (2015)	D	Graff, Robert, Ph.D., Anth..... (2015)
Bourland, William, M.D., Biol Sci..... (2010)	Darnell, Matthew, Ph.D., Kines..... (2015)	Greber, Brian, Ph.D., CoBE Grad Studs..... (2010)
Brendefur, Fernanda M., Ed.D., Educ*..... (2014)	Davis, Paul H., Ph.D., Mat Sci & Engr*..... (2015)	Green, Thomas J., Ph.D., Anth..... (2013)
Brennecka, Geoff, Ph.D., Mat Sci & Engr..... (2013)	Davydov, Vladimir I., Ph.D., Geos*..... (1999)	Gregg, Suzanne, Ed.D., Lit, Lang, & Culture..... (2016)
Brown, Karen, Ph.D., Art*..... (2004)	Delana, Patrick E., Ph.D., Bus & Econ..... (2011)	
Browning, Nigel, Ph.D., Mat Sci & Engr*..... (2012)	Denef, Karolien, Ph.D., Biol Sci..... (2013)	H
Bryant, Amy E., Ph.D., Biol Sci..... (2004)	Doerr, Anthony, M.F.A., Engl..... (2011)	Hadley, Erik J., Ph.D., Hist..... (2014)
Budwig, Ralph S., Ph.D., Mat Sci & Mech Biomed..... (2012)	Donohue, Jack, Ph.D., Engr..... (2015)	Hall, Kimberly Diane, Ed.D., Educ Tech..... (2010)
Bunning, Kimberly, Ph.D., Educ*..... (2008)	Dormant, Diane, Ph.D., Org Perf & Wrk Lrn..... (2010)	Hamilton, Melinda, Ph.D., C & I Found Studies..... (2013)
Butler, JoAnn, J.D., Schl of Pub Srv..... (2011)	Dove, Teresa Grey, Ed.D., Educ Tech..... (2011)	Hammons, Dave, Ed.D., Kines..... (2013)
Butt, Darryl Mat Sci & Engr*..... (2005)	Dunand, David C., Ph.D., Mat Sci & Engr..... (2010)	Han, Bangshuai, Ph.D., Geos..... (2016)

- Haney, Matthew, Ph.D., Geos* (2010)
Hanson, Paul J. Ph.D., Geos* (2017)
Harper, Joel T., Ph.D., Geos* (2010)
Haskell, Chris, Ed.D., Educ Tech (2012)
Harm, J. Eian, Ed.D., Educ (2014)
Hedt, Jill, Ph.D. Coun Educ (2012)
Henderson, Jonathan, Ph.D., Mech & Biomed (2015)
Hermann, Rebecca, Ph.D., Biomol Sci (2015)
Hill-Mekoba, Carmen S., D.N.P., Nurs (2013)
Hiremath, Minoti, Ph.D., Biol Sci (2011)
Honebein, Peter C., Ph.D., Org Perf & Wrk Lrn (2016)
Holley, Donald, Ph.D., Econ (2012)
House, Kendall V., Ph.D., Anth (2007)
Hues, Steven M., Ph.D., Mat Sci & Engr (2016)
Hughes, Gwyneth R., Ph.D., Educ (2014)
- I**
- Ivey, Christina L., Ph.D., Comm (2016)
- J**
- Jaeger, Norma D., M.S., Crim Just (2004)
Jaques, Brian J., Ph.D., Mat Sci & Engr* (2016)
Johnson, Chris, M.P.H., Com & Env Hlth (2003)
Johnson, Gary S., Ph.D., Civil Engr (2009)
Johnson, Kathrine, Ph.D., Math (2013)
Jones, Wilma L., Ed.D., C & I Found Studies (2006)
Joshi, Alark Ph.D., Comp Sci (2011)
- K**
- Katzner, Todd E., Ph.D., Biol Sci (2015)
Kay, Richard F. Ph.D., Geos* (2017)
Keeble, John, M.F.A., Engl (2006)
Keller, Markus, Ph.D., Biol Sci (2011)
Keller-Peck, Cynthia R., Ph.D., Biol Sci (2002)
Kelley, Jamie, M., M.S.W., Soc Wrk (2013)
Kien, Adrian, M.F.A., Engl* (2013)
Kinnaman, Lisa, Ed.D., C & I Found Studies (2011)
Knick, Steven, Ph.D., Biol Sci* (1990)
Knox, Ellis (Skip), Ph.D., Hist (1990)
Kochert, Michael N., M.S., Biol Sci (1987)
Korz, Anton, Ph.D., Comp Sci (2017)
Krohn, Raymond J., Ph.D., Hist* (2012)
Kurtz, Timothy R., J.D., Bus & Econ (2015)
Kushlan, Diane T., M.C.P., Schl of Pub Srv (2008)
- L**
- Lachiondo, David, Ph.D., Hist (2011)
LaFratta, Patrick A., Ph.D., Comp Sci (2014)
Lara, G. Patrick, M.S., Kines (2013)
Leavell, Daniel, Ph.D., Biol Sci (2002)
Lee, Eungje, Ph.D., Mat Sci & Engr (2016)
Lessing, Paul A., Ph.D., Mat Sci & Engr (2013)
Levinsohn, Charles, Ph.D., Mat Sci & Engr (2014)
Lewis, Kirk J., M.D., Kines (2013)
Li, Aihua, Ph.D., Geos (2015)
Limbo, Rana, Ph.D., Nurs (2013)
Long, Sean P., Ph.D., Geos (2015)
Lynass, Lori L. C & I Found Studies (2013)
Lytle, Marion L., Ph.D., Geos (2014)
- M**
- Malama, Bwalya, Ph.D., Geos* (2009)
Maldonado, Christine, Ph.D., Coun Educ (2012)
Mansfield, Donald H., D.A., Biol Sci (2016)
Marks, Danny, Ph.D., Geos* (2009)
Martin, Sue, M.S.W., Soc Wrk (2007)
Mathias, Christopher P., Ph.D., Pub Pol & Admin (2012)
McClellan, Kenneth, Ph.D., Mat Sci & Engr (2013)
McClure, Christopher J., Ph.D., Biol Sci (2014)
McGuire, Mark A., Ph.D., Biomol Sci (2014)
McIlroy, Susan, Ph.D., Biol Sci (2016)
McKean, Jim, Ph.D., Geos (2010)
- Medintz, Igor L., Ph.D., Mat Sci & Engr (2016)
Mehta, Rutvik Jatin, Ph.D., Mat Sci & Engr (2017)
Melquist, Wayne E., Ph.D., Biol Sci* (2012)
Mercaldo, David, Ed.D., Lit, Lang, & Culture (2015)
Michaud, Michelle, J.D., Pub Pol & Admin (2012)
Miller, Stephen R., J.D., Schl Pub Srv (2016)
Mitchell, Jessica J., Ph.D., Geos (2013)
Montiglio, Pierre-Olivier, Ph.D., Biol Sci (2014)
Moore, James R., M.S., Kines (2001)
Moreau, Barton A., D.M.A., Music (2013)
Morgan, Clay, M.F.A., Engl* (2011)
Morton, Cathy Coleman, Ed.D., Edu Tech (2011)
Mukherjee, Reshmi, Ph.D., Engl* (2013)
Murdock, Louis, M.D., Kines (2014)
Murphy, Richard, Ph.D., Comp Sci (2014)
Myers, Kelly, Ph.D., Engl* (2013)
- N**
- Nadelson, Louis, Ph.D., C & I Found Studies* (2008)
Nelson-Marsh, Natalie, Ph.D., Pub Pol & Admin (2005)
Newby, Deborah T., Ph.D., Biol Sci (2015)
Newcombe, David, Ph.D., Biol Sci (2010)
Nickel, Christine, Ph.D., Educ Tech (2015)
Noonan, Elizabeth (Bonnie), M.S., Educ (1994)
- O**
- Oestreicher, Cheryl, Ph.D., Hist (2013)
Olin, Paul H., Ph.D., Geos (2011)
Olson, Mary R., Ph.D., Bus & Econ (2015)
Oswalt, Steven, Ed.D., C & I Found Studies (2014)
- P**
- Paden, Norka E., Ph.D., Com & Env Hlth (2012)
Panaou, Petros, Ph.D., Lit, Lang, & Culture (2016)
Paris, Anthony, J., Ph.D., Mech & Biomed Engr (2001)
Park, Susan, J.D., Mgmt (1999)
Parlin, Mary Ann, Ph.D., Educ Tech (2014)
Patricelli, Gail L., Ph.D., Biol Sci (2016)
Pauli, Benjamin P., Ph.D., Biol Sci (2015)
Phongikaroon, Supathorn, Ph.D., Mat Sci & Engr (2012)
Pilliod, David S., Ph.D., Biol Sci* (2008)
Plasket, Donna, Ph.D., Educ (1996)
Price, Patrick M., Ph.D., Mat Sci & Engr (2014)
Prinzing, Dan, Ph.D., C & I Found Studies (2006)
Pu, Xinzhu, Ph.D., Biol Sci (2013)
- R**
- Ramisetti, Srinivasa Babu, Ph.D., Mat Sci & Engr (2016)
Raoux, Simone, Ph.D., Mat Sci & Engr (2008)
Rasmussen, John, Ph.D., Biol Sci (2010)
Rausch, Joseph, Ph.D., Biol Sci (2010)
Raynes, Christopher, D.M.A., Music (2012)
Reel, Justine J., Ph.D., Kines (2011)
Reese, Melanie J., Ph.D., Disput Resoltn (2008)
Reis, Janet, Ph.D., Nurs (2014)
Reisen, William K., Ph.D., Biol Sci (2014)
Reynolds, Alyssa, L.C.S.W., Soc Wrk (2012)
Rezaie, Beth (Behnaz), Ph.D., Mech & Biomed Engr (2017)
Richards, Sam L., D.M.A., Music (2016)
Ricklefs, Robert, Ph.D., Biol Sci (2011)
Roche, Olivier, Geos (2016)
Rodgers, David W., Ph.D., Geos (1987)
Rogien, Lawrence, Ph.D., C & I Found Studies (2011)
Rogers, J.W., Jr., Ph.D., Mat Sci & Engr (2012)
Rosentreter, Roger, Ph.D., Biol Sci (2005)
Rothemund, Paul, Ph.D., Mat Sci & Engr (2015)
Ruegg, Kristen C., Ph.D., Biol Sci (2015)
- S**
- Sage, Judith A. Ph.D., Account (2015)
Salik, Steven H., Ph.D., Org Perf & Wrk Lrn (2016)
Sallabanks, Rex, Ph.D., Biol Sci* (1994)
Saxena, Vishal Elec & Comp Engr* (2009)
- Scheffel, Scot, M.D., Kines (2014)
Schiappa, Tamra, Ph.D., Geos (1999)
Schill, Daniel, Ph.D., Biol Sci (2011)
Schlee, Conni, Ph.D., Educ (2002)
Schmitz, David F, M.D., Com & Env Hlth (2009)
Schroeder, Barbara, Ed.D., Educ Tech (2010)
Scoresby, Jon, Ph.D., Educ Tech (2014)
Serio, Vincent J., III, M.D., Com & Env Hlth (2016)
Seyfried, Mark, Ph.D. Geos (1993)
Sforza, Rene, Ph.D. Biol Sci (2006)
Shaw, Nancy, Ph.D., Biol Sci (2007)
Shellie, Krista C., Ph.D., Biol Sci (2011)
Shinneman, Douglas J., Ph.D., Geos (2010)
Shiple, Lisa A., Ph.D., Biol Sci (2013)
Silak, Cathy, J.D., Pub Pol (2006)
Sills, Scott, Ph.D., Mat Sci & Engr (2015)
Skoro, Charles, Ph.D., Econ (1982)
Slaughter, Andrew E., Ph.D., Mech & Biomed Engr (2014)
Spangler, Theodore, Jr., J.D., Pub Pol & Admin (2012)
Spencer, Jamison Ross, D.M.D., Biol Sci* (2006)
Squires, Edward, M.S., Geos (1995)
Steenhof, Karen, M.S., Biol Sci (1987)
Stephen, Sharon A., Ph.D., Nurs (2013)
Stevens, Dennis L., Ph.D., M.D., Biol Sci (1998)
Storch, Amy, Ph.D., Soc Wrk (2017)
- T**
- Tank, David C., Ph.D., Biol Sci (2008)
Taylor, Bryan, Ph.D., Crim Just (2016)
Tivis, Laura J., Ph.D., Nurs (2014)
Tonina, Daniele, Ph.D., Geos & Civil Engr (2013)
Touchnon, Michael, Ph.D., Pol Sci* (2013)
Toweill, E. Dale, Ph.D., Biol Sci (2004)
Townsend, Alex, Ph.D., Math* (2015)
Turner, Lindsey R., Ph.D., Kines (2011)
- V**
- VanDusky-Allen, Julie, Ph.D., Pol Sci (2013)
Vos, Jacobus (Jaap), Ph.D., Schl Pub Srv (2012)
Vucetich, John A., Ph.D., Biol Sci (2015)
- W**
- Ware, Judy, Ph.D., Disput Resoltn (2004)
Warren, Patrick Ian, Ph.D., Geos (2011)
Watson, Richard T., Ph.D., Biol Sci (1990)
Webster, Kerri, M.F.A., Engl* (2013)
Wei, Hsian-Chuen Sharon, Ph.D., World Lang (2012)
Wharry, Janelle P., Ph.D., Mat Sci & Engr* (2013)
Wheeler, Kyle, Ph.D., Comp Sci (2014)
Whelan, William S., J.D., Pub Pol & Admin (2006)
White, Courtney Reynolds, M.B.A., Bus & Econ (2003)
Whitney, Brian T., Ed.D., C & I Found Studies (2011)
Williams, Joy, M.F.A., Engl (2017)
Williard, Elizabeth, Ed.S., Coun Educ (2010)
Wilson, Elizabeth, Ph.D., Pub Pol & Admin (2015)
Wilson, Stephen K., M.P.A., Pub Pol & Admin (2003)
Winstral, Adam, Ph.D., Geos (2012)
Wong-Ng, Winnie, Ph.D., Mat Sci & Engr (2015)
Wright, Richard N., Ph.D., Mat Sci & Engr (2009)
Wu, Yaqiao, Ph.D., Mat Sci & Engr* (2012)
- Y**
- Yacapsin, Maude S., Ph.D., Educ Tech (2016)
Yaffa, Leslie, Ed.D., Soc Wrk (2016)
Yager, Elowyn, Ph.D., Geos (2016)
Yensen, Eric, Ph.D., Biol Sci* (2002)
Yin, Yao, Ph.D., Pub Pol & Admin (2012)
Ysursa, John M., Ph.D., Hist (2017)
Yuan, Jinchao, Ph.D., Mech & Biomed Engr (2016)
- Z**
- Zadegan, Reza M., Ph.D., Mat Sci & Engr (2017)

Affiliate Graduate Faculty

Participants in multi-university programs.

Alexander, Gregory, M.Ed., C & I Found Studies .. (2012)	Hatch, Virginia, M.A., Crim Just..... (2014)	Ransom, David, Ph.D., Biol Sci (2012)
Anderson, Shauna, M.S., Engl (2015)	Heath, Gail, M.S., Geos..... (2012)	Reese, Randall, M.S., Pub Pol & Admin..... (2015)
Anson, Cindy, M.S., Pub Pol & Admin (2014)	Heilman, Ann, M.P.A., Pub Pol & Admin..... (2012)	Reid, Kenneth, Ph.D., Anth..... (2010)
Arial, Cameron, M.P.A., Pub Pol & Admin (2012)	Hellman, Sandra, M.P.H., Nurs (2015)	Rife, George E., M.B.A..... (2013)
Austin, Emily, M.S., Com & Env Hlth..... (2011)	Henderson, Jo, M.Ed., C & I Found Studies (2013)	Robinson-Hellwege, Angela, M.Ed., Coun Educ... (2014)
Baldwin, Sally, M.S.S., Educ Tech..... (2016)	Hinck, Glori, M.E.T., Educ Tech..... (2011)	Saba, Anthony, M.E.T., Educ Tech (2012)
Baxter, Kate, M.A., Hist (2017)	Hodge, Karen,, M.S.N., Nurs (2012)	Salinger, Kim, M.S.N., M.B.A. Nurs..... (2015)
Bell, Layne, M.S., Account..... (2013)	Hunt, J. Brad, M.A., Educ..... (2008)	Sandmeyer, Tamara, M.S., Nurs (2015)
Bergeron, Susie, M.H.S., Com & Env Hlth (2017)	Hurley, Kathleen, M.S., Account (2013)	Schill, Daniel, Ph.D., Biol Sci (2011)
Berlin, Michael, M.S., Com & Env Hlth (2011)	Hyer, Andrew, J.D., Com & Env Hlth (2012)	Schmidt, Marissa, M.S., Comp Sci (2014)
Betz, Hillary, M.A., Pub Pol & Admin..... (2015)	Jaquet, Wendy, M.A., Pub Pol & Admin (2015)	Schimpf, Maya, M.S., Nurs..... (2015)
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